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CONFERENCE PROCEEDINGS

EPIC2016

PATHMAKING

MINNEAPOLIS AUG 29–SEPT 1

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PAPER SESSION 1

Ethnography / Organizations & Change

Curators: KATE SIECK, RAND Corporation & LAURA MCNAMARA, Sandia National Laboratories

From Amazon.com and city police departments, to Volkswagen and Gravity Payments, the news is full of dramatic headlines about organizational cultures and their consequences for employees & society. The stories inevitably included a call for change to something different, something better. Yet the flurry of commentary offered little in the way of serious reflection on organizations as cultures. Nor did it address how organizations shape (and are shaped by) the wider societal dynamics within which they exist, or how and why cultures change.

As the discipline that specializes in the nuanced and contextual understanding of culture, ethnography offers a much-needed voice in these discussions. This track invited contributors to take up the challenge of how our work can inform the public discussion around organizational culture and change.

We ask new questions and reframe the conversation around what is happening in organizations, as well as how to best address conflicts and seize opportunities. For example, how is our understanding of police violence expanded if we re-frame officer training as ritual, and police departments as kin networks, or pull backwards to see conflicts as a struggle over available resources? What can we learn about broader societal conflicts by studying contrasting institutions, such as Amazon.com and Gravity Payments? How can applying classical social theory concerning the nature of 'charisma' and 'authority' provide new insights into how leaders pull entire organizations in new directions? Core topics from the social sciences can to advance our understanding of business and institutions.

Media, Mediation and the Curatorial Value of Professional Anthropologists

MICHAEL G. POWELL

Shook Kelley

This paper seeks to broaden the discipline of professional anthropology by considering the role of the anthropologist as a curator and a guide for the mediation of cultural symbols, artifacts and products in and among the organizations we work for or with. It employs two case studies of product curation activities, guided by strategic insights shaped in part by a professional cultural anthropologist. The paper builds on prior discussions and insights within the EPIC community to suggest potential new directions for professional anthropologists to pursue, alongside and/or outside of ethnographic research projects.

Keywords: social mediation, curation, brand, design

On a recent trip to the new “365” Whole Foods Market concept store in the hip Silver Lake neighborhood of Los Angeles, I encountered a different kind of grocery shopping experience. The middle of the store layout was not stocked with row upon row of non-perishable packaged products, as is standard for most traditional American supermarkets, but was instead occupied by perishable hot and cold prepared foods, salads and ready-to-eat meals. This ostensibly speaks to the store’s “Millennial” target audience. However, the shopper that I walked the store with, nominally falling in that generational target category, had another matter in mind. She lamented that she couldn’t accomplish all of her imagined shopping goals at this store, which was close to her home, because it lacked many of the ingredients she might need if she wanted to cook a meal or bake a dessert. While there were highlights of the store that would make her food life easier, especially for her partner who wanted healthy and fast lunch solutions, we discussed how the store might limit her options for what she could eat and prepare, essentially shaping her daily food habits and her family’s approach to food. While much of the press and hype around this new concept store has revolved around its appeal to target audiences and its marketplace competitiveness (Artsy 2016, Baertlein 2016), what is commonly overlooked in examinations of food retail generally is how practices of inclusion, omission and juxtaposition—that is, of the store’s product mix curation—can impact, even shape consumers’ relationship to food. The store itself, its design, and all of the behind-the-scenes strategic relationships that provide infrastructure for its experience and product offering, mediates this relationship to our food.

Media and mediation are integral to understanding all forms of communication, and cultural forces are always at play in shaping media and in mediation practices. Put differently, there is no such thing as purely objective, natural or untouched communication. As William Mazzarella (2004) explains the medium:

On one level, whether or not it is apprehended that way by its “users,” a medium is a material framework, both enabling and constraining, for a given set of social practices. In this guise a medium is both dynamic and largely taken for granted. However, a medium is also a reflexive and reifying technology. It makes society imaginable and intelligible to itself in the form of external representations.

Inseparable from the movement of social life and yet removed from it, a medium is thus at once obvious and strange, indispensable and uncanny, intimate and distant.

The processes of presentation and representation, whether through film or in the grocery store, are always contingent upon and shaped by various constraints and culturally-informed discourses.

Typically, when we think of media and mediation today we think about digital formats: internet, social media or television. But the role of social mediation is a much older and broader issue, and can manifest itself in many different forms of communication, including the design of places and experiences. Dominic Boyer (2012) refers to social mediation as, “social transaction in its broadest sense of the movement of images, discourse, persons and things...extensions of human instrumental and semiotic capacities.” Boyer further outlines the ways that the conceptual murkiness around mediation has actually led to promising opportunities in anthropology, which are relevant to the work of professional anthropologists (see also Mazzarella 2004, Boyer 2007, Ginsburg 1991). Alongside social mediation, there is another more common definition for mediation, which is actually related: the process of arbitration, resolution and intervention between people or groups in dispute. The two senses of mediation are related conceptually by figures such as the go-between, the middleman or the arbiter. This is a role sometimes occupied by some professional anthropologists today.

This paper will consider two food retail projects the author, a cultural anthropologist, has been involved in, in order to demonstrate the professional anthropologist’s potential or occasional role as a social mediator. These are not ethnography-driven project examples. They are cross-disciplinary innovation projects impacted, at least in part, by anthropological insights. By locating anthropologists inside of complex organizational situations and entanglements, the paper builds on the work of others in the EPIC community (e.g. Romain and Griffin (2015), Darrouzet, Wild and Wilkinson (2009), Churchill and Elliott (2009) on “the curatorial eye”).

On one hand, I want to consider the ways that consumer-focused mediated forms, food retail environments in particular, are shaped, particularly through practices of curation. In pursuing this path, this paper also seeks to consider the role of design, designers and the design process in the practice of social mediation. While the internet or the book are more commonly considered media forms, we might think about the experience of certain spaces as media or mediated forms, as well. This especially applies to spaces that are carefully curated to present collections of objects, works, historical events and experiences, whether art museums or grocery stores (Murphy 2015). Recognition of this mediation process may also represent a pathway toward organizational change and lead to the reconfiguration of organizational relationships.

Additionally, this paper seeks to broaden the discipline of professional anthropology by considering the potential role of the anthropologist as a social mediator and a potential guide for the mediation of cultural symbols, artifacts and products in the organizations we work for or with. My purpose is not to supplant ethnographic research work, but to widen our professional purview, helping move “beyond the [ethnographic] toolbox” as Jay Hasbrouck (2015) puts it. In addition to guiding organizations to better understanding people and their cultural contexts (Howard and Mortensen 2009), the anthropologist as social mediator can additionally play the role of mediating organizational relationships—that is, how different organizations might reshape or renegotiate their relationships to one another. Often, this

role is not recognized in the organizations where we work, because the mediated qualities of research, representation and/or design outcomes are easily overlooked and represent behind-the-scenes work, quite literally. Through our roles in social mediation processes—influencing curation in food retailers as one case in point—professional anthropologists might find more ways to shift perspectives within organizations, reframe challenges and reorient strategy.

GALLERIES OF EVERYDAY LIFE

Retailers own a powerful potential role as cultural mediator and curator, and professional anthropology can play a supporting role in shaping mediation strategies for retailers, among others. Working with retailers to develop brand, retail and/or design strategies is one potential pathway where a professional anthropologist—or others with similarly anthropological, ethnographic or, perhaps, para-ethnographic sensibilities (see Powell 2015, Marcus and Holmes 2008)—can play a role in shaping design projects and even entire organizations. As professional anthropologists play a role in mediation—influencing transactions and helping guide the movement of images, discourse, persons and things—one of the powerful ways that we can steer mediation, among others, is through curation.

To curate is to select, organize, and look after the items in a collection or exhibition. The term is most famous in the art world, where since the late 1960s, curators have been transformed from humble custodians into luminary superstars. This is part of a turn towards demystifying the production of art, and placing it in political, economic, social and global contexts (O’Neil 2007). Curators are increasingly recognized for their newfound prominence, while also often criticized for becoming too conspicuous. Debates have emerged around the proper role of the curator, whether a behind-the-scenes scene-maker or a public artist in their own right. The curator’s task, much like that of the anthropologist, requires deep readings and thick understandings of dynamic and shifting cultural and historical contexts, in order to produce significant shows that can permanently shape the trajectories of artists, art communities, galleries, museums and art history itself (Obrist 2008).

In this increasingly powerful position, art world curators today are recognized as mediators for collectors and other audiences. They take the vast and seemingly chaotic world of artistic production and organize disparate works into narratives that may tell a story, or alternately may stir debate and challenge audiences.

As Pierre Bourdieu has theorized, regarding the cultural production of artistic value, the value of an artwork is not purely or straightforwardly created by the artist herself. Instead, Bourdieu turns our focus to the larger network of actors and institutions that all have a stake in this, which includes the curator:

The subject of the production of the artwork—of its value but also of its meaning—is not the producer who actually creates the object in its materiality but rather the entire set of agents engaged in the field. Among these are the producers of the work of art, classified as artists...critics...collectors, curators...in short, all those who have ties with art, who live for art and, to varying degrees, from it, and who confront each other in struggles where the imposition of not only a world view but also a vision of the art world is at stake, and who, through these struggles, participate in the production of the value of the artist and of art (Bourdieu 1993: 261).

While curators do not necessarily play the ostensible leading role in the field of cultural production, their role may be considered singularly unique in shaping the art world without ever necessarily calling attention to themselves. Regardless of where anyone stands in this debate over the curator's proper role, it should be recognized that with so much art in the world today, there is a great value in a curator who can isolate certain excellent works, juxtapose works in compelling ways and help us make sense of things.

As a parallel, if the grocery store could be recognized as a curated collection of cultural products, a gallery of everyday life, then product brands are surely the famous artists. And though product brands are most often celebrated and have come to represent how brands work—think Coca-Cola, Folgers, Tide, Mr. Clean, Oreos or Wonder Bread—I want to place product brands in their larger context of the consumer world, including the retail shelf, the supply chain and the retailer, more generally. Doing so highlights the often overlooked role of the retail brand as curator, mediating diverse interests, institutions, histories, traditions, practices and brands.

Food retailers are not neutral access points for food. Rather, they have the capacity to shape or even create ways of living for their customers through, among other things, the products they curate. This practice of curation includes the process of selecting products, excluding some products from the shelf and combining products in space.

One simple and provocative example of the brand as curator is Whole Foods Market, not just in the way this natural and organic supermarket brand sources and brings together unique natural and organic product brands for healthy meal and snack solutions, but also, tellingly, in what they refuse to put on their shelves. In particular, Whole Foods does not sell Diet Coke, even though Whole Foods could generate enormous revenues from Coca-Cola products. The Whole Foods retail brand acts as a curator that filters out the product brand, arguing that Diet Coke does not meet their standard or align with their philosophy. Through curation in this vein, Whole Foods mediates their customers' relationship to the food world, much in the same way that a curator mediates the museum-goer's relationship to the art world. It begins with acts of presentation, emphasis and omission.

Arguably then, the retailer's role as curator and mediator poses a provocative question: In a situation where supply (i.e. the vast and always expanding potential catalog of product brands) outstrips demand (i.e. the limitations of physical retail space or the limitations of time and attention online), could the act of retail curation be considered as valuable as the products themselves? And in particular, might curation that is sensitive to cultural context be of special value? In the past, when retailers failed to carry a product brand, it was considered a liability or a negative value, a failure of trust. Today, when retailers consciously and deliberately exclude a product brand, it may be a core strategy for creating value. Similarly, we can even look to the symbolic and cultural value of curation as equal or perhaps even greater than curation based strictly on financial accounting.

MULTICULTURALISM IN THE CENTER STORE

The center store of the supermarket consists of aisle after aisle of boxed, bagged and packaged products. Often feeling like a warehouse of food, many shoppers perceive the area as highly functional in contrast to the more enticing perimeter food departments, such as produce, meat, bakery and prepared foods. Arguably the most tedious and disliked

experience in the entire shopping experience, center store sales have been relatively stagnant in recent years, industry-wide.

As we walk the center stores in supermarkets around the United States, most if not all offer a so-called “ethnic aisle,” which has been around for decades now. An official history is lacking, but some industry reports suggest this grocery store category began not in response to America’s long history of immigration and diverse range of cultural traditions, but rather as the “Hispanic aisle,” filled with products from Mexico that might appeal to growing audiences of Latino shoppers in the later 20th century (McTaggart 2003, see also Davila 2001). In grocery stores around the United States, there are a variety of different configurations of ethnic aisle—some smaller, some larger, some skewed towards demographic profiles by neighborhood, some guided by culinary trends in food culture. Some are focused on food from Mexico or Latin America, others more focused on food from various Asian countries. Today, the supermarket industry is “evolving” the ethnic aisle, mostly in response to a broadening food culture in America that is more interested in food variety, but also in response to changing demographics. But why are these food categories segregated in the center store in the first place? And is there any value to having an ethnic aisle? Further, if the store is a kind of cultural media, and mediums, as Mazzarella (2004) explained, make “society imaginable and intelligible to itself in the form of external representations,” is this an accurate representation of who we are, or aspire to be?

This first case study describes efforts around reshaping category management and product mix strategy in the center store at a medium-sized regional grocery store chain on the west coast of the United States. The project’s central focus was not center store initially, but began with a brand strategy and reinvention project. The firm I work with, Shook Kelley, is a strategy and design firm that provided consulting services, and later worked on design projects for the grocery store chain. The main purpose of our initial project work was to create a prototype store design for the entire chain, thereby changing its direction and vision for the future. Facing competitive challenges, a changing food culture landscape and new shopping habits, the brand was trying to figure out a new position in the market, closely tied to the organization’s roots. As a west coast company and local brand, the privately-owned company was small and flexible enough to both adapt and react in a sensitive way to changing demographic and cultural diversity trends within the region. This was something the chain had done in the past, but lost sight of during a process of business rationalization and day-to-day operational challenges. Meanwhile, larger food retail competitors sought to develop “neighborhood” strategies but ultimately lacked flexibility for regional variation because they were managed as national brands and had to limit their variation in order to fit into their larger chain organizations.

In the aftermath of the prototype store design and renovating existing stores, one key sub-project initiated by the client involved rethinking center store product mix to reflect a multicultural strategy. In effect, the goal was to deconstruct the “ethnic aisle.”

As noted, center store sales have struggled in recent years, while the supermarket industry has sought ways to innovate the experience. Larger format competitors and warehouse stores have picked up ground on these sales, as shoppers opt to purchase bulk versions of these less-perishable packaged goods and dollar stores find ways to offer them at cut rate deals. As a result, fewer shoppers walk these aisles and sales are relatively stagnant.

Meanwhile, much public sentiment has turned against the products sold in the center store. Many health experts, nutritionists and public health advocates specifically suggest not

walking down these aisles, for the sake of our health. Take, for instance, “Rule 12” of Michael Pollan’s *Food Rules*, which urges readers to steer clear of center store (Pollan 2009: 27):

Rule #12: Shop the peripheries of the supermarket and stay out of the middle.
Most supermarkets are laid out the same way: Processed food products dominate the center aisles of the store, while the cases of mostly fresh food—produce, meat and fish, dairy—line the walls. If you keep to the edges of the store you’ll be much more likely to wind up with real food in your shopping cart. This strategy is not foolproof, however, since things like high fructose corn syrup have crept into the dairy case under the cover of flavored yogurts and the like.

But center store is not a strictly functional, rational place for operations and profit-focused organization—at least, not necessarily. Instead, when the center store is seen through the lens of mediation, it can be recognized as a form of cultural communication. Put differently, center store and its product mix might be considered a part of the food retailer’s branded experience. From a design perspective, the center store might be organized in a way that prompts or attempts to prompt shoppers to imagine their approach to food in a new manner or perhaps in a manner that better suits their lifestyle.

With thousands of potential products already to choose from, consumer packaged goods companies (CPGs) annually produce a wide variety of different SKUs (stock-keeping units, or different products). Many of these CPGs, such as P&G, reflect the foundational history of contemporary branding. They have created product brands that millions of people know and love. But every food retailer needs to make tough decisions regarding what products to stock, which CPGs to work with and where to place those items on their shelves. Center store is vast, but it nonetheless has physical limitations.

While CPGs carry many famous brands, increasingly, food retailers are developing more robust brands for themselves, partly in order to attract and maintain more loyal followings in a hyper-competitive marketplace. In doing so, the development of the retailer’s brand values often results in filtering mechanisms which play an important role in editing product mix. Hence, developing a supermarket retail brand, brand strategy and/or brand tools can have a powerful impact on product curation—even if the result was not intentional or fully thought-through during the strategy development process.

To cite a few current examples, Whole Foods doesn’t sell Coca-Cola products, but carries other types of natural soda brands. Trader Joe’s isn’t selling P&G cleaning products but instead focuses on its own private label product solutions. And you won’t find a traditional Nabisco cookie and cracker set at Sprout’s. These are some of the more exciting food retailers rapidly expanding throughout North America. They are developing powerful brand presences, and in doing so they are making sourcing decisions that impact customer access to food products in what is perceived in a positive light. Seen as curators, they mediate their consumers’ relationship to powerful product brands in a new and potentially valuable manner.

Of course, curation is not only driven by brand values. The omission of products can also be a function of store size and the physical limitations of shelf space. Some stores, like Trader Joe’s, are opting for smaller layouts, and that can force the organization to make tough decisions about product selection. Whole Foods’ new 365 store features a dramatically reduced center store selection in part because the entire store format has a smaller footprint.

Finally, curation is now potentially being driven by competitive forces within product categories, as food retailers have improved their private label products. Previously considered “generic” substitutes to the “real” products made by big brands, private label has changed dramatically in recent years. Their quality or perceived quality is improving. These private label brands are becoming more respectable. They are now considered legitimate competition to the national brands. And for many retailers, private label products are now a key part of how retail brands build their overall brands.

These are just a few of the important forces shaping curation in the center store. The curation of the center store is not a simple or straightforward profit-driven calculation. In a larger strategic picture, center store curation and editing is about building and growing the overall retail brand.

In this case study, the focus of curation efforts did not require omission of products but instead focused more on rearranging existing products. Products previously featured in the ethnic aisle were dispersed, and integrated instead throughout existing center store categories. For example, sauces of all kinds were brought together, as were rices and other grains.

These changes had an impact on category management. Category management is how grocery operators “design” the layout of the store. Within center store, each aisle represents a category or multiple categories. Categories are not typically organized by the stores themselves, at least not in the traditional grocery store organization, which often lacks the data and labor power to do so. Instead, categories are usually proposed by the “category captain” in each category, the national CPG brand that has a leadership role there. This traditional relationship can vary by retailer and can be adapted to suit the needs of any given retailer. However, the vast majority of traditional format grocery store chains around the United States have the same or a very similar set of categories in their store.

Demographic and census data helped reveal that this retailer’s audience, situated on the west coast of the United States, is more diverse in ethnic and racial makeup than much of the rest of the country. On-the-ground food culture research further supported the case that the concept of “ethnic aisle” made much less sense in a cultural context where encountering cultural difference was normalized, whether among people or among food and cuisines. Ethnic aisles can vary greatly in their product mix depending on region, but at what point or in what social context does the concept become obsolete or outdated?

Moreover, “ethnic” is a highly problematic cultural reference that typically suggests non-white and non-American foods, without ever explicitly pointing to what “non-ethnic” might mean. A long and rich legacy of critical studies on identity politics, the creation of whiteness and histories of discrimination and racism in the United States, as well as colonial and post-colonial states, have illuminated how hegemonic discourses shape our perceptions of race and culture. Powerful organizations, including businesses, have played a role in these processes. But must they? While these critical studies were not explicitly raised by the strategy and design team, the project nonetheless raised basic questions about multicultural identities that nearly everyone on the design team and the client team had to confront. The idea to deconstruct the ethnic aisle emerged on the client side, though it was guided by the brand’s new strategic direction. In various situations, our consultant team suggested and strongly urged that the brand demonstrate “respect” for the multicultural diversity of the store’s audience and potential audience.

As an important side note to this case, even in this project to develop a more “multicultural” brand strategy, while there are certainly promising signs of moving beyond cultural differences and discrimination, there admittedly are also important problems about race and ethnicity that persist. There are new hurdles to confront. The concepts of “multicultural” and “diversity” are problematic, as they run the risk of acting as an apology for legacies of discrimination, without necessarily or adequately confronting those histories (Taylor 1994, Berrey 2015). If seen as a “solution” to problems of racism, the acknowledgment of multiculturalism alone is certainly inadequate. Nonetheless, we hope that the strategy may help steer the traditional grocery store in a better direction.

Alongside the social cause of the brand, which is rarely publicly discussed, the overt purpose of the new brand direction is to reinvigorate a relatively stagnant brand, redefine the shopping experience and create new opportunities for revenue growth. The strategy itself was pointed, but abstract enough for the client organization to draw ideas and innovation efforts on its own. Shelf level implementation happened among other actors and groups, on a category by category basis. For example, I spoke with one wholesale supplier who specialized in international foods in the frozen aisles. He was excited by the opportunity to introduce a range of international products and integrate them into the frozen department. Instead of being placed in the ethnic section of the freezer aisle, frozen lumpia (a spring roll from the Philippines) was placed next to TGI Friday’s frozen jalapeno poppers. Further, the client team explained that they were excited by the increasingly broad opportunities to introduce new products into their center store mix.

The new strategy required challenging traditional category approaches, as well as long-standing relationships with CPG partners. For some suppliers, this was a promising development. But other CPGs resisted, suggesting that the client should adhere to traditional category insights.

In the end, improved center store sales justified the new approach for the client. Positive impact on sales growth found in pilot projects was in the range of 5-10% improvement. For a relatively stagnant department, this was immediately recognized as a promising result. Plans were made to roll out the innovation chain-wide.

This case study represents a potential for anthropological insights to inform business practices in a valuable, if indirect manner. By providing input into the strategy-building process and helping articulate the cultural context, anthropology-inspired ideas helped lay the groundwork for how to mediate a set of conflicting or potentially conflicting groups and interests. Here, a new approach to the curation of existing center store products altered the way the retailer communicated the range of products it offered to its shoppers. In recognizing the brand’s power to mediate products, new value and business opportunities were revealed.

HEALTHY SNACKS IN A CORNER STORE

While the first case study considered the impact of curating an existing product mix, sometimes the curatorial challenge is how to introduce the new, and mediate potential conflicts with existing customers and partners. Here, we turn to the role professional anthropology might consider in addressing this question, based on another instance where the anthropologist is in a behind-the-scenes position.

This second example comes from a corner store conversion project in South Los Angeles serving a low-income “food desert” community. In addition to redesigning and rebranding the store, a new curation strategy for the store’s product mix focused on providing more healthy snacking products for targeted audiences. The branding, strategy and design team consisted of a small group: an experienced retail architect, environmental graphic designer and a cultural anthropologist. This team worked closely with the corner store’s owner and several community development organizations that work on food policy, food justice, community finance and urban renewal. The store’s operator owned two stores, under different names and in different areas of the urban area. He had a couple decades of experience operating food retail and was quite competent with the business, but struggled to advance and had little access to capital in order to make improvements.

The key strategic outcome and goal of this project was figuring out how to assemble a collection of healthier snacks into a small food retail format, thereby attempting to reshape expectations about the occasion for shopping a corner store.

In similar conversion projects carried out by food justice groups nationwide, retailers struggled to reconfigure their perceived relationship to the product brands traditionally found in corner stores, which contribute to an unhealthy reputation and expectation for these sites. In most of these cases, little was done to rebrand or reframe the retail destination. Conversions would focus on finding space within an existing store for healthy products, especially fresh produce, while the overall retail context did not change or did not change in a dramatic fashion. These conversion projects focused on adding new products, without a complete or comprehensive consideration of how the retail brand might act as a curator and mediator. The fresh produce sections typically felt out of place or distinctly separate from the rest of the corner store, rather than an integral part of the store’s business model.

The South Los Angeles store was previously called “\$1 Dollar Warehouse,” (though neither a dollar store, nor a warehouse store) and is located on a busy urban thoroughfare filled with a mix of small local retailers, fast food restaurants, corner stores and liquor stores. The \$1 Warehouse was located in a relatively new strip mall structure, sharing a parking lot with a donut shop, a self-service laundromat and a cell phone store, among other retailers. The building was constructed in 1993, after the prior retail strip mall on the site burned down during the riots of 1992, which originated less than a mile away.

The project began as an initiative of the Los Angeles Community Redevelopment Agency (CRA) and later, after the CRA was disbanded by the state of California, became a project spearheaded by the Los Angeles Food Policy Council (LAFPC), a non-profit, non-governmental group. These organizations and their partners offered the store’s owner and operator an opportunity to participate in a program offering financial assistance if he would sell fresh produce in his store. The storeowner had food retail experience working at 7-Eleven convenience stores and alongside experienced fellow Guatemalan immigrant grocers in Long Beach—and recognized that his business could improve with the help of outside assistance. In addition to enhancing revenues, he also wanted to find ways to better his community and make it healthier.

My role in the project included strategic consulting, branding and creating a team of experienced designers who could help translate retail brand strategy into the built environment in order to rebrand the existing store. I drew from my experience with a strategy and design firm that works with many food retail brands.

We launched the project by spending time in the store and exploring the store's product inventory, competitive marketplace and current customer audience. This was not ethnographic research, though our exploration work sought to situate the store in its cultural and economic contexts. Our main informant in this research was the store owner himself. Despite being located in a "food desert," the local market competition for food represented a challenge, including corner store competitors, other food retailers, and national fast food brands. It seemed that the \$1 Warehouse was closely affiliated with the same expectations associated with other corner stores in the area: a destination for unhealthy snacks, junk food and sugary drinks. Customers used the \$1 Warehouse as they would any other corner store, stopping by frequently over the course of the week, typically before or after work, buying just two or three products and spending less than five minutes.

The initial expectations for the project from the food policy group were set by prior corner store conversion projects. But our retail strategy team felt that planting a fresh produce department inside this urban corner store didn't make sense. That approach did not seem to fit how people shopped this store, and we expressed concern that the produce would need to be thrown away frequently, thereby exposing the store owner to potential financial risks. Therefore, the new strategic direction we developed hoped to mediate our partners' public policy goals of growing healthy food access in a lower-income neighborhood, with the store owner's goals of improving business and the general "health" of his local community.

A curation strategy for the store instead revolved around snacking, and the brand would attempt to mediate shoppers' relationships to their daily snacking habits. The store would focus on offering healthy—or more specifically, *healthier*—snacking products to the existing customer base, because those people already visited the store frequently and already used the store as a snack resource and destination. While previous corner store conversion projects inserted a generalized fresh produce department into any open space inside of an existing store layout—essentially asking snack shoppers to think about healthy meals and general healthy eating—the redesigned store would focus on *healthier* packaged snacks and fresh produce considered an obvious "snack." For example, bananas could be consumed immediately by a single person without preparation, but zucchini required preparation and would be omitted from the store's produce selection. Further, a wide range of details, including the brand's new name, its graphic identity, product mix and even the store's flow and layout, would all be aligned with the snack-focused brand strategy, at least in theory.

A "Healthy Snacking Zone" was designed in the experience, taking up prominent real estate as the store's first impression. This zone asserted the brand's role as a cultural mediator. Instead of the existing "blank canvas" approach, where the entire retail floor was homogeneous, and therefore neutral or indifferent to external influences, the rebranding process sought to provide structure to the shopping experience.

In asserting its role as a source and advocate for a healthier community by curating healthier snack products, the new strategic direction also mediated the retailer's relationship with powerful global product brands. Once or twice a week, a leading snack product CPG representative would visit the store and directly stock products on the shelf. The representative would often also directly install signage, promotional displays, and even merchandising fixtures into the store. This is not unique to the store, but is a common practice throughout the well-funded CPG industry, called Direct Store Delivery (DSD). In doing so, these CPG representatives have developed long-standing relationships that are

often mutually beneficial to the CPGs and their storeowner partners. These relationships allow the CPGs to play a prominent role in shaping the curation of corner stores.

As a result of the rebrand and the new snacking zone, CPG representatives were limited to stocking products in the rear aisles of the store and promotional signage opportunities were greatly diminished because they did not fit well into the brand's new in-store look and feel. Representatives' initial attempts to stock healthier CPG product options in the prominent Healthy Snacking Zone location were rebuffed. As a result, the store owner may have sacrificed profits from the sale of these top-selling products, which were now less prominently displayed. However, these sales were sacrificed in the service of building the new retail brand's direction.

In comparison to the first case study, the design and strategy team played a more central role in determining the details of this curation strategy and practice, largely due to a lack of organizational infrastructure. Here, my role was highly flexible, and included everything from determining which snack product SKUs might make sense for the Healthy Snacking Zone, to taking trips to a restaurant and corner store supply store in order to source products, and even helping with design decisions and supervising construction implementation. While the strategy behind the rebrand and new retail direction was much looser and less articulated in this case, there was nonetheless an embodied sense of the brand's new direction shared among team members.

The value of anthropological insights in this project rested in drawing connections and opportunities between potentially disparate people, groups, businesses, traditions and institutions. This included store operations, design, food policy, food justice and corner store retail traditions, not to mention navigating city building codes and permits and supply chain concerns. For example, one unexpected outcome of the project was revealing the challenges any South Los Angeles corner store would face in attempting to source healthier snacks for their store. As a result, one of the community partners launched a new enterprise called COMPRA Foods focused specifically on supplying healthy snacks and produce to corner stores in lower-income neighborhoods of the city. The project lived on and expanded beyond the scope of this one store, and continues to grow today. By drawing these ideas together, new community and business opportunities emerged where frustrations had existed previously.

In the months following the corner store's re-opening, financial results were not entirely clear. This was largely a result of imprecise accounting standards before and after the project, a strategic problem that was identified but never fixed. However, the storeowner explained to our team that he was able to pull out of debt. He had hired 3 full-time employees. And for the first time in his adult life, he had the ability to take a vacation trip.

CONCLUSION

It's often said, we are what we eat. Understanding what's eaten, this is the stuff of ethnography, as traditionally defined. But thinking through the lens of mediation, it might be more apt to ask, are we also where we shop? If food retail spaces are not merely access points for food, then they may actively shape us, as sites of cultural production. Understanding how mediation happens and how media gets formed and designed is therefore also a cultural process. The problem of mediation is what Jay Hasbrouck might refer to as one of the "uncomfortable questions" that professional anthropologists can raise

(2015). This is a pathway to provide unique value. By turning the lens of inquiry on the process of mediation itself, professional anthropology might help shift perspectives, reframe challenges and reorient strategy in the organizations we work for and with. Food life is no longer (only) on the outside of the food retail organization, but also implicated or shaped by its own strategy. In essence, we should then be aware of how we, as professional anthropologists, are writing and designing consumer culture (Marcus and Clifford 1986). Professional anthropologists have the opportunity to impact these strategies through our insights.

These case studies hope to explain or at least point to how professional anthropologists might play a role in strategically curating product mixes inside food retail stores. While not applications of ethnographic research or insight, working in a position of cultural mediation makes sense for professional anthropologists, as it builds on our existing set of skills, our attentiveness to cultural contexts and our ability to see connections between disparate organizations, groups of people and discourses.

While professional anthropologists in the EPIC community have debated the role or roles of anthropologists and ethnography within the corporation, this paper tries to articulate a potential ripple effect of our strategic insights. Here, the impact of anthropologically-informed work is followed into other sites of organizational decision-making and strategic relationships (see also Cefkin 2009). Through an understanding of mediation, the EPIC community may discover yet another way anthropologists contribute to the production of cultural and economic value.

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Cultural Change Management in Organizations from Competing Perspectives

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Since the 1980s, it has generally been accepted that corporations have cultures, and that corporate culture bears an important, if poorly understood, relationship to corporate performance. Figuring out how to measure, fine-tune, and adjust corporate culture has been a cottage industry within management consulting ever since, employing numerous psychologists, sociologists, management theorists, communication specialists, and occasionally anthropologists. Corporate cultures have been variously characterized as strong, weak, open, closed, flexible, rigid, innovative, traditional, or (more typically) some mélange of all of these. To better understand the relationship between corporate culture and corporate performance, perhaps it would be better to understand culture as a living, breathing entity, not a museum specimen to be examined under laboratory conditions – ethnographically, that is, in a natural rather than artificial environment.

In this paper we attempt to construct a dialogue between two contrasting perspectives on organizational culture, that of anthropology and that of management studies. One of us (Batteau) is an anthropologist with 10 years' experience working in industry and 30 years' experience in academia; the other (Villegas) is an engineer and management scholar with 6 years' experience in industry and 22 years' experience in academia. As we have looked into these competing perspectives, we have begun to realize that anthropological and management perspectives on culture are, as George Bernard Shaw said about the English and the Americans, divided by a common language.

We first describe the problem, of how a firm can “manage” its culture. We follow this with three case studies in the US and Colombia where cultural interventions had mixed results. We then contrast two bodies of theory, managerial and anthropological, to show that the contrasts between these two approaches to organizational culture derive primarily from the contrasting agendas of anthropology and management, and finally, we contribute a review of some concepts to take into consideration when making a path between the praxes of Anthropology and Management.

Keywords: Cultural Change, Anthropology, Management

The Whole is more than the Sum of the Parts
(Aristotle)

I: THE PROBLEM

Appreciations of corporate culture begin with the conventional, textbook conception of “a learned system of shared understandings” that anthropologists first developed at the end of the 19th century. Beyond this, however, agreement on what these shared understandings are, and the importance of their being *shared* (rather than imposed, or consumed, or mandated, or

simply spectated) lies in the fact that sharing creates kinship: we feel alike because we are alike, we have something in common, and it is this fact more than any other that gives culture, as contrasted to dictatorial mandates, its enduring power.

Once we agree that culture is something that is *shared* by a community, our next step is to inquire how it is mediated, represented, and articulated. For this, there is an ample literature on the cultural content of rituals, performances, myths and stories, and material objects that present a culture. For example, Michael Rosen's classic article, "Breakfast at Spiro's: Dramaturgy and Dominance" (Rosen 1985) describes the annual "Agency Breakfast" of an advertising agency, Spiro and Associates. At this carefully scripted ritual, the dominance hierarchies of Spiro and Associates are regenerated and reinforced. Some of the symbolic techniques through which these are dramatized include seating arrangements, agendas, and even the clothes one wears. Other descriptions of the symbolic mediation of corporate cultures include van Maanen's depiction of Disneyland, the "smile factory" (van Maanen 1991) and Kunda's description of "Engineering Culture" (Kunda 2006).

Once we accept that an organizational culture is shared rather than dictated, we encounter the quandary of organizational or corporate culture. On the one hand, many corporations, particularly those that have been in existence for a number of years, that have strong boundaries, and adequate resources due to market dominance, demonstrably do have a culture. In corporations such as these, one either fits in, or one leaves. On the other hand, for many corporations, the culture is weak or nonexistent, or at best a parody of the concept: casual Fridays, for example, or recreational interludes among the cubicles.

The resolution of this quandary is found in the observation that corporate cultures are *negotiated* as much as they are shared, and that the negotiations among cultures of command (typically management), acceptance, and inclusion, and their counterparts in corruption, resistance, and alienation, form a complex set of dialectics around which corporate actors navigate to pursue private or shared agendas (Batteau 2011). Where management integrity is strong, rank-and-file will put in overtime, "go the extra mile," for corporate objectives. Corporate legends, such as the IBM security guard who denied Thomas Watson access to an IBM building because he wasn't carrying his badge, and the respect Watson showed to her, reinforce a shared sense of integrity.

A corporate culture is more like a peace treaty, an agreement to avoid open hostility, than a kumbayah exercise in two-part harmony. As anyone with experience in politics knows, mutual agreements, once achieved, should not be broken, even if all parties are dissatisfied with them. For several decades after the 1930s in the American auto industry, a fragile peace prevailed between the UAW and the Big Three, despite mutual mistrust, simply because both sides saw it as preferable to the death toll that had marked earlier hostilities. The importance of this negotiated perspective is that it zeroes in on the dynamic or dialectic that propels organizational culture. This dynamic centers around the asymmetries of power within an organization, but its dialectic comes from the basic observation that power is never absolute: Even in prisons, to cite an extreme example, the subordinates (prisoners) have a rich (if hidden) lore of resistance and retribution, and prisoners have ways to take their revenge on guards who cross unspoken boundaries.

Corporate cultures, in other words, are unique orders, not the least because they resist management, at least in the "scientific" sense of the word. Although the corporate world has moved well beyond Frederick Taylor's orthodoxy, it is still struggling to find accepted approaches to alternatives in normative management.

II: CASE STUDIES

To develop these points we turn to an examination of three case studies where the ethnographic gaze was able to nudge well-established organizations toward change. In each of these cases the ethnographic perspective, listening to the multiple voices within the organization, was crucial to attempting change.

First Case Study: Change Management in the Air Force Materials Command

Our first case study comes from a project that Allen Batteau completed 16 years ago for the US Air Force, a culturally sensitive tool for change management. In this project the Air Force was seeking better ways to effect change within different operational and support units, and retained Wayne State University to direct the project. The project was called the “Readiness Assessment and Planning Tool Research” (RAPTR).

The tool had three components: a high-level assessment to assess the magnitude of the effort, an assessment of the current organizational state, and a Reference Model of Change Management that would guide the organization through a change management process, based on years of experience (codified into an expert system). The Reference Model of Change Management consisted of four stages:

- Strategic Assessment
- AS-IS Assessment
- TO-Be Design
- Planning and Implementation

Each of which had from five to eight tasks, activities, and options. The model was driven by an expert system which using a cultural assessment plus years of experience with military organizations, laid out a change management plan. For example, the first stage, Strategic Assessment, consisted of six tasks:

1. Kickoff
2. Conduct business overview
3. Assess business goals and opportunities
4. Conduct environmental scan
5. Determine project goals and opportunities
6. Determine Project scope

The final task, “Determine Project Scope,” concluded with the activity “Develop executive approval.”

The functionality of the tool that was best received by the Air Force was the High-Level Assessment, because it offered the perspective of an experienced outsider, balancing off change objectives, organizational complexity, schedule, and resources. It returned a response of green (go ahead with the change management project), yellow (proceed with caution), and red (STOP!). That’s all. The effectiveness of this tool came both from its simplicity and from

the fact that first of all it tapped into some basic cultural issues such as organizational complexity and history, and second that it was presenting a fresh perspective to a very hierarchical organization, the Air Force. Using an ethnographic perspective to complement the hierarchic order was received as valuable by the command. The full report for this project is available from the Defense Technical Information Center, <http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA375290>

An important part of ethnographic praxis is the creative dialectic between insider and outsider perspectives. Real ethnography is far more than simply open-ended interviewing or other qualitative techniques. Real ethnography is immersive, meaning that the ethnographer spends substantial time within the community, and although never becoming a true insider, nevertheless becoming an amateur, in the dual sense of a novice but also a lover of the culture – yet also retaining his or her critical outsider perspective. In the military, a “can-do” attitude and chain-of-command orientation means that orders should never be questioned. Yet as any leader knows, changing a complex organization is a difficult operation, the success of which depends on numerous factors, including organizational complexity, resources (including schedule), and command support. By measuring these variables our expert system was able to give advice on project realism. It was this synthesis of insider and outsider perspectives that enabled the team both to understand some of the enablers of and obstacles to change and also communicate them in a meaningful way. Some of the most effective organizations, in fact, embrace this dialogue among multiple perspectives, in large part because it rescues them from “group think” or the insularity of what Mary Douglas called “thought worlds,” and suggests new solutions for familiar problems.

Second Case Study: Medical Waste Management

Our second case study comes from the management of medical waste. During the period 2014-2015 an interdisciplinary group of 3 women engineers specialized in Public Health, Environmental Engineering, and Industrial Engineering evaluated the quality of the processes related to the management of Hazardous Biomedical and Health Care Waste in 8 high complexity hospitals in Medellín, Antioquia, Colombia.

The study was framed under the following definitions taken from international definitions and guidelines. According to the “Resources Conservation and Recovery Act” (RCRA) (Environmental Protection Agency 2002, 8)

The term “hazardous waste” means a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may—(A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.

The Basel Convention defines hazardous biomedical and health-care wastes as (Secretariat of the Basel Convention 2003, 4): “Infectious health-care waste; Chemical, toxic or pharmaceutical waste, including cytotoxic drugs (antineoplastics); Sharps (e.g. needles, scalpels); Radioactive waste; Other hazardous waste”.

The 8 hospitals referred in the study are located in the municipality of Medellín. The hospitals differ by their ownership, some are owned by the state, others are private, and still some others are owned by non-profit organizations. They are located very close to the center of the city of Medellín and what is common among them is the level of complexity of the services they render as all of them conduct surgeries that put in risk life and treat cancer. The waste they produce include high amounts (up to 2 tons per day, each) of hazardous waste (infectious, sharps, radioactive, chemical), being infectious (blood contaminated) waste the main percentage.

As for the patients, there are hospitals that help rich people and hospitals that help homeless people. However, hospitals that work with homeless people have the most experienced physicians, the more experience dealing with orphan and rare cases of immune diseases, and the most sophisticated technology. International patients that come to the city looking for treatment know that it is in these kind of hospitals that they can find organs transplantation. As the World Health Organization has said, poverty is a great cause of sickness and a healer becomes better by practicing (a steep learning curve).

A hospital may be seen as a hotel with a special kind of attention and it is in the hospitality side of treatment that expensive hospitals add value. It is for this reason that the most experienced hospital that treated homeless people decided to open a high end hotel type of hospital close to the airport to treat rich international patients. One of the reasons for this decision had to do with the fear of rich customers to get contaminated with the medical wastes of the poor. They wanted the expertise gotten from treating poor guys but not to get in touch with their poverty or their waste, perhaps in their minds, both might risk contagion.

There was a hierarchy of medical specialties. Surgeons were highly appreciated by the community and they behaved accordingly (see Figure 1: surgeon like USB, that shows how basic technology was built that unintendedly ended up reminding everyone of who the main characters were in the hospital). Even among surgeons, brain surgeons were located at the top of the social scale. All of this had an unexpected impact on the handling of the medical waste. For instance, the waste originated in the surgical rooms was evacuated more promptly than in any other areas. Many of these situations had not a rational technical explanation. For instance, from an engineering point of view, there was an unexplainable location of services with the largest production of hazardous waste on top of the buildings, where movement was limited by the existence of few and shared elevators. Why didn't they put those services at the bottom of the structure where vertical movement was minimized? The response came from interviews to hospital directors (doctors themselves) who told us that the building was organized following the degree of complexity of the intervention (bottom-up from low to high complexity (and it was also a social category of status that among other things defined the decision power distribution in the organization)).



Figure 1: surgeon-like USB

Waste equaled risk, equaled impurity and so, even though in all the strategic orientations the words sustainability and environmental care were present, in the organizational structure the function was invisible or included in human resources, housekeeping, not even publicly mentioned. Blood was the corporal fluid treated as taboo and it is the very source of hazard in medical treatment. Health care employees at all levels worked with blood but didn't mention it during regular conversations. The insights of the anthropologist Mary Douglas, in her classic *Purity and Danger*, are especially relevant here (Douglas 1966).

Socially also medical waste is a taboo. The study started in response to a big scandal of medical waste thrown on the streets of some cities in Colombia that created a public arousal against hospitals in Medellín that owned the wastes. The country was more capable of living with dead bodies on the street resulting from crime and violence than with cotton, needles, and bandages contaminated with blood of sick people (see Figure 2: Dressing to Visit Isolated Patients, that displays the degree of fear of contamination by germs among health care personnel)

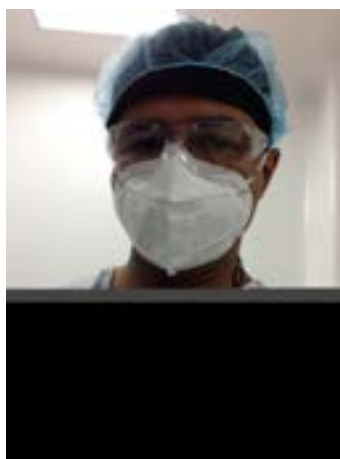


Figure 2: Dressing to visit isolated patients

Changing the orientation of these health care professionals toward awareness of and accountability for the risk of their medical waste has for years long been impossible. The study concluded that professionalization had a lot to do with their resistance, as no undergraduate medical content included the phrase “hazardous waste”. Anthropological history of the healing process was other issue as blood has been a taboo for Christianity (Leviticus 17:14) since the beginning of times and Colombia is a catholic country (see Figure 3: Catholic Icons in Hospitals).



Figure 3: Catholic Icons in Hospitals

Also asepsis is the critical state of any health care routine and its definition stands for being-free from disease-causing contaminants (for instance health care employees spend a lot of time in the ritual of washing their hands). Even the white clothing and color of the walls portray a strident message of cleanness. For all of the above, understanding that it was their job that put in hazard the public health became an insurmountable challenge at the individual, the professional, and the organizational levels (all the programs of risk reduction were directed toward patients, visitors, cleaning personnel, but health care providers). Even speaking of hazardous waste was seen by them as risking contamination, so they strongly refused to discuss their involvement in the problem. The team recommended that the topic had to be included in the medical professionalization processes, also that social marketing strategies focused on medical personnel were designed, and that symbols of waste’s hazards were publicly exposed by the side of the hand washing campaign and spaces to produce a cultural shock that created alert. In short, the *attitudes* toward medical waste and pollution were more important than the technical details of its handling as they determined all related managerial decisions inside the boundaries of these hospitals. It was a situation where the relationship between means-ends was non-rational but ritualistic, and for that reason

management theories provided no adequate lenses to see what was going on and how to handle it. In managing a process such as this, Anthropology may very well contribute the answers.

However, once those boundaries were crossed, the industry that transported, processed, and disposed of medical waste did not have any taboo nor ritual about their handling and treated them just as any other high volume hazardous industrial waste, now we were working in familiar grounds where means-ends relationships made managerial sense. (see Figure 4: Outside Treatment of Medical Waste by Non-Medical Industry). The initial proposition of the study was that the managerial processing of these residues was disintegrated between the hospitals and the companies they contracted for final disposal. Results of the study showed that the proposition was true as contractors handled the waste in a technically oriented fashion as given by the formulas of inventory logistics (packaging, transportation, storage, processing, and disposal within costs restrictions), while the handling inside the hospitals was somehow different. During field work no rational technical model could explain the reasons of the difference in the process and only by recurring to readings on the symbolism of blood could observed behaviors make any sense (Clark 1999). Inside and outside treatments were different and should be managed differently, and what was more intriguing, the connection between those two realities, highly ritualistic to highly industrialized, posed a huge challenge in managerial terms, what is an inquiry still pending resolution.



Picture 4: Outside treatment of medical waste by non-medical industry

As experienced engineers the team members had dealt with organizational change from the technical perspective and had found some resistance impossible to account for by our models. This comparative interdisciplinary multi-case study presented a very noticeable evidence of the incidence of culture in routine operations and resistance to change. One of the authors of this paper had spent some time visiting the Department of Anthropology in Wayne State University by invitation of Allen Batteau and as a result was aware of culture and of how to include cultural forms in the listing of things to observe during data collection. During 2 years cultural forms were observed intertwined with technical details of

the daily handling of medical hazardous waste inside the hospitals. Our recommendations came from our academic experience as professors and managers of local universities that told us that socialization into the medical discipline required the inclusion of the topic of hazardous waste covering not only technical but cultural aspects of that process. Also, the advice on how to enable change in practicing medical personnel was inspired by our experience with social marketing projects. Finally, because the hand washing programs was a core element in the education and routine of medical personnel and it was addressed to eliminate germs, we concluded that being hazardous waste similarly dangerous and by the same reasons, the organizations could transmit the message of danger using the same communication channels. More knowledge about culture could probably have advised us better on this last recommendation.

Third Case Study: Automotive Supply Chain

Our third case study involves the implementation of Electronic Data Interchange (EDI) and in-line vehicle sequence (ILVS) delivery over multiple tiers in an automotive supply chain. Sponsored by the Automotive Industry Action Group, this project sought to implement EDI from the Original Equipment Manufacturers (OEMs) down through the first, second, and third tier suppliers. The first tier suppliers manufactured complete systems such as seat kits, while the second tier manufactured components (such as cushions) and the third tier manufactured the basic parts such as cloth, springs, and fasteners. Although the suppliers initially resisted the implementation, a dramatic breakthrough was achieved when we brought all of the parties together in the same room at a neutral location, and negotiated a “gain-sharing” of the benefits. The classic relationship of mistrust and mutual suspicion between OEMs and suppliers in the American automotive industry (in contrast to the *keiretsu* of the Japanese industry) was overcome through a new medium of communication – the face-to-face meeting. This was an example of what the anthropologist Victor Turner called a “liminal space” – a space “betwixt and between,” where normal conventions are set aside, and those sharing the space are able to bond.

The project went on to a successful conclusion, celebrated in Detroit, demonstrating a substantial savings in the manufacturing costs of vehicles using the techniques of EDI and ILVS. Despite this, these techniques were not significantly adopted. A follow-on project two years later, the “Voice of the Lower Tier” by Wayne State Anthropology doctoral candidate Kirk Cornell, using ethnographic observations at second-tier suppliers, discovered that below the first-tier suppliers (which tended to be large corporations), the second-tier suppliers, typically family-run companies were mistrustful of any initiatives from above. Although gain-sharing – “generalized reciprocity” – was the articulated aim of this initiative, the industry expectation of negative reciprocity still prevailed. In sum, the industry culture prevailed over what all agreed was a successful pilot project, and the success of the pilot project could not be easily replicated, due to the importance of a liminal space for the pilot.

A key part of the success was the ethnographic insights into the cultures of the companies in the supply chain. In Perrow’s characterization of complex organizations (Perrow 1988), a supply chain might be considered a crucial segment of an industry, with its own culture, but also embracing multiple corporate and professional cultures. Within the automotive supply chain at all levels there is a shared pride in being part of a leading industry, but also a reflexive mistrust both of customers and suppliers. Only by respecting

these differences, and then using a liminal space – the offsite meeting – to overcome them, however temporarily, were we able to bring the tiers together around a new objective, “leaning out” the supply chain. We failed, however, to anticipate the cultural obstacles to scaling up the pilot into an industry-wide initiative: the general assumption was that the quantified success of the pilot would “speak for itself” and be readily adopted throughout the industry, with no need to replicate the cultural foundation of shared purpose that was the basis of success in the pilot.

III. THEORETICAL APPROACHES: MANAGEMENT THEORY AND ANTHROPOLOGY

Managerial Views

The above examples evidenced the reality of the pervasive presence of culture in formal organizations and of the need to integrate both managerial (resource-constrained, results-oriented) and anthropological (historical, evolutionary, human-oriented) methods for organizational cultural change. However, let’s take a closer look at the divide created by the differing agendas of management and anthropology.

One among many definitions states that “management is the transformation of resources into utility” (Malik 2010), and formal organizations are perhaps the most useful of such resources as (Blau and Scott 1962, 5) explained:

“In contrast to the social organization that emerges whenever men are living together, there are organizations that have been deliberately established for a certain purpose....in these cases, the goals to be achieved, the rules the members of the organization are expected to follow, and the status structure that defines the relations between them...have not spontaneously emerged in the course of social interaction but have been consciously designed a priori to anticipate and guide interaction and activities. Since the distinctive characteristic of these organizations is that they have been formally established for the explicit purpose of achieving certain goals, the term “formal organizations” is used to designate them”

Both former definitions subscribe to the ideal of the rational approach to management which is still today the mainstream in the managerial scholarship.

However, as long as people are involved, they will socially interact and create non formal (informal) structures with their own shared system of understandings that influence their enacted reality and their behavior, as scholars that take part in the natural system tradition assert (the famous Hawthorne Experiment conducted by the psychologist Elton Mayo and the anthropologist William Lloyd Warner (Mayo 2015) is perhaps the most influential evidence of such situation).

When it comes to organizational culture managers often do not really know what to do, they can not get rid of it and they can not handle it. They do not know if such thing is a resource (which of course if it was they could make it into an asset or commodity, and sell it somehow making utility out of it); if it is not a resource maybe it is just a kind of environment and if so, managers should understand it and behave accordingly. Or, perhaps it is what social scholars call “a state of being” in this case of the collective being called formal organization, what brings it to the emotional universe and will have everything to do with the identity of the organization (very close to the bottom line and the branding, the

company value added, the marketing, the value of the company, if just someone could put a price tag on it).

The situation is complicated so, managers who have to “make things happen”, put hands to the task of culture management (change, design, control, and so on) whether it works or not. In the managerial world practitioners are the main characters and scholars are the commentators of their practice. The publication industry includes journals that are practitioner-oriented including descriptions of problems and solutions (*Harvard Business Review* being perhaps the most important), along with research oriented journals such as *Academy of Management*. Some other publishers specialize in research with social focus and management, even though utilitarian, qualifies as a social science (Sage Publications is a good example of such publishers).

A review of publications in *Harvard Business Review* showed that from March 5, 2001 to October 14, 2015; 14 cases and 3 articles published described the process of cultural change by using such means as the exercise of hierarchical power and control (constrain), negotiation with key stakeholders, leadership (persuasion), adoption of soft and hard technology (from applying behavioral science to quality control and adoption of ICT), communication programs, training, branding and strategic orientation, incentive programs, restructuring, empowerment, to enabling new social relationships among employees. In every case diagnosing the current organizational culture was the first step and the most uncertain one.

As for *Academy of Management*, the most influential publisher in *Management* (as measured by the impact factor index of its journals), the review showed that from August 1971 to January 2015, 10 articles were published with the phrase “culture change” in the title or the abstract, and that discussed the how’s of culture change. Those how’s included organizational development recipes, modifying the systems of categorical distinctions (named frames in the papers), creating awareness of industry-driven and institutional cultural elements, defining and promoting an inventory of desirable values and including stakeholders in the process, using change agents, training in new routines, and leveraging the efforts with effective communication programs.

From 1990 to 2015 Sage published at least 31 articles on change of corporate culture, 16 of which were published in journals specialized in management (2 in human relations, 4 in human resources, 2 in management education, 4 in organization studies, 2 in leadership, 1 in healthcare management, 1 in Administration and Society). The papers described success cases of cultural change in which leadership, organizational performance, quality control programs, participatory decision making (empowerment), awareness and acceptance of social diversity, learning, change of categorical distinction systems, management of the set of values predicated, and adoption of an evolutionary paradigm of those values (inspiration, implantation, negotiation, transformation) were used to leverage the change program.

What can be inferred from the literature review? Practitioners and management scholars recognize the unavoidable existence of culture, but being able to identify this construct is another thing which definitely is a very controversial terrain, they know it is all about people, not individuals but groups of people and that it is how people oriented strategies such as influence, coercion, control, incentives, managing the social landscape, negotiation, managing of cognitive processes (categorical distinction systems, learning, awareness), and managing the publicly stated values may help and in fact, has helped to change the organizational culture. However, the problem is the duration of such interventions because

one of the papers reported that to change the culture of a small group it took 5 years of intense coaching (managers don't have 5 years, much less so when their performance is evaluated every 3 months).

No other strategies were documented in the literature review, however, considering that formal organizations are assemblages of chosen people, the selection and dismissal options (recruitment and firing) do exist to define who is going to become or continue as a member, a privilege that social organizations don't have.

Finally, cultural change is related to the field of Organizational Development and Change and in any case is directed, as anything else in management, to improving organizational performance. What a desirable performance is becomes a political issue. The question that remains is how important it is after all to change culture, or wouldn't it be better to learn to diagnose it and live with it.

Changing organizational culture is a big challenge for managers for what the expectations of their role is, which is "to do something" about things. In this case a "thing" (culture) that is intangible and tacit. To be able to do something implies to make that something explicit, to model that something, to understand how it works, to somehow make it into a type of machine, but culture by its very nature resist that definition. As Batteau (2012) discovered, the instruments used by managers to measure culture are flawed not only by faulty technical design of the instrument, but, what is more problematic, because culture can not be measured by instruments. From there, if you can not even make explicit that tacit thing, you can not handle it. It disappears into the thin air.

Trying to manage the unmanageable culture, managerial work applies old known recipes of organizational change. Recipes that have worked in changing work routines (operations research, process management, structure redesign, behavior management, social engineering, spatial interventions, communication programs, even simulation) and that organizational power can control, be accountable for and, what is more important, make others accountable for. But as the old proverb says "you can bring a horse to water but can't make it drink", using coercive measures alone doesn't work. Managers include persuasion to the package by including negotiation, leadership, training, empowerment, reward systems, coaching, socialization, value management. The stick of control and the carrot of conversation.

The results of these efforts are very poor if measured in managerial terms which is always the same, impact on improvement of organizational performance. In synthesis, organizational culture for managers is an annoying reality: difficult to define, impossible to model, very hard to change, and with not clear relationship to organizational performance, much more considering that the definition of goodness when it comes to performance is strategic (political, long term, reactive to external and internal environment, seeking of balance between competencies and requirements, visionary of future desired states of being).

There is still more: culture is conservative and organizational behavior is dynamic. The time frames of evolution are not synchronized. The window of opportunity for organizational change is given by the movement of the global economy that nowadays is very fast while the change of culture is slow social motion (evolutionary). Managers are paid for being capable of responding in time and are measured by their agility and effectiveness of response. It is why culture and culture change are still now, in spite of their importance, a second order topic to management.

How to create a dialogue among these disciplines in spite of their differences in scope and intent? Let's raise the unit of inquiry from the organizational to the societal level where formal organizations are embedded. Pfeffer (2010) accurately asserts that "companies and their management practices profoundly affect the human and social environment" and it is where Anthropology has been producing theory since its inception. By moving from the methods for change into the motives and effects of organizational change the dialogue goes from tactics into strategy where the survival of the organization resides. In other words, organizations affect society and by so doing they determine their own survival chances. Discussing sustainability is the theoretical terrain where the dialogue between Anthropology and Management may add academic and social value.

Anthropological Views

On the other hand, within the apparatus of anthropological theory, there are numerous perspectives that can be brought to bear to understand and possibly to change corporate culture. Without any presumption of priority, some of these are:

Meanings of Technology - Most disciplines have long since abandoned the view that technology is simply about tools and utility, recognizing that tools encode multiple cultural values, including magic, identity, the authority of the state, and class domination. Thus, when corporations uncritically adopt new technologies simply because they are new, or "cool," or because competitors are adopting them, they are making a cultural statement. American business perhaps uniquely fetishizes technology, and the search for technofixes is alive and well in business. Although this is not the place to develop a critical perspective on technology, we can observe for the moment that for many corporations, what Bryan Pfaffenberger calls "technological fetishism" is an important part of their culture (Pfaffenberger 1988). The RAPTR tool, described above, gained credibility because it was an expert system, whereas a two-legged expert could have easily been rejected. Thus, by leveraging (but not buying into) the cultural attitudes toward technology, we were able to effect real cultural change.

Reciprocity and The Gift - In every human society, reciprocity and gift-giving are an important part of how the society is stitched together. Marcel Mauss's pioneering work, *Essai sur le Don*, describing the triple obligation within a gift (to give, to receive, and to reciprocate) was followed by Marshall Sahlins's classic "On the Sociology of Primitive Exchange." Sahlins observed that reciprocity can take three basic forms (generalized, balanced, and negative), and that each of these can form durable ties among communities: Negative reciprocity, which might be characterized as mutual predation ("I'd better steal from you before you steal from me") is an apt characterization of industrial relations in numerous industries and regions. In such an environment negotiation becomes a zero-sum game. Generalized reciprocity, by contrast, is a statement that "we are all in this together." Although there can be numerous mitigating factors here, it is easily demonstrable that a central dynamic in the cultures of corporations of any size is the form of reciprocity, not only between labor and management, but also between the corporation and its suppliers, management and the shareholders, and the business and its customers. A "brand," for example, although nominally owned (trademarked) the corporation, is in fact a good shared

between the producer and the consumer – it creates a bond between the two, and “brand loyalty” is a prized achievement for any consumer-oriented company.

Sahlins stressed that “primitive” exchange was less “exchange among non-complex societies” and more “fundamental” or “basic” exchange. His distinction among generalized, balanced, and negative reciprocity takes on a new coloration when one adds a layer of the intentions of the parties: a “gift,” which is a token of generosity, takes on new coloration when one discovers that the gift-giver’s intention was to put the recipient in a difficult, perhaps subordinate position; contractual reciprocities such as those of the supply chain, which on the surface may appear “balanced,” are often a cover for attitudes of mutual predation. This added, second dimension of intentions creates a rigidity, a resistance to change, as we discovered in the EDI project. More generally, rigidity of relationships often underlies resistance to technological innovation (Batteau 1996).

Purity and Pollution and Danger – The anthropologist Mary Douglas, in her classic book *Purity and Danger*, identified “pollution” as simply “matter out of place” – within any system of categorical distinctions (the basic structuralist view of culture, going back to Durkheim and Mauss), to place something where it doesn’t belong is not just disorderly, but potentially disgusting. These are familiar concepts within anthropology, and their obvious extension in the business world is in concepts of branding. Brands are totemic markers, and brand extension is a fundamental business strategy, yet to brand a product is not merely a matter of slapping a logo in it, but creating an identification (i.e., kinship) with it. The Ralph Lauren Polo brand has been extended to pickup trucks, which fit with the rugged image of the brand, but extending the brand to, say, kitchenware obviously would not.

The importance of this perspective for corporate culture is to recognize that in every corporation there are certain stylized behaviors that are in part definitive of the culture: In the tough-guy macho culture of consulting firms, shouting is acceptable, whereas an excessive emphasis on refined table manners and polite conversation would simply mark one as “not one of us.” In other cultures, it is just the other way around. “Matter out of place” can be extended to “behavior out of place,” which is equally polluting.

Performance Margins – From research on human factors in flight safety comes an important concept, that of safety margins (Rasmussen 1997; Batteau 2001) for example. Commercial flight is the safest form of travel available, in large part because the entire industry is genuinely committed to flight safety. “Safety culture” is an articulated mantra within the industry. Every aircraft has a “performance envelope” – a set of boundaries of speed, altitude, and attitude which it cannot exceed, and “pushing the envelope” – venturing to the edge of the performance envelope is only for daredevils. Astute pilots recognize their own performance envelope, and know how close they can get to the actual performance limits of their aircraft and their flying skills. The actual performance limits of an aircraft are documented, but performance margins are tacit knowledge.

How does this apply to the corporate world? Quite simply, Ken Lay of Enron was pushing envelope of a particular business model, and crashed and burned. More prosaically, by setting unrealistic goals, or objectives without adequate support, or with ignorance beyond one’s temporal and spatial planning horizons, one risks catastrophe. Planning horizons vary enormously around the world, with some companies creating 500-year plans, while others in less stable regions feel that they cannot plan out beyond the next twelve

months. An awareness of these limitations – which many executives understand intuitively – is essential for pushing the envelope of corporate performance, and a fundamental dialogue in strategic thinking is to understand the balance among objectives, resources, and performance (the critical success factors).

Performance issues, however, have a different temporality within anthropology and management. Within applied anthropology, health, sustainability, and nutritional adequacy have received attention, but less so for industrial safety or efficiency. As a general, or perhaps over-generalized, statement, one might say that the temporalities of anthropology and management are different, with anthropology focusing more on the long term, whereas management is focused more on short-term, immediate results.

Rational Order – Organizations, almost by definition, are tied together by common acceptance of a culture of rationality. In contrast to charismatic movements and patrimonial orders, an organization embraces an acceptance of rational order, and deviations from this, whether in the form of nepotism or arbitrary management decisions, are seen as a violation of the rational ideal. The founder of an organization may be a charismatic individual, but other members of the organization have to conform more to the rational order. A problem that many young organizations face is how to replace the charismatic founder with a more rational order – a problem that Weber (1947) called the “routinization of charisma.”

Behind this ideology of rationality lies the fact that rationality is about the means-ends calculus, and in the absence of agreement on the ends, there can be no agreement on the means. The goals of any business are far more complex than simply “making money,” involving instead assumptions about temporality, locality, legality, and personality – in short, when, where, how, and who. A company might have an autocratic CEO (“my way or the highway”), or a more consultative leadership – or no leadership at all. With ample resources and market position, companies can drift along for months or years with little strategic direction, and rudderlessness becomes a conventional (or at least convenient) assumption within the company.

Critical Models of Culture – Whisperers – A basic principle of any hierarchy is that feedback flows more efficiently downward than upward, a fact that conscientious managers do their best to correct. Managers who are too self-absorbed or too assertive with their power communicate, even subliminally, to their subordinates, “shut up!” Subordinates are *always* more attentive to the boss, than vice versa. Thus some of the most important cultural messages within an organization are communicated by what Grant McCracken calls “the whisperers,” people on the bottom who do not shut up but who simultaneously realize the perils of speaking up. These messages can be as completely varied as outright rejection of management priorities or a grudging acceptance of the corporate direction. A good manager knows that he or she needs to have “an ear to the ground.”

Ethnography can also provide an ear to the ground, and optimally recognize that the whispers are more nuanced than simply the black and white of rejection and acceptance. Within any organization there are underground pockets of opportunity and resistance, and the astute manager seeking to innovate will discover these pockets of opportunity, and subtly support them. Lockheed’s legendary “skunk works”, a liminal space where innovation was sheltered, is a classic example of this. More generally, one could observe that the lower tiers

of a supply chain are where an industry's "whisperers" reside, and that listening to them – as we accomplished in our liminal space – can lead to industry-wide innovation.

Appreciating Ritual – "Ritual" is a central concept within cultural anthropology, and numerous studies (e.g., Turner 1969) document the importance of ritual for creating, reinforcing, and altering social bonds. The elements of ritual, particularly rites of passage, are well understood, and decoding ritual is part of the basic toolkit of any cultural anthropologist. Thus when one sees any repetitive action, particularly with a substantial investment of time and personnel yet not having an obvious "productive" consequence – a means/ends calculus does not apply to ritual – one begins to ask what *cultural* importance is attached to the actions. The "Breakfast at Spiro's" described above is an obvious example of this.

A synthesis of the contrasting agendas of Anthropology and Management Studies is included in table 1.

Table 1. Contrasting Agendas of Anthropology and Management Studies

Concept	Anthropology	Management Studies
People	End	Means
Purpose of Inquiry	Descriptive	Prescriptive
Time Frame	Long	Short
Research Method	Ethnography	Case Study
Unit of Analysis	Groups	Individual, Group, Unit, Organization, Environment
Scope	Tends toward micro; "the miniaturists of the social sciences"	Defined by the purpose of management (control/dictated)
Organization	An object of critical inquiry	A means to an end
Definition of Culture	learned system of shared understandings	Asset, Restriction, Environment, Identity
Cultural Change	Evolutionary	Manageable
Critical Success Factors	<ul style="list-style-type: none"> Theoretical coherence Empirical grounding 	<ul style="list-style-type: none"> Productivity Improvement of Corporate Performance
Blind Spot(s)	<ul style="list-style-type: none"> Pragmatism Reflexivity 	<ul style="list-style-type: none"> People are not commodities People resist control

IV. USING CULTURAL THEORY

The importance of these theoretical perspectives is that they identify the points of leverage for cultural interventions, for managers and employees alike, to spot "here's what's going on," and to design interventions. An example of a cultural intervention might be a new communication channel (such as the Aviation Safety Reporting System created by NASA to provide a space for reflection on flight safety issues), reaching out to a new constituency (e.g., the re-positioning of FaceBook for news feeds), or a brand extension, including new products and new communities in one's market.

Further, the relationship of culture to power is important to keep in mind. Within any corporation, the asymmetry in power between labor and management, between corporation and customers, is a banal observation, yet it means that one side has greater leverage to

effect change than the other. That leverage is never unlimited, and the difference between leadership on the one hand and machine-like control on the other, is that the leader understands the countervailing agendas within the organization and works with or co-opts them. A leader's prime directive is to recruit and retain followers, an unspoken fact that every effective leader recognizes.

By definition, corporations exist within a régime of instrumental rationality, although there are enormous variations in this around the globe. In "family firms," for example, patrimonial values often overshadow instrumental rationality, even to the point of imposing the owner's religious injunctions. In other industries, celebrating "disruptive innovation," charisma often attaches to inventors. More accurately, one might say that within any given corporation there is an ideology of power, although the bases, rationales, and effectiveness of power vary enormously. Part of change management within a corporation inevitably involves disturbing arrangements of power that all members have at least tacitly bought into. Astute change management takes cognizance of the existing arrangements.

Power is thus the primary lever of cultural change, or more accurately, power deployed astutely. Just as it is impossible to reach any destination if you don't know where you are starting from, it is impossible to change a culture without at least a high-level understanding of the culture. The concepts laid out here – the meanings of technology, reciprocity, purity and pollution, performance margins, rational order, whisperers – can be seen as tools for comprehending a culture at the deeper level of its dynamics, more than just a superficial description of "the way we do things around here."

The importance of these perspectives is that they identify the dynamics of the culture. Culture, by definition, is a durable formation – it is resistant to change. Stories in the business press about a company that changed its culture three times in as many years clearly misapprehend the concept. Culture has multiple layers, and such matters as the dress code or the arrangement of furniture, while possibly expressive of deeper values, are only the most superficial – i.e., most easily manipulated or ignored – level.

Most importantly, the feedback loops that maintain a culture's stability are often subtle, intentionally so. For example, "work to rule", a favorite resistance tactic in some industries, can be seen as a rigid reciprocity, and the astute manager who sees his employees working to rule will ask himself, "what is going on here?" The astute manager will recognize that in rigidly conforming to the rules, his employees are whispering in his ear saying "we don't respect these rules." "Malicious compliance" is the ironic characterization of this attitude. A knowledge of the cultural dynamics of human behavior, even if intuitive, is an essential leadership trait. These cultural dynamics, however, vary widely among different nations and different regions, a fact that many managers discover only through stumbling over them.

V. SYNTHESIZING ANTHROPOLOGICAL AND MANAGERIAL APPROACHES

There is a fundamental dissonance between anthropology and management. This dissonance can lead to dis-harmony, or it can, as twentieth century musical composers such as Schoenberg and Webern discovered, lead to new tonal forms and aesthetics. Anthropology is a scientific endeavor to understand "what is going on here," whereas management is a practical effort to make things happen. Anthropology, with its approach of cultural neutrality, avoids making value judgments, whereas management is all about setting and evaluating priorities. Another way of stating this would be to observe that management

defines the ends, including unspoken ends of maintaining certain perquisites, whereas anthropology suggests the means, most notably those that might be dissonant with the managerial ideology of rational control. (Although a critique of managerial ideology is outside our scope here, we can recognize that it is no less culture-bound than any other organizational formation, and if too rigid can become an impediment to change).

As formal organizations today are built as social means toward the achievement of contemporary capitalist ends, participating people will be seen as “resources”, sometimes called “human capital.” This is a pill that is a hard to swallow for anthropology and the main resistance of some anthropologists to work in business anthropology is justified by this reality. If anthropologists consider that contemporary business (or business-like, as in the case of New Public Management orientations that bring to public organizations the procedures of private organizations) are too much a space to leave without attention because people inhabit in there more than at home, there are still issues to consider such as the window of opportunity for change. Managers in big corporations are evaluated every three months. They have to make merits (do something worth keeping their job) in such a short period. Grading the impact of the battery of change resources by the time they take to get results and the kind of results that can be expected is a necessary and pending undertaking. What, how, for what are unavoidable questions in every project in the business world.

From the managerial side, understanding that there is a gap of control, that groups will manage to do what they want to do and managers can do little or nothing to avoid it, is a requisite to succeed as a manager. At times, this resolves to “If you can’t beat them, join them,” which can range from capitulation to co-optation. “Joining them” starts by understanding “them,” a task for which ethnography and anthropology can make substantial contributions.

Might anthropology make the world a better place by putting its knowledge to the service of capitalism? It depends on how one defines “a better place” and how to get there. Changing the capitalist system may be done at the macro level by tearing capitalism down and putting something else in place (a revolution), or at the micro (organizational) level by redefining corporate performance to include social variables, such as the perspective of Corporate Social Responsibility has done by broadening the inventory of relevant political actors (stakeholders) beyond that of owners of capital (stockholders). Julian Friedland, a philosopher at the Fordham University School of Business, in *Doing Well and Good: The Human Face of the New Capitalism*, demonstrates that ethical behavior in business is not contrary to core business values of practicality and profitability (Friedland 2009). One section of this book, “The Role of Corporate Culture,” practically invites anthropologists to wade in and craft solutions to managerial dilemmas of inflexibility, broken promises, and hidden agendas. Moving from practice to praxis in the universe of contemporary formal organizations under managerial control, equals to moving from the supply of methods for organizational change into the definition of ends of organizational change. A review of concepts to consider when making a path between the praxes of Anthropology and Management Studies is included in table 2.

Table 2. Concepts to Consider when Making a Path between Anthropology and Management

Concept	Dialogue
People	People vs. Employees, the effect of managerial control upon employee's lives (multiple identities)
Purpose of Inquiry	Descriptive is a required stage of prescriptive
Time Frame	Roll the intervention out
Research Method	Case Study may include Ethnography (has to handle the scope for timing issues). Ethnography has to see managerial time of response as a restriction and work from there to define scope, goals, outputs, and methods. For case study, theory goes before field work contrary to ethnography. Most probably interdisciplinary work should be accomplished
Organization	Formal organizations are built to produce predetermined outputs
Definition of Culture	The closer theoretical construct as seen from managerial theory would be that culture is type of environment (you should know about it and behave accordingly but you have very limited control)
Cultural Change	There are inductors of routine behavioral change that according to the structuration theory eventually (in a long term evolutionary fashion) could lead to cultural change. Perhaps it would be better to think in terms of behavioral change instead of cultural change.
Critical Success Factors	Whatever you do it must improve corporate performance.
Blind Spots	Ethnography must work toward defining adequate ends of organizational change to be able to improve human condition in formal organizations.

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Merging Institutional Logics and Negotiated Culture Perspectives to Help Cross-Sector Partnerships Solve the World's Most Wicked Problems

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Showcasing a sixteen-month ethnographic study of a coalition to end homelessness in Western Canada, we show how the integration of two theoretical perspectives—institutional logics and negotiated culture—can be used as complementary, yet distinct lenses to better inform the practice of cross sector partnerships which tackle the world's wicked problems. In doing so, we highlight how we were able to holistically capture the meaning systems at work in such multi-faceted partnerships resulting in a better understanding of how partnerships can work across difference to affect positive social change. In particular, we capture how multiple stakeholders make sense of a partnership's identity in a variety of different ways based upon meaning systems with which they identify at multiple levels as well as how they enact bridging skills across meaning-related boundaries to promote more effective partner interface.

Keywords: cultural dynamics, negotiated culture, institutional logics, cross sector partnerships

INTRODUCTION

Multi-faceted societal challenges such as poverty or homelessness cannot be solved by any one organization. These wicked problems (Rittel & Webber, 1973) are beyond the capabilities of separate organizations in the public, private, and non-profit sectors (Austin & Seitanidi, 2012a) and span globally across differentiated contexts. Insights into the development of cooperative collaboration in the form of interorganizational relationships that don't rely on market or hierarchical governance mechanisms are needed to tackle these multi-faceted societal challenges (Koschmann, Kuhn, & Pfarrer, 2012; Lawrence, Hardy, & Phillips, 2002; Selsky & Parker, 2005). Yet, partnerships that cross organizational and cultural boundaries decidedly bring together a variety of meaning systems with different assumptions about work values and practices (Barkema et al., 1997; Brannen & Salk, 2000). They do so at multiple levels – individually, organizationally, and sectorally (e.g., Murphy, Perrot & Rivera-Santos, 2012; Rivera-Santos, Rufin & Kolk, 2012), and the management and governance of these collaborative arrangements is a daunting task. What's more, the difficulty of managing multiple meaning systems in such collaborations is further amplified by blurred organizational boundaries (Rivera-Santos & Rufin, 2011). Ethnography which typically utilizes uni-dimensional frameworks developed from the study of cultural dynamics in single organizations (Cunliffe, 2010) are not able to fully inform research and practice around the complex cultural realities of such cross-sector partnerships.

Notwithstanding, there exists organizational scholarship that studies the interaction of meaning systems within and between organizations in a more dynamic and heterogeneous manner that can inform ethnographic practice to help solve such multi-faceted problems facing us today. This body of research has been developed in two separate research streams: institutional logics in institutional theory (e.g. Thornton, Ocasio & Lounsbury, 2012) and negotiated culture in the international management literature (e.g., Brannen, 1994; Brannen & Salk, 2000), which taken together, can inform the study and practice of such complex organizational partnerships. We argue that utilizing these two perspectives as complementary, yet distinct, lenses when combined with the ethnographic method can result in richer and more complete analyses of cross sector partnerships tackling the world's most wicked problems. By exploring the synergistic intersections between perspectives, it is our hope that this paper will help inform theoretically integrative ethnographic practice broadening the lenses from which we draw in order to more effectively investigate and understand cross sector partnerships.

To elucidate our arguments, we utilize a multi-site ethnographic study of the Greater Victoria Coalition to End Homelessness Society (Coalition) located in Victoria, British Columbia. The Coalition is a partnership involving all levels of government, service providers, business members, the faith community, post-secondary institutions, private citizens and the homeless themselves focused upon effectively ending homelessness in the Greater Victoria area. Homelessness is a wicked problem because there is not a definitive formula for tackling it, it is context dependent and the symptoms of homelessness, such as lack of housing, are usually symptoms of larger systemic challenges (Rittel & Webber, 1973). By utilizing the synthetic methodological orientation introduced within, we were able to holistically capture the heterogeneous meaning systems at work in this complex organizational arrangement. This study led to a multi-layered, multi-perspective understanding of how distinct organizational actors made sense of the partnership's identity and the bridging skill sets needed to negotiate across multiple organizational boundaries in order to facilitate the partnership.

In what follows, we briefly review ethnographic research in organization studies, highlighting how the extant literature has largely stopped short of capturing the complex cultural reality of organizations that are made up of multiple partners of the kind needed to solve today's pressing global problems. Particularly lacking is an understanding of the complexity of negotiating a working culture in multiple-stakeholder alliances such as cross-sector partnerships where there is often little agreement in culturally-based meaning systems within and between organizations. We then discuss the benefits of moving beyond a solitary theoretical lens to merging two hither-to unrelated perspectives -- institutional logics and negotiated culture -- to better inform our understandings of such complex organizations. We show how this synthetic orientation helped us understand and document the reality of the Greater Victoria Coalition to End Homelessness in Victoria, with the goal of informing future ethnographic research and practice around cross-sector partnerships seeking to tackle wicked societal challenges.

ETHNOGRAPHIC RESEARCH AS A MEANS TO CAPTURE CULTURAL COMPLEXITY IN CROSS SECTOR PARTNERSHIPS

Ethnography emphasizes the importance of studying people and processes in natural contexts to grasp the complexity of organizational life. It has participant observation as its central methodological component involving long-term engagement in the field setting in order to produce rich insights about the day-to-day realities of organizational life and its associated cultural components in a particular setting (Cunliffe, 2010). As such, ethnographic understanding is developed through close and long-term exploration of the field site. Indeed, the extant ethnographic-based literature in organization studies has documented how assumptions about work and associated practices, or culturally-based meaning systems, play out over time in organizations among involved actors (e.g. McPherson & Sauder, 2013; Ravasi & Schultz, 2006). Yet, this work has been based predominantly on one organization and primarily at one level of analysis. Therefore, it has not fully captured the cultural complexity faced by today's complex organizational realities, particularly cross-sector partnerships - the coming together of organizations from different sectors to deal with multi-dimensional societal challenges (Crane & Seitanidi, 2014) that are wicked in nature.

In such multi-faceted collaborative partnerships, individual actors bring with them the sense-making and distinct understandings of the way things should be done based on their home organization's culture. As such, in order for a cross sector partnership to achieve its goals, the diverse meaning systems brought to the partnership from each actor representative of the organizations that make up the partnership must necessarily be negotiated (Brannen, 1994, Brannen & Salk, 2000). Partners collaborating across sectors are also typically quite diverse in terms of the meaning systems and associated practices, or institutional logics that guide a given institutional order (Le Ber & Branzei, 2010; Rivera-Santos & Rufin, 2011; Rivera, Rufin & Kolk, 2012; Selsky & Parker, 2005; Vurro et al., 2010). An institutional logic refers to the macro-level belief systems that shape thoughts and influence decision-making processes in organizational fields (Friedland & Alford, 1991; Ocasio, 1997; McPherson & Sauder, 2013). Within cross sector partnerships there is likely to be a plurality of institutional logics at play (Jay, 2013; Le Ber & Branzei, 2010; Murphy et al., 2012; Vurro et al., 2010).

In sum, the multiple meaning systems at play within cross sector partnerships at multiple levels have the potential to make research and practice in this area an incredibly daunting task for ethnographers.

UTILIZING UNI-DIMENSIONAL LENSES IN ETHNOGRAPHIC RESEARCH AND PRACTICE: BENEFITS AND CHALLENGES

To study the interaction of meaning systems within and between organizations dynamically, researchers have advanced two largely, parallel research conversations: institutional logics in institutional theory (e.g. Thornton, Ocasio & Lounsbury, 2012) and negotiated culture in the international management field (e.g., Brannen, 1994; Brannen & Salk, 2000), to which we now turn.

Negotiated Culture

This perspective focuses on how people from distinct national and organizational cultures with different meaning systems are able to interact in shared work environments such as international joint ventures (IJVs) and M&As (e.g., Brannen & Salk, 2000). Building on the concept of negotiated orders developed by Strauss (1978) and further elaborated by Fine (1984) in the field of sociology, negotiated culture provides ethnographers with a lens by which to obtain an understanding of how diverse meaning systems interact within complex cultural organizations over time (e.g., Kaghan et al. 1999). While the empirical work from the perspective has primarily been carried out in the negotiation of disparate national cultural meaning systems within the private sector, the components of the perspective are applicable to a variety of different focal points of culture such as national, organizational, and occupational cultural differences. Brannen (1994), for example, examined the coming together of two distinct national culture groups in an organizational work setting involving a Japanese takeover of a US paper plant. Extending this work through ethnographic study, Brannen and Salk (2000) developed a dynamic process model of negotiated culture to demonstrate how organizational culture evolves in dynamic interpersonal negotiations of day-to-day issues that arise from clashes in meaning systems. By and large, though, this perspective has not captured the variety of meaning systems in which organizations are often embedded, beyond a focus on the interface between national and organizational cultural systems.

Institutional Logics

The institutional logics perspective conceptualizes society as an inter-institutional system of societal sectors, where each sub-system or institutional space represents a different set of expectations for social relations and human and organizational behavior (Friedland & Alford, 1991). In doing so, it accounts for the notion that organizations are often operating in the presence of multiple institutional logics (Thornton et al., 2012). To date, institutional logics research has offered a better understanding as to how the practices of organizational actors are embedded within institutional spaces; including, for example, how changing logics at the field level influence the strategies and practices of organizations (Thornton, 2004).

Yet, much of the institutional logics research to date has focused on the macro level of analysis (Thornton & Ocasio, 2008; Thornton et al., 2012), with few examples of ethnographic work carried out in this tradition exploring the microdynamics of logics within organizational life. One exception to this statement is McPherson and Sauder's (2013) ethnographic study investigating how logics are utilized in the interactions of actors involved in a drug court as it does offer a micro account in terms of the content of the actors' interactions and the logics at play in this context. However, the authors stop short of explaining *how* logics are negotiated by actors on the ground as it relates to a process based perspective. While McPherson and Sauder (2013) mention some structural constraints that affect how logics are enacted, they do not readily incorporate these dynamics into their full analysis or account for other micro-level filters, such as actors' roles and cultural identities, which may very well affect how these meaning systems are experienced in the everyday lives of organizational actors.

As the above discussion illustrates, we argue that each perspective, in and of itself, is not sufficient for ethnographers to capture the increased complexity in meaning systems found within today's inter-organizational arrangements, which is driven by operations across differentiated and blurred organizational boundaries.

DISTINCTIONS AND INTERSECTION POINTS BETWEEN PERSPECTIVES

When comparing the negotiated culture and institutional logic perspectives side-by-side, we contend that the distinctions as well as the opportunities for ethnographers to utilize both perspectives in concert to more holistically capture the complex cultural realities of cross sector partnerships becomes clear. We illustrate the distinctions and overlaps in Table 1 and expound upon these comparison points below, focusing in particular on methodological emphasis, contextual influences and levels of analysis.

Table 1. Comparison of the Negotiated Culture and Institutional Logics Perspectives

	Negotiated Culture	Institutional Logics
Key Management Scholars within each Perspective	Brannen, 1994; Kaghan, Strauss, Barley, Brannen & Thomas, 1999; Brannen & Salk, 2000; Yagi & Kleinberg, 2011	Thornton & Ocasio, 1999; Thornton, 2004; Thornton, Ocasio & Lounsbury, 2012
Methods of Analysis	Ethnographic Qualitative	Qualitative Quantitative
Phenomena of Interest	Interaction between Culture, Individuals and Situation, Meaning, Communication, Worker Satisfaction & Commitment, Emergent Processes, Constraints & Impact of Physical Environment, How Culture Evolves as Subcultures Come into Contact and are Negotiated in Practice by Individual Actors	Institutional & Organizational Change, Meaning, How Institutional Logics Enable & Constrain Action Availability, Accessibility, & Activation of Institutional Logics to Actors
Levels of Analysis	Micro Social Psychological Individuals Groups Organizations	Micro Social Psychological Macro Sociological Individuals Groups Organizations Markets Fields Society
Ontology—Nature of Being	Subjective Rationality Varies by Individual Experiential Antecedents Non-economic Culture as dynamic/ non-monolithic Focus on Day-to-Day Practices	Subjective Rationality is Situated Rationality Varies by Principles & Practices of Institutional Orders Economic Varies by Institutional Order Institutional Orders are Historically Contingent
Epistemology—Theory of Knowledge	Symbolic & Material Socialization Decisions on Incomplete Information	Symbolic & Material Socialization Decisions on Incomplete Information

	Culture as loose network of domain-specific cognitive structures	Culture as institutionalized in Society (facts & myths)
Basis of Order	Negotiation Loose Coupling	Negotiation Loose Coupling Organization Structure
Nature of Rules	Contextual Social Emergent Negotiated, Re-negotiated	Contextual Social Emergent Institutionalized Policy Driven
Mechanisms of Change	Individual Interests Subgroup Interests Cultural Differences Structural Changes Require Revision of Negotiated Order	Conflict & Contradiction in Institutional Logics Theorization Translation Sensemaking Sensegiving Attention to Events Categorization Vocabulary Use Reification
View of Change	Inevitable in real time Continuous	Inevitable over historical time Continuous Punctuated

Methodological Emphasis

The institutional logics perspective looks to uncover *similarities* as it relates to assumptions about work and associated practices within a given institutional sphere. For example, Pache and Santos (2013) study how work integration social enterprises manage social welfare and commercial institutional logics internally. Prior to exploring how each organization responded to these competing logics, the authors' first step in the data analysis process was to identify and describe each institutional logic. In other words, Pache and Santos first categorize the similarities in assumptions about work and associated practices within each institutional sphere. By comparison, the negotiated culture perspective focuses on how organizations develop unique webs of meaning as cultures are negotiated in an issue-driven, idiosyncratic way within each given organizational arrangement (e.g., Brannen & Salk, 2000), typically incorporating an ethnographic based approach. In other words, scholars utilizing this lens look at *differences* in a given organizational arrangement. Salk and Shenkar (2001), for instance, examine the unique, emergent culture that forms in a British-Italian management joint venture. Focusing on both similarities and differences in meaning systems simultaneously offers ethnographers an avenue to utilize both perspectives in concert to more completely study and understand the variety of assumptions about work and associated practices in a given cross sector partnership setting.

Contextual Influences

The negotiated culture perspective accounts for various contextual factors that will influence organizational action in shared working arrangements involving the coming together of distinct cultures. Integral to this perspective are the notions of recontextualization (e.g., Brannen, 2004) and multicultural boundary spanning (e.g., Fitzsimmons, 2013). The former refers to the process by which organizational meaning systems are transformed when

transplanted into new contexts (see Brannen 2004). The latter refers to the cross-context bridging skillsets that people who have been deeply socialized in more than one cultural context bring to the workplace (see Caprar 2011 for an ethnographic example). Contextual influences (both intra- and extra-organizational) have thus been taken up in the negotiated culture perspective. However, a direct link with institutional logics research in order to more holistically capture contextual influences within the organization has not been made. By comparison, the institutional logics perspective focuses on how institutions, via logics, shape stability, heterogeneity and change in individuals and organizations (Thornton & Ocasio, 2008). Quirke (2013), for example, conducts an ethnographic investigation of a private school field in Toronto, Canada and elucidates how it is characterized by segmentation where individual private schools respond to institutional pressures in different ways.

While the negotiated culture and institutional logics perspectives tend to focus on different factors that influence individual and organizational action, they share a common emphasis on the interplay between individual agency and structure. One important component of the negotiated culture perspective is that there is a relationship between the structural conditions of the organization and the negotiation process. Strauss (1978) argues that specific negotiations are contingent on the structural conditions of a given organization. These include such structural properties as the balance of power among parties and the number and complexity of the issues involved (see Brannen & Salk, 2000 for an ethnographic example). Similarly, the material practices and symbolic systems that make up a given institutional logic are available to individuals, groups and organizations to further elaborate, manipulate and utilize to their own advantage (Thornton & Ocasio, 2008), referred to as embedded agency (Greenwood & Suddaby, 2006, see above two mentioned examples: Quirke, 2013; Pache & Santos, 2013). Thus, both perspectives account for structural components (whether they be at a macro, meso or micro level) as both constraining and enabling mechanisms in shaping organizational and individual action. And, when used in concert, they can provide ethnographers with a means by which to more fully capture the multi-faceted contextual influences at work that shape individual and organizational action in cross sector partnerships.

Levels of Analysis

Negotiated culture researchers have tended to explore phenomena centered on a plurality of meaning systems at the meso and micro levels (e.g., Brannen, Liker, & Fruin, 1999; Yagi & Kleinberg, 2011). Brannen (1994), for example, elucidates how culture is negotiated at the meso and micro levels of analysis in a Japanese takeover of a US paper manufacturer. In applying this perspective where it concerns cross sector partnerships specifically, the ethnographer is primarily able to capture the distinct national cultures that are brought together in a given organizational arrangement as well as the intercultural interactions that occur among individuals and groups situated within them.

By comparison, institutional logics researchers can be represented by two ideal-typical views designed to address different research questions at different levels of analysis. The first conceptualizes institutional logics as macro structures associated with societal-level institutional orders. As Besharvo and Smith (2014) point out the focus of this research is on multiple meaning systems, even when they are instantiated within a single organization. The more recently developing second view incorporates the micro level by conceptualizing

institutional logics as emergent properties of communication (language and symbols) and material practices and artifacts shaped by both higher-level institutional orders and by organizational and field-level variations and adaptations (Thornton et al., 2012; Ocasio, Lowenstein, & Nigam, 2015). In spite of this second emerging view, though, the main emphasis is still on how individuals and/or organizations are shaped by and/or respond to these macro-level meaning systems. For example, Jay's (2013) ethnographic investigation details how macro-level institutional logics play out differently within a US-based energy alliance from its inception to present day, transitioning the identity of the partnership from a client service business, to a public service nonprofit to a complex hybrid organization. While Jay (2013) does give mention to some external perspectives that affected the instantiation of the logics in the cross sector partnership, including the author himself, he does not fully account for the meaning systems and associated work practices of the involved organizations and individual actors that resided within them that could have affected how these logics played out within the partnership over time. As such, in applying this perspective to cross sector partnerships, the *primary* levels of analysis the researcher is able to capture, in particular the institutional orders and field logics in which a given cross sector partnership and its associated actors are embedded.

APPLICATION OF INTEGRATIVE ETHNOGRAPHIC FRAMEWORK TO CROSS SECTOR PARTNERSHIP TACKLING HOMELESSNESS

Research Setting

We engaged in a 16-month ethnographic study of a coalition to end homelessness in Victoria, British Columbia, Canada. The Greater Victoria Coalition to End Homelessness (Coalition) brings together actors from over forty organizations and associations – involving public, private and nonprofit sectors – with the purpose of ending homelessness in the region. People in the Greater Victoria region experience homelessness for a variety of reasons including, but not limited to, seniors being displaced as a result of rent increases, women and their families escaping abusive relationships, the working poor, youth leaving government care with no transitional help and low-income families unable to find affordable housing situations. While some people experiencing homelessness are, indeed, mentally ill and/or addicted to drugs or alcohol, it is a common myth that all people fall into this category (Coalition, 2009), one that the Coalition actively works to communicate to the public. The issue of homelessness, particularly in the Greater Victoria region, is one of significance. Indeed, it was reported in 2014 that Victoria has the highest per capita deaths of homeless people in all of B.C. (Petrescu, 2014).

The Coalition was formed in early 2008, following former Victoria Mayor, Alan Lowe's, four-month task force in 2007 to recommend a service model and business plan to better address cycles of mental illness, addictions and homelessness in the Greater Victoria area. The decision to form this partnership was considered to be a significant and crucial milestone in the fight to end homelessness in the community. As one Executive Director for a major homelessness service provider in Greater Victoria as well as Chair of the Downtown Service Providers noted:

I have been doing this work for years in Victoria, and I have never seen a community rally behind a cause in the way Victoria has responded to the Mayor's Task Force action plan. Our community is on a roll and this (Coalition) is the key to keeping the right people and the money focused on this issue. We're on the cusp of something great here.

By working with partner organizations and associations, the Coalition coordinates efforts and helps increase awareness and commitment to end homelessness in Greater Victoria.

Organizationally, the below figure provides an overview of the leadership and operational makeup of the Coalition.



Figure 1. Coalition Governance Structure

The Leadership Council provides governance and strategic oversight and is responsible for all key decisions involving the Coalition. An executive committee and a finance and audit committee, sub-sets of the Leadership Council, provide advisory support to this body on an ongoing basis. In 2013, the Coalition developed the social inclusion advisory committee, comprised of individuals with homelessness experiences in the Greater Victoria area, who also provide advisory support to the Leadership Council. The Coalition is coordinated and operated via a small team (the Secretariat), including an Executive Director who oversees the partnership and provides overall coordination between the involved committees and working groups. Primary operational support is provided to the Secretariat via an operations management committee. The Management Committee aides the Secretariat in developing and implementing the Coalition's ongoing business plan and provides management direction and supervision to the working groups. Five working groups are involved in the ongoing implementation of the Coalition's business plan, focused on particular priority areas of the tri-sector partnership; namely, community engagement, prevention, homelessness prevention fund, housing and service integration, respectively. As illustrated by the multi-faceted organizational makeup of the Coalition, the partnership is managerially complex and entails a

high level of engagement among actors. As well, the Coalition involves a variety of individuals, organizations and associations in the public, private and nonprofit sectors. For example, within the Leadership Council alone, there are a variety of different actors represented.

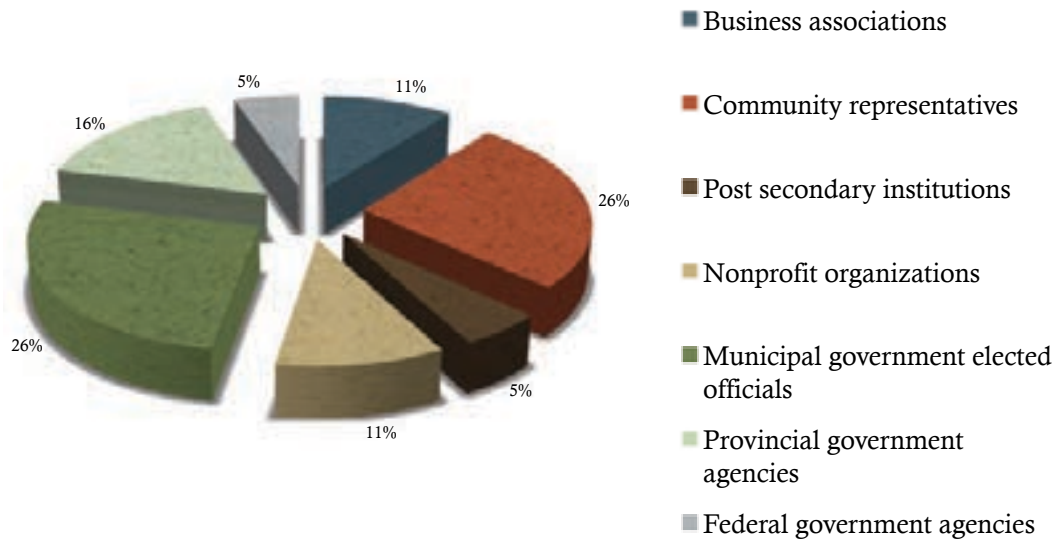


Figure 2. Composition of Leadership Council

These characteristics, collectively, made the Coalition an ideal setting in which to investigate how a complex organizational arrangement with blurred boundaries works through multiple meaning systems, or assumptions about work and associated practices, over time in its efforts to tackle a wicked problem.

Data Gathering Overview

In accordance with the ethnographic method, our principal means of data collection involved participant observation, both formal and informal, at Coalition meetings and community events related to homelessness, as well as semi-structured interviews with key actors involved from a variety of different sectors, organizations and vantage points within the collaborative partnership. In carrying out this work, we took up the holistic ethnographic approach conceptualized by Moore (2011), which recognizes and incorporates the distinct groups and perspectives involved in developing an overall narrative of a given situation. As well, we had access to a variety of archival documentation including meeting minutes, strategic plans and annual reports dating back to the Coalition's founding in 2008. In total, our data set included 2,500+ pages of documentation and over 300 documents.

Synthetic Methodological Orientation

We utilized the notions that institutional logics account for similarities of meaning in a given institutional space and negotiated culture accounts for differences within a given

organizational arrangement to tease apart meaning systems at the sectoral and organizational levels. By focusing on similarities in meaning systems across informants and associated archival documentation, we were able to begin articulating the key institutional logics at play within the cross sector partnership. To provide an illustrative example, we noticed emerging *similarities* in the way that most participants with a business based background discussed the partnership, frequently using phrasing focused upon “efficiency,” “cost savings” and an “action” orientation. By closely reviewing interview transcripts, observing behaviors in meetings as well as examining the archival documents, with a particular focus on places where business professionals were highly involved, we arrived at the logic of efficient action, a field level manifestation of the logic of the market (Thornton et al., 2012). By focusing on *differences* in meaning systems within each organizational entity in which informants were embedded, we were able to begin making sense of the organizational cultures of each respective entity. For instance, to continue with the same group as referenced above, for the business professionals interviewed, while there were many similarities across these participants, there were also distinct differences. By looking at the differences in these actors’ responses, closely examining participant observation notes and viewing the relevant documentation for each given business organization, we were able to articulate the unique meaning system of each given organizational entity within this institutional space (logic of efficient action).

Findings: Multiple Understandings of Organizational Identity

Many participants described the Coalition’s identity (its overall vision and mission) as being “well understood,” “clear” and that “actors were on the same page.” As well, the written documentation of the Coalition’s identity as a partnership focused on ending homelessness in Greater Victoria has remained relatively unchanged since it was founded in 2008. Yet, we discovered that there were actually a variety of different meanings that involved actors attributed to partnership, homelessness and ending homelessness.

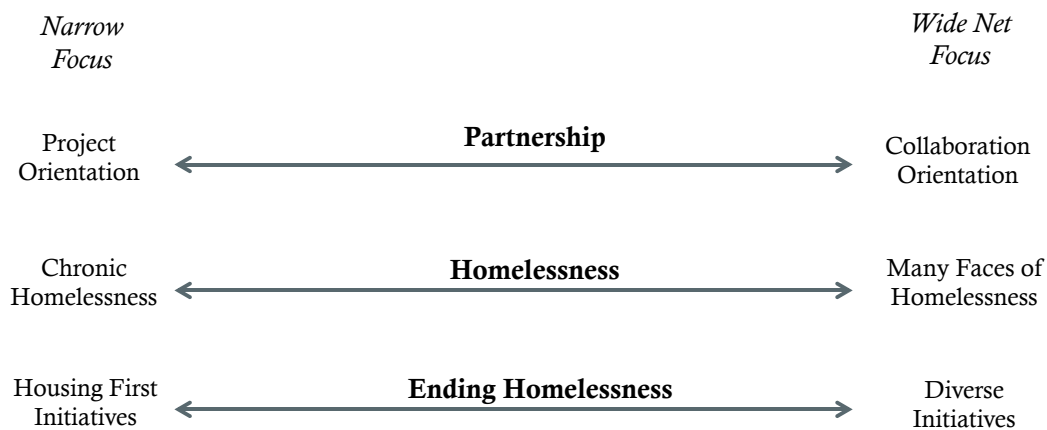


Figure 3. Continuum of Identity Understandings

As the above figure shows, these various meanings ascribed to partnership, homelessness and ending homelessness tended to fall on a continuum ranging from a narrow to a wide net focus or approach. For instance, as it relates to the meaning of homelessness, some actors indicated that it was important for the Coalition to focus specifically on those experiencing chronic homelessness (i.e., those with long-term or repeated episodes of homelessness) since this group is the most vulnerable. Those who held this view concerning the meaning of homelessness when it came to the Coalition's identity tended to focus on housing related initiatives as the primary vehicle for ending homelessness. Consider the following statement made by the third Executive Director:

So the focus of the organization has almost always been chronic homelessness, right, and the and how many people are experiencing chronic homelessness and what the definition of chronic homelessness is. That has almost from the get go been the focus of our organization and it remains our top priority.

Others, though, believed that an inclusive approach needed to be taken that addressed the many faces that homelessness can take, including those who are couch surfing, do not have access to affordable housing, etc., alongside those who are 'visibly' experiencing homelessness. The latter group tended to emphasize a wider array of initiatives in addition to focusing primarily on housing related efforts, such as prevention related activities and/or initiatives to minimize the effects of homelessness. As one involved partner emphatically put it:

I really get hot under the collar when people say we should prioritize those that are chronically homeless. Well, no bloody wonder, okay so that's almost a useless statement in one way...they're flooding in like massive amounts. You're never gonna take care of just those chronically homeless. If you just focus on that you're gonna lose the war...You're never gonna resolve the problem if you just focus on that part of the society.

By tracing the various meanings that involved participants ascribed to the Coalition's identity in this ethnographic study as we utilized both perspectives in our analysis, we were able to arrive at a better understanding of how actors actually made sense of the partnership's identity in a variety of different ways based upon meaning systems that they identified with at multiple levels. We discovered that these different understandings were not simply a current day challenge, but rather dated back to the very conception of the multi-stakeholder partnership.

Of the individuals we interviewed who were involved in the early stages of the Coalition, while many described the organization's central focus on chronic homelessness (from the beginning) a few others felt that chronic homelessness was just one piece of a much larger puzzle in which the Coalition was grappling. In recognition of these various perspectives, one former Leadership Council director involved during the initial founding of the organization put it this way:

One of the challenges I think from the very beginning was defining what is the goal of the Coalition and when we say our goal is to end homelessness what is it that we mean by that?

We also realized that each and every individual in the Coalition made sense of his/her involvement in a different manner. These perspectives colored how members viewed the Coalition's very identity, the result being a multitude of meanings related to its organizational identity, which were, more often than not, implicit in nature. Differences in perspectives

stemmed from each individual involved approaching the Coalition table with multiple “hats” simultaneously, including, but not limited to, the organization and/or stakeholder group he/she represented and the sector(s) in which his/her organization was situated (e.g., nonprofit, government, business). As well, each involved actor held an individual stance on the Coalition and the issue of homelessness, which may or may not have aligned with the group and/or organization he/she represented. This points to the complexity of addressing a wicked problem, in this case homelessness, as there are many different features of the problem and many different ways in which involved actors define the focal issue, which makes it difficult for a cross sector partnership to come to a working agreement as to approaches to resolving the focal issue at hand¹.

By incorporating both the institutional logics and negotiated culture perspectives simultaneously into our analysis, we were able to arrive at a more complete understanding of the variety of contextual factor that shaped each actor’s perspective in approaching the Coalition. An institutional logics lens allowed us to categorically capture the macro-level meaning systems that manifested themselves in the partnership context. As one example, a logic that surfaced in this context was that of social justice, a field-level manifestation of the logic of profession (Thornton et al., 2012) within the homelessness arena. Individuals who ascribed to this logic, commonly those working directly with the homelessness population, such as frontline service providers, focused on the human element of homelessness, rather than simply viewing the issue in terms of a macro level systems challenge alone. Key words and phrasing commonly used include “human rights,” “social inclusion,” “direct connection to homelessness,” “moral imperative” and “social change”. By contrast, the negotiated culture perspective aided the researcher in better understanding how the actors involved made sense of its identity as a cross sector partnership to end homelessness in a variety of ways based upon meaning systems at multiple levels, including but not limited to institutional logics, which interacted over time to shape and alter the partnership’s identity.

We profile one Coalition actor as a representative example whose viewpoint would not have been captured in full by focusing on either perspective in isolation.



Figure 4. Example Profile

¹ We thank our session chair for pointing out this connection

David (pseudonym) has been involved in the Coalition since it was founded in 2008. David's professional background consists of time spent working as a case manager for a service provider as well as an operational officer for a major governmental health agency. During our two interviews, David emphasized the importance of keeping the beneficiaries a given group is trying to serve at the forefront, in this case those experiencing homelessness themselves (social justice logic). At the same time, David talked about the importance of a systemic approach that considers prevention based solutions, such as addressing youth in foster care at risk of homelessness, alongside housing initiatives (root causes logic). Organizationally speaking, David relayed to me that his organization, a major health agency, is most focused on the high needs group within the homelessness realm (i.e., those experiencing repeated episodes of homelessness) and desires for the Coalition to think outside the box in terms of generating housing resources beyond new capital projects in order to ensure that resources are being used effectively and efficiently. He also described to me the health organization's culture, "...revolv(ing) around flow and getting people out of the beds," which informs how he approaches the Coalition as an organizational representative. Personally speaking, David expressed to me the importance of addressing homelessness, a major societal challenge, and that the Coalition should advocate to involved governmental agencies such as his own in order to do more to help solve the issue, a viewpoint that did not represent the official stance of his organization. In contrast, one of his colleagues who worked within the same health agency felt that the organization was significantly contributing to the Coalition's work.

While we admit that there is 'messy' overlap between the two perspectives, we also contend that we would not have been able to capture the variety of contextual factors that shaped how Coalition actors made sense of the cross sector partnership's identity by utilizing a solitary lens. When combining this integrative theoretical approach with the ethnographic method, we were able to provide the Coalition with an in-depth understanding of the variety of different meaning systems at work. In the Coalition's case, these multiple understandings of identity were rather implicit in nature. As a result of our findings, therefore, we recommended that the Coalition consider making explicit communications with current and incoming partners an active and ongoing priority (e.g., communicate exactly what is meant by partnership, homelessness, etc.) as this study revealed that actors held many different perspectives on the Coalition's focal mission even as they were regularly reminded of it.

Findings: Bridging Skill Sets to Navigate Across Meaning-Related Differences

This synthetic methodological orientation also allowed us to surface the key bridging skill sets that facilitate boundary spanning activities within the Coalition. Boundary spanning can be defined as activities that promote partner interface across organizational, geographic and sectoral boundaries (Manning & Roessler, 2014). Boundary spanning is particularly crucial in cross sector partnership settings characterized by multiple meaning systems at multiple levels and that span a variety of boundaries – sectorally, organizationally and individually.

Partnership Commitment – Ability to focus first and foremost on the aims of the partnership including the key wicked issue that the partners have come together to address rather than calling attention to organizational and/or sectoral differences between them.

Awareness of Complexity – The ability to realize that the wicked issue at hand is very multi-layered and will involve multiple organizations and sectors working together, each with their own sets of strengths and limitations, in order to solve it effectively rather than viewing the issue solely from his/her vantage point.

Boundary Crossing Knowledge Transfer – The ability to coherently express one's own viewpoint, including underlying assumptions, to effectively share information in a way that will be meaningful in other organizations and/or sectors rather than communicating opaquely and in the same manner regardless of the audience.

Openness to Alternative Perspectives – This refers to one's capacity to fully understand that his/her perspective is just one out of a plethora of perspectives and demonstrates a strong willingness to actively listen to and understand others' stances rather than viewing his/her own viewpoint as "the right one."

Relationship Orientation – One's ability to foster strong social capital with other actors involved in the cross sector partnership rather than seeking to move forward with one's agenda without regard for personal relationships.

What is important to note about the boundary spanning skill sets identified is that each individual exhibiting one or more of these capabilities was only able to bridge across select organizational cultures and institutional logics involved. This finding speaks to the need for a multitude of individuals involved in cross sector partnerships to utilize boundary spanning capabilities in order to traverse the multiple meaning systems present in a holistic manner. This is particularly relevant for complex tri-sector partnerships, such as the Coalition, characterized by a variety of meaning related boundaries, culturally and institutionally speaking, that any one given individual will only be able to bridge in part.

We also discovered that actors were able to develop these skill sets over time, which points to them being learned behavioral traits as opposed to innate psychological characteristics. For example, some actors relayed to us how their opinions about homelessness had been altered over time due to their involvement within the Coalition. One Leadership Council co-chair put it this way:

Well I really enjoyed being involved in the Coalition. I think it does open your eyes. For me, Coalition me has been impactful in helping me be more empathetic towards that community to not hold them as accountable.

Others talked about how they were gradually able to see the issues at hand from alternative perspectives over time. This even occurred in cases where individuals did not have direct experience in a different professional realm, such as a business professional learning and understanding a social work perspective concerning the issue of homelessness after seeking to learn from this alternative viewpoint.

CONCLUSIONS AND IMPLICATIONS

By utilizing institutional logics and negotiated culture in conjunction with the ethnographic method, we illustrate how this synthetic orientation can be used in practice. In doing so, we highlight how we were able to holistically capture the meaning systems at work in this multi-faceted partnership at multiple levels, resulting in a better understanding of how such partnerships can work across difference to affect positive societal change when addressing wicked problems. In particular, utilizing this synthetic approach we accomplished the following: 1) we captured the numerous meaning systems that came together in the Coalition at multiple levels, which influenced how the various stakeholders viewed the partnership's identity; 2) we were able to illustrate how the diverse stakeholders worked across these differences as a group; and 3) we were able to document how individual actors took boundary-spanning roles between their home organizations and the Coalition.. Our findings offer important implications for other types of collaborative partnerships and strategic alliances that bring together diverse actors operating across distinct working arrangements at multiple levels. In such multi-faceted arrangements the individual actors are likely to hold different and often divergent perspectives concerning the meaning of the wicked problem being addressed. In the case of the Coalition, we discovered that the various actors held diverse perspectives of the Coalition's identity as a partnership to end homelessness even as they were regularly reminded of it. This underscores the importance of taking a holistic assessment of the sensemaking individual actors bring to such partnerships, allowing for and encouraging a negotiated, flexible and dynamic outcome regarding the identity of the organization, and making communications as explicit as much of the understandings brought to the partnerships are implicit in nature. As organizations are increasingly complex and often driven by operations across differentiated boundaries at multiple levels (Brannen, 2009), it is our hope that this integrative methodological approach will open up future pathways to more holistically understand meaning-related phenomena in multi-faceted organizational arrangements.

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Ethnography Is the Pathmaker to Better Care: Paving the Way to a Patient-centric Healthcare Model

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This paper presents a clear and flexible model for understanding the concept of patient-centricity. This model emerged from our own ethnographic work in healthcare contexts, and was tested and strengthened with a literature review and interviews with experts and thought leaders in the healthcare industry. Our model posits that patient-centric care should be Personalized, Hassle-free, Active, Collective and Transparent (PHACT). Hospitals, payers, clinicians, Pharma and MedTech divisions (among others) can use these pillars as a guide to drive their transition to patient-centricity. The underpinning principle for the PHACT model is that ethnographic inquiry is the necessary path-maker for each stakeholder to understand the best ways to implement and maintain these five pillars of patient-centric care in their particular healthcare context.

INTRODUCTION

Patient-centricity has been a buzzword for the healthcare industry since the 1980s. It is comprised of those medical practices that focus on the relational aspects of care and the need to fully inform patients and involve them in decision-making (Gerrits 2014). While the desired outcomes of patient-centeredness are both 'ethical' and 'economic', or 'value' and 'evidence based', patient-centricity is linked to concrete and measurable healthcare quality improvements. With the unprecedented scale of the challenge facing the global healthcare delivery system, the patient-centric approach would undoubtedly lead to a more rational use of collective resources, which in turn could help societies and the organizations within them tackle critical issues such as the rise of ageing populations and increasing long-term care needs. Rethinking and restructuring healthcare systems to innovate in favor of patient-centricity has been estimated to be able to save entities like Britain's NHS £4.4bn per year (Bland 2015). An IBM report claims that every segment of the US health industry could benefit from following a patient-centric approach: patient health, payers' costs, providers' safety and industry's financial burden (IBM 2006:4). At the same time, there is a growing acknowledgement of patient experience and patient-reported outcomes as being valuable in themselves, regardless of whether they also have a positive impact on cost and quality.

Throughout anthropological literature, there is considerable ambiguity concerning the exact meaning of the term and the optimum method of measuring the process and outcomes of patient-centered care (see Mead and Bower 2000 for a review). Key dimensions of patient-centered care include sharing and redistributing power and responsibility in the patient-practitioner relationship (Parsons 1951), as well as gaining a fuller understanding of the patient's experience of their illness, as it relates to their own concepts of personhood (Armstrong 1979). The utility of any measure of patient-centricity is also highly dependent on the context in which the measure is being used (Mead and Bower 2000:1106).

When speaking to a number of thought leaders and experts in the healthcare industry (see acknowledgements), we found understanding of 'patient centricity' to be both broad and varied. Similarly, throughout policy literature, we found that definitions of patient centricity shift along a spectrum. More traditional descriptions, such as the 1987 Picker/Commonwealth Program on Patient-Centered Care (Millenson and Berenson 2015), place the patient at the hub of delivery services, though the energy and decision making is still reliant upon the expertise of the 'spokes' (CDRH 2010). In this scenario, paramount principles such as respect for patients' values and physical comfort place the patient at the centre of everyone's attention, though he or she is still a fairly passive actor. At the other end of the spectrum, we find descriptions of patient-centricity which envision a more empowered and participatory e-patient. In this view, patients not only take a more active and collaborative role in their relationship with healthcare providers, but are also entrusted with the care of others (Nesta 2015). Doctors shift away from being the core locus of expertise to a safe and welcoming actor who can help interpret and give meaning to the overwhelming information available to the patient.

This lack of precise and agreed-upon definition results in both excitement and skepticism about the value of patient-centricity for healthcare. Its meaning becomes diluted, while conceptual and empirical developments are hampered (Mead and Bower 2000:1088). This fluidity creates tensions and problems at an organizational level when it comes to defining a course of action and setting success metrics. How might we deliver on a term which has myriad and conflicting definitions?

While there have been many attempts to identify key indicators of patient centricity, healthcare organizations are limited in their pursuit by the lack of a clear pathway to achieve such indicators in varying contexts. The need for a model of patient-centricity extends to the need for a method for understanding what it could look like across cultures. Patients are not homogenous. The goal of 'collaboration' with patients voiced at policy conferences may not resonate with underserved minorities who harbor a deep mistrust of 'the system'. Different indicators of patient-centricity may mean different things to different individuals, communities and collectives of people.

Ethnography and Clarity

In the complex and rapidly changing healthcare ecosystem, ethnographic methods are uniquely able to illuminate not just how individuals act and why they choose particular courses, but also how actors' interactions are shaped by context (Harple et. al 2013). Thick description, a term developed by Clifford Geertz (1973), is a way of explaining both human behavior and the context in which it is studied, so that the behavior becomes more meaningful to an outsider. Big data explanations for behaviors need to be supplemented

with ‘thick data’, which reveals the social context of the connection between data points (Wang 2016). Ethnographic enquiry allows researchers to take advantage of relative immersion in a particular context in order to obtain this kind of thick description.

Ethnography is about discovering cultural patterns and developing models to explain those patterns. As a design consultancy, Experientia has used ethnographic methods such as participatory observation, shadowing and interviews in healthcare contexts to illuminate how individuals act, what motivates them, why and how they feel what they do, and how their interactions are shaped by their contexts. Our work in healthcare contexts is not just about understanding the systems and tools in use but about the emotional states of patients and professionals (Harple et. al 2016:134). As noted by Hammersley and Atkinson, Ethnography is ‘inescapably a textual enterprise’, in that it is ‘widely recognized that the ‘ethnography’ is produced as much by how we write as by the process of data collection and analysis’ (2007:191). Though, in addition to this, our research activities have also created spaces for active participation of users and given them voice for the direction of further research and design.

Throughout Experientia’s own ethnographic work in the healthcare domain, we have found confusion regarding how to implement patient-centric policies and programs. We recognized the need for a plain framework on how to discover and understand what patient-centricity meant in any particular context. To further investigate and test our ideas on a model for patient centric-healthcare, we carried out interviews with several influential thinkers and experts in the healthcare industry as well as a review of both academic and policy literature on the term. Out of this three pronged approach - ethnography, expert interviews, and a literature review - a clear and memorable framework for patient-centricity has emerged, recognizing that rather than converging to a single definition or approach, facets and interpretations of patient-centricity can be clustered into several complementary categories.

The PHACT Model for Patient-Centric Healthcare

Our model posits that patient-centric care should be Personalized, Hassle-free, Active, Collective and Transparent (PHACT). Hospitals, payers, clinicians, Pharma and MedTech divisions (among others) can use these pillars as a guide to drive their transition to patient-centricity. The underpinning principle for the PHACT model is that ethnographic inquiry is the necessary path-maker for each stakeholder to understand the best ways to implement and maintain these five pillars of patient-centric care in their particular healthcare context.

The model both emerges from ethnographic research, and requires sustained ethnographic enquiry by stakeholders. It guides organization to adopt an ethnographic perspective on people and social contexts in order to define patient-centricity for their population. We are aware, for example, that the changing age structure of the population will affect the landscape and priorities of private and national health services (Wanless 2002). However, the PHACT model is afforded both stability and flexibility in that it must be underpinned by a deep understanding of each relevant healthcare context and its unique stakeholders. While the nuances will shift based on the patient population and contexts, the questions within the framework will remain valid.

In Singapore, Experientia was asked to conduct the “Design for Ageing Gracefully” project to explore current healthcare experiences of the ageing population in Singapore,

identifying trends, behaviors and gaps in the interaction between elderly people and the healthcare system (DesignSingapore Council 2015). We carried out ethnographic research - interviewing and shadowing elderly users of the healthcare system and their caregivers, and observing their experiences. We carried out an extensive research and analysis project, including a workshop with participating public agencies and services from the Singapore healthcare system. The learnings from this project will be used to highlight in-context examples of the pillars of the PHACT model.

PERSONALIZED

'Evidence-based medicine provides diagnosis and instructions on the basis of percentage of patients instead of individuals. More personalized treatment is needed for individual patients.'

—Jody Ranck, analyst, startup executive and author of Connected Health

The meaning of 'personalized' medicine is as context specific as defining the quality or condition of personhood in any particular culture. In the age of the genome, there is a growing demand for healthcare to be more individualized to the specific biogenetic conditions of patients. In this context, medicine needs not just to be powerful, but predictable, as it tailors care to an individual's own genetic make-up. The goal of personalized medicine from a biogenetic perspective is to streamline clinical decision-making by distinguishing in advance those patients most likely to benefit from a given treatment from those who will incur cost and suffer side effects without gaining benefit (FDA 2013).

However, personalization of care is also associated with other, softer, variables that strongly influence the way in which different patients react to therapies. These include lifestyle, personality, family context, cultural background, general and technological literacy, and other socio-economical and psychological variables. A meta-ethnographic study by Franzel et al. demonstrated that patients' notions of individualized medicine should include the humanistic approach of individualization as expressed in concepts such as 'personal growth', 'holistic' or 'integrative care', doctor-patient 'alliance', 'self-activation' and 'wellbeing' needs (Franzel et al: 2013).

Such a varied approach to what it means to be personalized presents a challenge to healthcare providers. As asserted by Gibbon, the 'dream' of genomics as 'personalized' medicine now sits alongside and somewhat in tension with the goals of 'public health' (Gibbon 2009). Gibbon's comparative ethnographic perspective of the emergence of 'breast cancer genetics' in the different cultural contexts of the UK and Cuba, illuminated the context-specific ways that technologies, subjectivities and more particularly socialities are being aligned in relation to genomic medicine in Cuba. The tasks of ethnography include finding out how people view the situation they face, how they regard one another, and how they see themselves (Hammersley and Atkinson 2007), thereby making it an indispensable tool to adequately investigate the aspects of personhood that engender ideas of personalization in any particular context. Ethnographic methods can also help discover which are the softer (behavioral, motivational, cultural, etc.) variables that influence the way patients experience different diseases and the care they receive, and how these affect the success of treatment of different diseases in different contexts and locations.

DesignSingapore Council came to us with a concern over low healthcare access by a climbing elderly population, and questions on how best to serve this population. We found

personalization to be a key concern of the elderly in Singapore, with little to no mention of genetics. Observing people in their everyday contexts, such as their work or leisure, or socializing with their families, enabled an understanding of people's sense of their own body and how they related to the healthcare system. A key theme to emerge from this research was elderly people's feeling that the healthcare system simply was not made with them in mind. The majority of elderly participants we spoke to had a holistic view of healthcare that includes body, mind, and soul. When medical practitioners did not acknowledge the relevance of alternative medicine for a patient, it left them feeling as if their long-established beliefs were wrong. We found the resulting defensive approach to be not only with doctors, but with the healthcare system in general, causing them to turn to it only as a last resort. Presenting these insights to key stakeholders in the Singaporean healthcare system in the form of stories, themes and short ethnographic films helped impart empathy and influence strategic direction on what personalized healthcare could mean for the elderly in Singapore.

HASSLE-FREE

'User experience needs to be more than single person focused, it needs to look at the whole system.'
—Nancy Vuckovic, Director of User Experience and Design, Intel Corporation

Making healthcare hassle-free is about addressing and assessing barriers to care and how these impede basic access. Barriers to meeting needs for care can take different forms, including not perceiving a need for care when there is an objective need for it (unperceived unmet need), not seeking attention when a need is perceived (subjective, chosen unmet need), and getting inadequate treatment when care is received (subjective, non-chosen unmet need) (Garcia-Subirats et. al 2014). Such barriers may not act as initial blockers to access, such as long waiting times, but may have a significant effect on dissuading individuals from seeking care in the future, thereby increasing the amount of chosen, unmet needs in any population. A cross-sectional study by Garcia-Subirats on the barriers to accessing healthcare in municipalities of central Colombia and north-eastern Brazil revealed individual factors to be less important than those related with the design and organization of the health system, including shortfalls in infrastructure and the organization and quality of services (Garcia-Subirats et. al 2014). This resonates with Rhodes' investigation of reasons why Korean Americans are less likely than other Asian Americans to access and utilize healthcare services, regardless of their insurance status. The Koreans interviewed for the study perceived complication and hassle to be an inevitable part of accessing care in the United States, thus discouraging them from seeking attention when a care need was perceived. One participant noted that 'it's very difficult and complicated to know where to go for your symptoms. When you see a doctor, it's common to hear that you have to go see another specialist' (Rhodes 2015:488).

Without a patient-centric model for healthcare systems, patients' experiences are fragmented and complicated. A deep understanding of patients' healthcare journeys, touchpoints and pain points discovered through ethnographic research is essential to removing these frictions. While Rhode's (2015) and Garcia-Subirat et. al's (2014) studies were comprehensive, both lack a documentation of the complex factors that influence and motivate patients' behaviors or a description of people's emotional responses to barriers to access. Participant observation allows researchers to understand how people solve their

problems with the tools they have, and would therefore be the most comprehensive path maker to understanding what could demotivate or impede patients from seeking access to care.

Joining elderly patients on their routes to healthcare appointments in Singapore revealed many practical obstacles when aiming to access care. Inaccessible routes would cause people to take long detours in order to avoid overpasses with many steps, or buses that have slippery floors in the rain. Entering into hospital with patients revealed the number of touchpoints individuals would need to interact with before meeting with a healthcare professional, and the potential for confusion, such as signage in hospitals being inconsistent and contradictory to a previous hospital experiences. We observed patients needing to walk long routes in order to pay for and collect their medication after appointments. Being such a multi-cultural society, we observed elderly arrive at an appointment to find the one nurse who spoke their dialect was not there that day, resulting in further delays and discomfort. Most importantly, reflecting with the elderly on these experiences revealed the emotional effect and loss in confidence as a result of the hassle involved when seeking care. This was in addition to the stigma often felt by being perceived as both elderly and unwell. Zamrud, a 67-year-old Malay carer, avoided using a walking stick other than when she was seeing her doctor, as she didn't want to enhance any visible signs of her age or health state. She couldn't allow her neighbors to see if she was unwell or seeking care, in case they judged her badly. This was even though being able to walk and move freely is so closely related to feelings of choice and empowerment.

The trouble we found the elderly faced when trying access care left them feeling they were at fault and that the healthcare system simply 'wasn't made for them'. Such hassle inevitably led to people feeling they would rather avoid accessing care unless it was an emergency, resulting in them being left with unmet care needs. Visually documenting these stories in the form of customer journeys allowed us to communicate these findings to leading stakeholders in the healthcare industry in Singapore. Rather than simply building empathy, these clear and tangible examples of failures within the system helped clarify a perspective on patient-centricity.

ACTIVE

'Whether I like it or not, I'm the expert, not the medical professional.'
—Tim Omer, Diabetes sufferer and advocate, hacker

Active healthcare is about treating patients-as-assets, in terms of their knowledge and experience, rather than just sources of need. NHS England has recognized the benefits of patients having motivation to innovate by providing support for regular NHS hack days, which bring together people with problems and IT experts in an attempt to find digital solutions. However, these days don't target the more personal health hackers such as Tim Omer, a British Type 1 diabetes sufferer we interviewed, leaving much to be desired in the way of harnessing the talent of those patients with crucial user insight and a sophisticated understanding of technology. Such incidences resonate with extensive academic and policy literature on patient empowerment, a concept that has clearly been extremely influential in discourses of healthcare reforms and health promotion in Australia, Europe and the US (Chiapperino and Tengel 2015:210).

Empowerment is about a redistribution of power between patient and physician (Roberts 1999), though the term itself posits a sense of autonomy on the part of the patient, free from the controlling influence of others. Factors such as compliance and elitism have acted as obstacles to the inclusion of a patient point of view in the healthcare landscape. While patient-centered medicine may liberate the medical encounter from paternalistic power (Mead and Bower 2000:1089), at the same time it introduces a new complex of power relations between doctors and patients (Gerrits 2014). For this reason, we have focused on the active participation of the patient as the central focal point of this pillar for patient-centric care. This pillar does not suggest that patients must be encouraged to be more active in order for patient-centric care to be achievable. Rather, this pillar emphasizes the need to harness patients' own knowledge and insight, existing political energy and technological expertise that patients use to create innovative healthcare solutions (All Party Parliamentary Groups on Global Health 2014).

Interviews with patients such as Tim Omer revealed the frustrations patients have with using healthcare devices, the economic and social challenges they face, and the motivation of certain patients to design innovative solutions for theirs and others' unmet healthcare needs. Tim Omer's homemade Continuous Glucose Monitor and smartphone application bypassed those manufacturers who had so far failed to provide an affordable solution to those who require CGM data. Mr. Omer's activity as a 'health hacker', along with others from patient advocacy groups such as #wearenotwaiting, have been widely recognized in media as examples of patients taking 'the failure of major companies to develop cheaper, more accessible devices' (Darzi 2015) into their own hands.

Both Mr. Omer and Dr. Lee, an American doctor and pioneer of the maker movement for healthcare, feel that the role of the manufacturer is shifting. In the past, manufacturers had a technical point of view and exclusive access to hardware. Now, patient-driven innovation opens the door to a future in which an educated and technically-savvy general public is able to compete with manufacturers. However, both Mr. Omer and Dr. Lee acknowledge that we don't currently have 'the infrastructure, methodology or culture to facilitate human-centered design yet in healthcare'. Patient led-innovation needs recognition, a pipeline and assistance to make it available to a larger population.

Significant power and cultural dynamics affect patients' inclusion in their own treatment decisions and in the design of new products - they may be perceived as uneducated or needing protection from unregulated experimentation. Patients may have no other option but to be more active in the way they take care of their health as the healthcare system does not have enough funds to provide services like before. Ethnographic approaches are crucial in identifying opportunity spaces for how patients can play an active role in the improvement of healthcare provision. In order to understand patients-as-assets, organizational approaches must ensure they can respond rapidly to learning from local contexts and work from the bottom-up.

COLLECTIVE

'Collective movements can do justice to the complexity of diseases. Sometimes a single device cannot do that.'
—Stefana Broadbent, Head of Collective Intelligence at NESTA

‘Collective’ focuses on the wider plethora of stakeholders that form a whole in contributing to healthcare provision. Focusing on the collective pushes patient-centric care to go beyond patient’s active engagement with their own care and providers, to include a wider inclusive perspective of the needs of other actors involved. From both our own ethnography and our interviews with healthcare thought leaders, it is clear that in order to meet the needs of a patient, medical device companies and service providers need to learn how to design for the whole experience, which includes medical staff, caregivers, pharmacists and communities. From an organizational perspective, focusing on collectivity redefines the problem of patient-centricity. First, how do we shift systems that protect privacy and individuality, and second, how do we think about health problems/solutions in radically different ways that might not have direct ‘health’ solutions?

Nesta’s vision for healthcare in 2030 envisages a landscape where new digital technologies will allow people to track and analyze their own health data, and to share this and other health knowledge with others in ways that will aid prevention and management of long-term illnesses (Bland 2015). Experts we spoke to expressed concern that the most popular wearables are not capturing the relevant biometrics for healthcare practitioners to utilize, and lack efficient feedback mechanisms. True innovation in wearables would directly address the issues that patients are facing. Such technology is also unsurprisingly more scarce in poorer communities, where their target as a preventative health measure may in theory provide some of the most value (Elias 2015). Illness itself would also affect the ability for an individual to capture and manage data, while the ability of a physician to sit and manage increasing amounts of incoming data is also unlikely.

Truly collective healthcare design would ensure that the data patients generate is targeted also at what is most useful and actionable for all stakeholders involved in a patients’ care. In regards to data management, the ethnographic challenge is to identify the most relevant data and metrics for both patients and healthcare professionals, and the related design challenge is to develop the right tools and applications to facilitate the production and use of newly available data. Greater theoretical ideas related to privacy, trust and power would be crucial to ethnographic investigation.

Ethnography itself can be the starting point for a collective focus. Ethnographic techniques such as participant observation in patient organizations could explore ways to collaborate spontaneously throughout their networks, and to design ways to foster collaboration with stakeholders in online and offline practices. In-depth interviews and shadowing of patients’ could help deepen our understanding of where shortfalls exist in the ecosystem of their healthcare support. Ecosystem maps and service journeys, based on ethnographic enquiry, could help to understand different scenarios of engagement for people with long-term illnesses.

Our work in Singapore identified that supporters of the elderly — social workers, caregivers, family, domestic employees, friends and even neighbors — find they are caught between the elderly’s struggles and the way the system is implemented, making them feel as if they are fighting an uphill battle. Caregiving overwhelmed all the participants we interviewed. For family members who become caregivers, having responsibility for someone else’s health and well-being is disruptive, with them often receiving little gratitude. We found a deep sense of guilt and worry for the elderly clouded relaxation time, such as massage or meeting with friends. They don’t have many opportunities to speak about their stress, or they are presented to people of a similar or lesser expertise level and so the advice received is

usually unhelpful. We found stress management techniques included “downgrading” one’s own job/employment position, hiring part-time help or taking on a part-time job as a “de-stressing” physical activity. The elderly’s first touchpoint, before accessing most other services and programs, is usually volunteer caregivers and social workers. These wider considerations and challenges are crucial to organizations that want to focus on more patient-centric healthcare provision.

TRANSPARENT

Transparency is a comparatively new, though increasingly integral tool for public service reform. In terms of healthcare, it is often used to refer to making information available about providers, outcomes and costs, as well as making patient’s own data more available and accessible. The origins of transparency can be found in theories of civic responsibility in the 1980s (Henke, Kesley and Whately 2011:65), and it is now often used as a key measure for corporate reputation (Mack 2015). Transparency is critical to the concept of patient centrality because it is a tool to attempt to correct ‘the democratic deficits of existing forms of law, bureaucracy, and even subjectivity’ (Ballesterio 2012:160). Both value and evidence based, transparency aims to improve patients’ opportunities for choice in healthcare, and at the same time reduce errors and increase quality of care. A report by Health International revealed a number of successful projects in the UK’s NHS service. In an area of the UK in 2008, a local NHS payer gave quality awards to 14 GPs for meeting certain professional standards. Over the next three years, about 4,500 patients changed their registration to the practices with quality awards. Similarly, the NHS ‘choices’ division publishes comparative data and reviews on local services. Evidence shows that the choices division of the NHS has reduced the number of unnecessary visits. The research is clear, across industries, that peer scrutiny is a strong means to incentivize behavioral change.

Complex information system design requires profound understanding of which information needs to be analyzed and exchanged and through what channel. Ethnographic research can help healthcare stakeholders understand what the patient’s needs for information are, and how to deliver it in a way that is not just transparent, but is also informative and accessible. Whether it is data being provided about providers and services, or patient-to-patient data sharing, when are these data actually used? What do people do with the data? Who actually reads the data? A patient’s relationship to the data could be problematic. Ethnographic investigations into transparency have viewed it as recognizable across contexts, but something which can create new subjects and objects in unpredictable ways (Hetherington 2012).

From our expert interviews, we found concerns about privacy are sometimes viewed as an excuse to prevent progress. Clinicians may feel threatened at the thought of patients making their own judgments and decisions, while others may feel excited and respectful about what people are doing. How does a focus on transparency sit with the idea of the doctor as expert? A major organizational challenge would be to shift this perspective on control. What tools would manage issues of disagreements and decision making? Such collaboration has to be part of changing the paradigm away from the medical expert as a holder and sole guardian of medical knowledge and expertise, to a more democratic system that acknowledges people’s ability and right to be informed about their own health, and about the available choices for better quality of care. These interviews highlighted clear

issues for investigation in the pursuit of transparency in the healthcare industry. What risks are perceived by the stakeholders involved and how could these concerns be mitigated and managed? What does transparency 'do' to relationships between patients and clinicians? Ethnographic methods can help healthcare providers to understand how to offer information that is transparent, can be interpreted easily, and is the right information to the right stakeholder at the right time.

CONCLUSION

The PHACT model is a distillation of the current consensus on patient-centric healthcare. The value of the PHACT model for patient-centric healthcare is flexibility, clarity and simplicity. This model funnels the breadth of interpretations of the term 'patient-centricity' through a clear framework, with a pathway of investigation to help the framework adapt to varying contexts through ethnographic enquiry. Patient centricity is vital for healthcare due to its clear measures of healthcare quality improvements, as well as the value-based arguments of increasing patient experience. For each pillar of the framework, we have devised guiding questions that can be addressed through ethnographic investigation.

Personalized

- What are the existing healthcare personalization practices in the context of the study? How are they perceived?
- What conditions of personhood comprise this patient group? To what extent do these vary within the group?
- What variables influence the way patients experience different diseases and illnesses?

Hassle-free

- What are the obstacles experienced by individuals when trying to access care?
- To what extent do they influence future efforts to meet care needs?
- How and to what extent does access vary within the group of patients? What are the relevant variables?

Active

- How do patients perceive their knowledge of their own health conditions in relation to care providers?
- What are the existing shared or private, low- or high-impact DIY and/or innovative practices in the domain of interest?
- What structural support do patients have (or lack) to channel their ideas into solutions for healthcare?

Collective

- How do we think about health problems in the context of the wider plethora of stakeholders that surround a 'patient'?

- What are the shortfalls in support of the wider ecosystem of actors in the healthcare landscape?

Transparent

- What risks and barriers to information sharing are perceived by those involved and how could these be mitigated?
- How do cultural aspects influence these perceptions?
- What are the perceived conditions for establishing trust and reliability?

Essential to this model's success is that these pillars should not be addressed as separate entities, but as a group of guiding principles that intimately depend on each other in order to move towards patient-centric care. Transparency is a conduit for effective collaboration between patients, clinicians and the wider collective of stakeholders; seeing patients as active assets for innovation requires hassle-free access in order for them to become integrated into the system that is trying to support them. Personalization of care is dependent on individual understanding of people's demands of transparency and ideas of how to be active agents in their own healthcare, and so on.

The PHACT model for healthcare gives a clear framework of definition and method of discovery to a concept which has suffered from a diluted meaning. Insights gained through ethnography will allow organizations to integrate these pillars into systems, services and devices, according to the unique and complex context of the healthcare environment they are innovating for. Giving organizations a set of complementary categories through which to focus when innovating for today's market will allow them to focus and streamline their efforts in a systematic and functional way.

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The Rise of the User and the Fall of People: Ethnographic Cooptation and a New Language of Globalization

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This paper examines how ethnographic praxis as a means for driving social change via industry, went from a peripheral, experimental field, to a normalized part of innovation and product development – only to be coopted from within by a new language of power. Since the 1980s anthropologists have used their work to “make the world a better place,” by leveraging their tools of thick description and rich contextual knowledge to drive diversity and change within corporations and through their productions. As ethnography-as-method became separated from the field of Anthropology, it was opened to new collaborations with adjacent fields (from design, to HCI, to psychology, media studies, and so on). This “opening up” had a twofold effect, on the one hand it enabled greater “impact” (or influence) within institutions, but simultaneously subjected the field to cooptation. Recently, the practice of ethnography came to embrace the terminology of User Experience (UX) – though with it, ethnographers found what once made them distinct and differentiated (their representation of diversity of global cultures, the ability to think laterally with historically grounded theoretical approaches, etc.) was lost. UX, though a useful marketing tool, came to change the researchers and their productions, in subtle yet profound ways. This piece explores how what started out as a tool anthropologists hoped to use to shape the corporation, ultimately shaped them.

INTRODUCTION

Over the past decade the user and their experience has become of the utmost importance for the modern technology corporation. Throughout the multicolored corridors of low laying Silicon Valley office complexes, advocates to a new religion battled it out in conference rooms, cafes and faux tiki huts – UX they preached was to be our savior, a new philosophy of business practice and product development that, in a moment of economic crisis, promised to unlock profit while making the world a better place. A symbiosis of capitalist production and the understanding of everyday lives centered around product ‘use,’ this new language of power brought with it the potential for substantial shifts in the ways corporations imagined and acted upon the marketplace, changing both the organizations and their users relations to one another.

As the movement grew, an unexpected group came to be its priests. Ambassadors to what was otherwise seen by most corporate elites as an inaccessible world of mundane consumer lives (the consumer mind), an amalgamation of social science researchers and designers who had worked for years on the sidelines to reshape the corporation for the better, jumped at the chance to drive forward a seemingly new way of doing product and business innovation: “focus on the user first and all else will follow”(Google 2016). Though their day to day work looked much the same as it had during their past twenty years of

industrial research and praxis, the value of this new language was all the more pressing in this moment – it seemed the corporation had found religion and was ready to be saved.¹

Yet in the race to take hold of a user-centric future, the newfound clergy lost something. Many of the historical distinctions and subtleties of their respective disciplines became suddenly homogenized. Their boundaries were blurred and bleeding. Some believed the tearing down of old divides was for the best, opening new possibilities for collaboration and ideation. While others remained skeptical, wondering what had they given up by trading their languages of thick description, unique disciplinary methods, and long established epistemes for a new and seemingly vacuous term: user experience. The risk they worried, was that this new language of power they hoped to wield for change, would come to change them.

In this paper I take a moment to reflect upon and interrogate the rise of user experience as the new foundation for corporate technology innovation and organizational change. Drawing on my experience as a fledgling anthropologist cast into a Silicon Valley tech corporation at the zenith of an organizational transformation to become “user centric” I argue that in the race to take advantage of a popular language and newly receptive corporation, those researchers tasked with understanding and mapping the user in all its varying facets, attempted to imbue it with new meanings to make the corporation they worked within, and by proxy the world, “a better place.” Yet in their quest to make organizational change, they found their efforts placated by the very tools they hoped would drive change: the language of UX. Something once seen as potentially revolutionary; a force that could bridge the gap between the “science of ethnography” and the “practice of ethnographic product development” (Bezaitis 2009), UX in fact came to reshape their work from something that was transformational to something normalized and processual – a standardized business operation. Indeed what many anthropologists hoped to use to tame the corporation, ultimately tamed them and their ethnographic work.²

In this shift, user experience became not a tool for innovation, but one that perpetuated old practices of business-as-usual, becoming not a means of promoting fundamental innovation, but instead a new kind of language to re-frame processes of globalization – erasing historically situated terms of ethnographic analysis (e.g. production, consumption, colonization, inequality, race, class, religion, gender, etc.), and replacing it with a simplified binary (e.g. user and used). This reductionist language, though promising wide adoption through its generality, came to perpetuate many of the same pitfalls of global capital, but with a shiny new veneer. Indeed, in the quest to shape the corporation to meet the needs of people, UX became a new way through which to shape people to the needs of the corporation – causing tremendous moral and ethical tensions for the highly educated and reflexive class of professionals now tasked with advancing its cause.

THE RISE OF ETHNOGRAPHIC PRAXIS: AN ABRIDGED HISTORY

“Back Then”

To understand how the rise of UX represented a departure from earlier forms of ethnographic praxis in industry, we must look back at some of its history. EPIC remains a

pivotal sight at which many of these origin stories are recounted in great detail, revealing the vast array of work anthropologists outside of the academy have accomplished over the years from scoping the possibilities of digitally collaborative work environments (Churchill 1998); to rethinking the practice and implementation of large healthcare systems (Darrouzet 2009); to mapping the future of the entrepreneur with socially distributed micro-jobs (Cefkin, Anya, and Moore 2014); to influencing the shape of a future of ubiquitous computing (Dourish and Bell 2011); to arguing for a more design-oriented ethnographic praxis (Salvador, Anderson, et al. 1999), to rethinking autonomous transportation (Brigitte and Wasson 2015), to driving more culturally sensitive corporations (Ortlieb 2010). As the list goes on, so too does our work continue to expand horizons and push theoretical and institutional boundaries. Though this paper cannot nearly capture all these stories, I hope to provide at least a few milestones that help paint a picture of the broad historical changes in our work that eventually merged it with UX.

Despite the sheer diversity of practices and contexts ethnographers have worked with over the years, their aspirations post-academy have kept a relatively consistent grounding in the idea of making ‘positive social change’ via praxis (Darrah 2016). As Blomberg recalled about her time at Xerox PARC in the 80s, “we were, back then, trying to understand how we could bring the social sciences into innovation in new [computer] technologies” (2015). Indeed the space at PARC was one imagined from the beginning as experimental, cutting edge, and on the frontiers of a new imaginary of computational futures. As Suchman describes,

PARC represented an investment in making technology futures. Deliberately placed far from Xerox’s corporate headquarters in Connecticut, the story goes, the research center was located on the west coast of the United States, in the nascent Silicon Valley, and charged with making a difference. In a topography mirroring earlier waves of westward expansion, PARC is positioned within this imaginary as a kind of advanced settlement on the frontier of the emerging markets of computing (2011).

This kind of frontier mindset allowed for a “critical distance” from the immediate demands of product development and a more open-ended exploration of topics related to emergent communication technologies, a distance that some of its founding members saw as essential for truly ‘breakthrough’ innovation (Suchman 2011). Though Xerox was principally interested in making photocopy machines, “for us PARC researchers, in sum, the photocopier could not be an object that was of interest in its own right; it was of interest only as a vehicle for the pursuit of other things.” (Suchman 2005; 387). From rethinking small scale behavioral interactions with machines to the organizational form of PARC itself, the breadth of work conducted over the years was expansive (Suchman 2011, Jordan 1997; Orr 1995).

Indeed the photocopier was a doorway through which to enter a role of influence over broader technological creation and advancement. The “other things” as Blomberg expanded, were in grappling with the material changes that emerged from shifts in communication technologies in the late 80s and 90s. What was once a focus exclusively on work practices of office employees and service technicians transmitting knowledge via communal stories about highly complex machines (Orr 1995), shifted – devices (such as the PC) were now being

connected and used more and more by individuals with new interfaces, not just in professional settings, but all over the world.

At the time one of [our] motivations... was that these technologies were now being used, not just by engineers and the people who designed them, but also they were moving out into work places, schools, and everyday life... [These] technologies were becoming connected through local area networks and later through the internet and this meant that these were really *becoming communication technologies*. The kinds of perspectives that the social sciences could bring, in particular [ones] like anthropology, in helping us understand how these technologies would change the ways in which we interacted with one another [were essential] (Blomberg 2015).

What began as an effort to understand work practices of office employees, became a robust sub-discipline of Computer Supported Cooperative Work (CSCW), with broad reaching theoretical effects for the field of industrial ethnography at large. One central pillar that carried through from this was the idea of Situated Action (Suchman 1987), in which “action is understood as always unfolding in relation to the immediate situation at hand. This argument challenged the widely held view at the time that people plan their actions to achieve specific goals and then proceed to execute these plans” (Blomberg and Karasti 2013; 376). As ethnographic research showed time and time again, people are far more messy and unpredictable in their relationships to technologies than could be imagined by engineers in labs. Research and the design of interactive computing technologies could not be something static like, as originally envisioned, a “list of pre-meditated instructions” (Suchman and Blomberg 1999;394). Instead systems (like copiers, PCs, websites) and their interfaces (Mac OS, Linux and Windows) needed to be continually redesigned to engage in dynamic ways that were able to change to new contexts and interactions with diverse peoples in varying parts of the world. This was a unique insight at the time that holds true today – rather than training people to use machines, machines needed to be trained – remade with a kind of intelligence that allowed them to better map to the ever-changing needs of people.

Opening up Ethnography

Yet more “flexible workflows,” as Dourish aptly titled them (1996), were not the only thing that needed to be created to make machines more adaptable to people, indeed the very manner in which anthropologists did their work needed to change – from something individualistic and closed off to something participatory and open to the organizations in which they inhabited. Anthropology since its inception has been a highly individualistic, interpretive science – the quality and value of an ethnography often depends entirely on the subjective disposition of the ethnographer carrying out the research (Marcus 1996, Geertz 1973). It was (and continues to be) a particularly hard shift for the field when ethnography in many ways became divorced from “the anthropologist” as individual interpreter, reborn as something to be done in a collaborative, participatory way by “outsiders” (Bezaitis 1999). Indeed much of this ‘opening up’ was driven by researchers in adjacent fields using ethnographic methods to tackle the same kinds of problems as early PARC researchers.

Along the way we ran into some fellow travelers... a group of computer scientists in Scandinavia, and they were worrying about some of the same issues that we were, how were these new technologies going to change the way we work, and engage with each other, and in particular how were they going to change workplaces. And they had started to develop a series of techniques of involving workers in their design efforts, they didn't quite have the notion of doing research, but they were directly engaging with users. And this then became part of our practice as well, not just incorporating our fellow researchers or folks in the business divisions...but also directly involving workers and other practitioners [into the research process] (Blomberg 2015).

From this early encounter with Scandinavian feminist design scholars (Suchman 1989; Star 1999; Markussen 1996; Baecker 1996; Bødker 2006; Baecker 1987), the field of Participatory Design grew alongside ethnography through the 90s and 2000s, showing how human-machine interfaces and systems must be innovated in an ongoing, iterative, and dynamic way that is open to collaborative processes with designers, social scientists, engineers and the like, directly involved. Indeed through these discussions, design became wedded as something essential to getting across ethnographic insights into products and business strategies, though the methods of communication to these newfound collaborators was not always clear (Suchman 2011). Blomberg again:

“We were experimenting at the time. There was no field like there is today back then. We were experimenting both practically and theoretically. We were doing things like creating video collages...space based prototypes...interaction analysis labs, the list could go on, but we were trying to figure out how do you do this, how do you bring the social sciences perspectives into design of [computer] technologies...and communicate [your findings] with other people who would be necessary....to have any impact on the innovations that were coming out of the research lab” (Blomberg 2015).

The “opening up” of what many viewed as the scientific endeavor of ethnography to a less formalized mode of product development (Bezaitis 2009), came with its own issues. Design is an inherently political, action-oriented field, while academic anthropology typically takes a position of non-interventionist observation. Participatory Design itself arose in response to the effects of computers in the workplace, dislocating and deskilling labor while giving more control to management (Kensing 1998; 169). Similarly then, the act of intervention into peoples lives is a political one, in the sense that designed technologies, infrastructures (Le Dantec 2013), and institutions, all shape the very relations of everyday lives in not so subtle of ways. From traffic jams, to waste, to government corruption (Lampland and Leigh Star 2009), to addiction (Schüll 2012), the actions of designers in molding the world around us to their visions, shape and channel people's behaviors and lives in nearly every way in our built environment (Murphy 2016; Norman 2013).

The shift from “experimental” to “design” ethnography brought with it a double edged sword of political action. On the one hand the door was opened for greater incorporation into organizations and more influence to ‘make positive change happen’ (Darrah 2016), yet so too arose inherent ethical dilemmas about the nature of our work.

In this cauldron of experimentation that was going on, we had the opportunity to work with a young sociologist, Rick Robinson, who came to work with us on a project at Xerox PARC, it was a project with Steelcase. And after Rick left the Doblin group where he was at the time and founded eLab, with... John Cain, they began to incorporate some of the things Rick had learned...in the field of product design... and I think many of us have some kind of history or connection to eLab.

Indeed, capitalizing on a unique historical moment when the relevance of more individualized approaches to consumer and market research in industry were growing, eLab was one of the first overt attempts to wed design and ethnography together with the explicit mission of making “a better world by engaging with industry and commerce in the things that we create” (Blomberg 2015). As founder Rick Robinson pointed out during an interview, discussions at this time in business circles were around the need to create more individualized notions of consumers in order to maintain competitive relevance in product innovation.

There was a sense of being ‘invited in’³ at a point where, I think there was a recognition that understanding people was really critical to the success of an enterprise. You had gone through a period in the 1950s and 60s, when social research was stale, and the beginnings of quantitative sociology, using big chunks of data, came into popularity...then market segmentation models had really just hit their peak in the 70’s and 80’s [with profiles that said things like] yes, you too can make a lot of money off of who’s in “shotguns and pickups.”⁴

[In the 90’s] manufacturing started to think about how to do things that were more narrowly gauged to a particular kind of person...This is the era when “mass customization” was becoming popular...something tech was making possible. There was always a lot of discussion coming from the product design camp of being more differentiated, rather than monolithic, but it was not something that was sufficiently engaged with in a critical sense. An undercurrent of all this was [the sentiment] that surveys suck in making design decisions.

My hypothesis is that [for the business community, the idea was that] the more specifically we understand people, the more we can produce goods that they will want. This idea, led senior management and strategy people to look for other disciplines in the social sciences [for differentiation]. A lot of that sort of quantitative work, from demographics, to attitudes, to behavioral segmentation; the whole language of understanding consumers at that time was starting to blow up, because the tools for understanding it were much larger and much more flexible. More nuanced descriptions of different groups of people were starting to emerge, and...[businesses] needed to respond to that. That was where we [at eLab] decided to go. Rather than asking what should the strategy be, it was “how can we make what can be known useful?” (Robinson 2016)

Indeed eLab was able to gain a foothold of influence when more customizable manufacturing technologies, combined with new communication technologies, and emergent business trends towards individualization and cultural differentiation, created a need for new approaches to R&D. What was additionally unique about this group, as opposed to earlier iterations of ethnographic praxis in industry, was their very forward idea of using social science research to direct design outputs, and by proxy corporate strategy and products. As managing partner Maria Bezaitis recounted:

Our work was firmly rooted in a vision for how research could shape design...in a joint partnership. From that very specific motivation and agenda we evolved points of view about

product development and broader views about business innovation...eLab remains the only firm to have demonstrated how strong ethnographic research, with its own dedicated outputs, could provide a basis for design.

At the time this was a groundbreaking approach. Design as a field of practice before this moment tended to be “self contained”...it doesn’t really want to do anything with anyone else and so [even today] in its marketing (e.g. “design thinking”) it takes up more and more space, refusing to let itself be directed by anything outside of what it speaks for” (2016). Partnering ethnographic research and design then, not only opened possibilities for broader collaboration between the two fields once closed to each other, it provided a path towards more directly shaping corporate outputs with social science theory and methods. Indeed for these researchers, “we had an underlying political kind of motivation for what we were doing,” that made them distinct from doing purely exploratory or experimental work (Wolf 2016).

The “politics” of our work [was and continues to be]...tied to fundamentally changing how corporations conceive of and get things made, changing the assumptions that frame value to corporations and to the business leaders that are accountable for overseeing how those assumptions transform into products/services/technologies. eLab demonstrated what was possible with design. (Bezaitis 2016)

Indeed, rather than shy away from projects that shaped the world they took them head on, grappling with the same “[ethnical] issues we still confront today... issues around de-skilling, job losses, and in who’s interest did we serve” (Blomberg 2015). One example of this kind of project work given by Robinson had to do with a dilemma of low-wage worker representation and the organization of the kitchen at a large fast food chain.

The problem was framed as, one of their core products was consistently being spoiled by minimum wage workers, not understanding what the steps were they should go through...They had this horribly dehumanizing language [for the employees]... Their initial request was to redesign the manual that they used in training... [but instead we used] this idea of “chunking” taken from cognitive science, and laying that into the physical space [of the kitchen].

We didn’t have embodied interaction⁵ as a language at the time...but it was the same thing...The work that we did enabled us to offer them a different way to think about the relationship between steps in a task and where the information was displayed – where it was available [throughout the kitchen at each step].

The discussion went from ‘you have to remember it all’ to ‘is the information available’ (when you take the food out of a freezer, or put it into the fryer, etc.). It was an enormous success...and it enabled the corporation to stop treating their workers like, “oh my god they can’t remember fucking lists.” I take my daughter into those restaurants now, and say ‘see – John and I did that.’ (Robinson 2016)

In this case, the joint role of design and ethnography played a direct hand in not only shaping the built environment of the fast food chain, but also the relationship between management and employees within the organization. The example revealed the kind of

political power this hybrid method held at making very real, socially informed change happen within corporations.

One of the early innovations of eLab for driving this kind of corporate change, still in use today, was the idea of “experience models” or frameworks. These were created by “breaking down an experience and visually communicating its key elements” in an immediately understandable and easily translatable model (Morris 2001). These models became “a commoditized part of the work ethnographers [were] expected to do, produced across projects as 2x2 matrices, maps of concentric circles, [and] discussions of behavioral modes” (Bezaitis 2009). They were used, on the one hand to better communicate patterns of human behavior to product teams simply, but moreover as an explicit way of incorporating social science theory into corporate outputs (Robinson 2010).

As Cohen discusses, “In a design setting, especially one where design research is common, theory and method (that is, our ideas about the world and our techniques for arriving at those ideas) will come to exist and circulate materially; they become, quite literally, embodied in products and made public” (Cohen 2005; 2). Shaping products then became the direct means by which practitioners viewed their ability to make interventions in the human condition and social organization, through the material embodiment of social and cultural theory in everyday objects of use.

From Periphery to Center (and Back Again)

In the 2000s, the methods anthropologists had originally experimented with, were becoming a more and more common practice within corporate innovation work. The time when social scientists worked purely as exploratory academics within varying labs and think tanks in Silicon Valley, was coming to an end. Indeed with their work, ethnography began to go from something peripheral, experimental, and exotic, to something normalized within the logics of product development. As communications technologies grew in their pervasiveness, mobility, integration – and the internet continued its advancement towards a ubiquitous utility and primary vehicle for organizing large swaths of information, knowledge, and technosociety (Woodhouse 2013) – anthropologists and ethnographers became ever more central to deciphering the complexities of global flows (Appadurai 1996) and human behavior for corporate elites. Researchers were recruited over the decade to shape ethnographically informed practices at historically influential technology companies – IBM, Intel, Microsoft, Apple – as well as newer ones – Google and Facebook – and at consultancies both emergent and established – IDEO, ReD, Gemic, Stripe, Claro, and Gravity Tank, to name a few. Indeed, “in the past twenty years, ethnographic research has moved from a tiny differentiating tool to broad acceptance” (Robinson 2010).

A major example of this growth in “making ethnography matter,” was the work done by the Peoples and Practices Research Group, and iterations thereof, at Intel. As part of the company’s R&D division, a “small handful of people...through patience, persistence and a fair amount of invisibility, managed over a decade to change the company in a number of ways. This is no small feat,” to go from what was once an experiment to a central force in organizational advancement and change (Bezaitis 2009; 7). This group, which consisted of researchers from, “psychology, design, cultural studies, media art, computer science, public policy and of course anthropology” (8) was home to several founders of EPIC – and managed to take what had become at this point the immutable wedding of ethnography and

design, and apply it directly to product and business groups. By the end of the 2000s, central figures of the group, Genevieve Bell, Tony Salvador and John Sherry, were making strides to “grow and run local ethnographic teams [directly] tied to the product interests of...business groups” (7).

However, despite the overall growth of the field, periods of collapse and reorganization that mirrored broader economic downturns (in the late 90s and 2010s) of these pioneering institutions (like Xerox PARC and later Intel Labs), left many practitioners with a dilemma of legitimacy. The academics were fractured – some went back to the academy (Suchman 2011) finding new homes often outside of anthropology in Informatics, Science and Technology Studies, Human Computer Interaction⁶ and others – while those who remained were remade as expert consultants to pioneer their new methods in corporate organelles which had limited understanding of their value (Madsbjerg 2014). Over the years, and many hard political battles fought, this community stitched together shifting languages of power to translate the value of their work to diverse audiences while attempting to maintain core aspects of their respective disciplines. These languages, like the institutions they inhabited, were too in a state of flux (Anderson 2011; Salvador et al. 2013), ever-changing in their descriptions and justifications of what they did. As co-founder of EPIC Tracy Lovejoy recalls about this period at Microsoft,

I remember in the early 2000s there was a belief that anthropology would be deeply rooted within business by this point. At Microsoft, ethnographic specific roles have really struggled to take root, despite starting to employ practitioners around that time. Rather ethnography still remains a method that can be claimed by anyone with research training. In part this is because there is no clear way to fit an “ethnographer” into the full product cycle. Someone who specializes in deeply examining the broad questions that help uncover new opportunities or rethink an existing product may not have a clear role as the product moves out of conceptualization and into iteration and execution. So many of us adopted the title of UX Researcher or Design Researcher and geeked out during the moments we could focus on qualitative work, then used our skills to answer a different set of questions with different methods for the remainder of the product cycle, always on the lookout for a question that would allow us to get back into the field [of ethnographic praxis] (Cotton et al. 2015).

In trying to establish their value in new domains, anthropologists began to describe themselves with a host of pseudonyms, meanwhile non-trained researchers also claimed to do ethnography – diluting the field (Lombardi 2009; Nafus and Anderson 2006; Flynn 2011). From design thinking/research, to iterative design, participatory design and publics (Le Dantec 2013); to Human Computer Interaction (HCI), to human centered design, to human factors engineering, to agile, to behavioral engineering, to behavioral psychology, to sociology, to big data, and so on, ethnographers languages of translation evolved alongside changing loci of value in the corporation, often stretching thin their core principles and the kinds of work done.

Knorr-Cetina (2009) would describe this increasingly diverse clustering of semi-related fields and languages of power, or “amalgams of arrangements and mechanisms – bonded through affinity, necessity and historical coincidence,” as an Epistemic Culture, “which, in a given field, make up how we know what we know [as truth]” (12). The rise of an epistemic culture is gradual, and reflects a common theme in exploratory scientific research. As Susan Leigh Star describes,

“most scientific work is conducted by extremely diverse groups of actors. Simply put, scientific work is heterogeneous. At the same time science work requires cooperation – to create common understandings, to ensure reliability across domains, and to gather information, which retains its integrity across time, space, and local contingencies...scientists have made headway in standardizing the interfaces between different worlds...by reaching agreements about methods, different participating worlds establish protocols, which go beyond mere trading across unjointed world boundaries. They begin to devise a common coin, which makes possible new kinds of joint endeavors” (1999;10).

In industrial research environments the path towards creating this common coin was compounded by the structural characteristics of the corporation. Researchers in teams across the valley had forged new relationships, gaining substantial footholds in their quest to realize value in ethnographic praxis as a means for innovation, but still faced escalating pressures of legitimacy as they became further normalized in uncharted territories outside of experimental labs. As their work was no longer shielded from industrial shifts – it now became more directly subject to the whims of corporate hype cycles and cultures, pockets of which still viewed the field as experimental and novel, rather than central to product development and innovation. Indeed, the ongoing process of educating otherwise naïve stakeholders of the value of their research, often compounded anthropologists feelings of being out of place, when they found their efforts to “make the world a better place” sidelined due to a lack of understanding from new colleagues (Blomberg 2015).

UX ON THE SCENE

One such move to further advance and normalize ethnography as a cornerstone of corporate product development and innovation, was the adoption of User Experience. This field, which seemed to promise the tools of translation necessary to advance the goals of Anthropologists ‘to make positive change,’ in many ways came to stifle them – eliding the very thing that made ethnography distinct to begin with – its contextual richness and representation of cultural diversity.

The concept of the user is nothing new for anthropologists working in Silicon Valley. The term has been prevalent in engineering and technology circles for decades, gaining increasing popularity since the Engelbart demo at the Stanford Research Institute in 1968 on the future of human computer interaction (Lanier 2010). Even at PARC in the 80s, anthropologists were working to get away from the term’s entrenchment in engineering circles: “we were, way back then, very much concerned with not using the word user, because we were interested in things way beyond the ways in which people interacted with technology, we were interested in them as workers and practitioners, so we began to talk about them as practitioners, not users.” (Blomberg 2015).

Though the user has been in play in industry circles for some time, the coupling of the word with experience in UX, is a more recent phenomena. One of the first papers to use the phrase “user experience” came out of Apple in the early 90s from an interdisciplinary team of social scientists working to “empower everyday people with choices via products designed for people (a kind of everyday anthropology).” As Anderson elaborated “we were doing something very different from Xerox, they were all about “work” and “organizations” and

we were about “users” and “innovation”...Rick [at eLab] sat in the middle” (Anderson 2016). The paper co-authored with Norman and Miller (Norman and Miller 1995), was a kind of vision statement defining the term as “all aspects of the end-user interactions with a company, its products and services” (Nielson and Norman Group 2015). Yet corporate cultures of the time, combined with the term’s inherent vagueness, kept it largely unengaged publicly as a general means of describing research practices for nearly a decade.

But UX received a substantial boon when, in 2007, Steve Jobs stood in front of millions around the world, announcing the iPhone as the next great leap in personal computing. In this speech, he christened “the user” and the betterment of their experience (or UX) as the pivotal focus for the next era of technology production (Jobs 2007). This idea was not new, and had in fact been brewing in pockets of the valley for decades among social scientists, designers, and engineers – but what Jobs did this this moment was unique. Drawing on the growing popularity in business circles of conceptions of the economy as “experiential” (Pine and Gilmore 2011), and discussions in technology circles of the importance of the user, he placed the emergent field of UX at the center of the future imaginary of technology for the first time.⁷ Ethnography, by now nested in the whims of product development, became swept up in the hype.

Seen as a “breakthrough innovation,” corporations in the valley began to respond directly to the new language of UX. Departments were created. Job titles were invented (Cotton et al. 2015). A multitude of new models for the innovation pipeline were imagined and enacted – personas, user journeys, mental models, experience maps – with the user at the center (See Figures 1 & 2; Payne 2014). It seemed the community of practice had found a silver bullet of sorts for their uphill battles – a brand that loosely described their work, acting as a ‘foot in the door,’ but also holding the “revolutionary potential” to transform organizations and their productions to be ‘people centric.’ Some speculated this movement was a paradigm shift (Khun 2012, Yocco 2015), bringing with it new ways of thinking, while others contended it was no more than smoke and mirrors – a new face on an old practice (Mazzarella 2003; Flynn and Lovejoy 2008). In the quest for legitimacy, and the rush to adopt a now popular term, the ethnographic praxis community hoped they might gain ground in the present, imbuing the new yet empty language of power with their own meanings in the future.



Figure 1. The Business, User, Technology or BUT model of innovation.

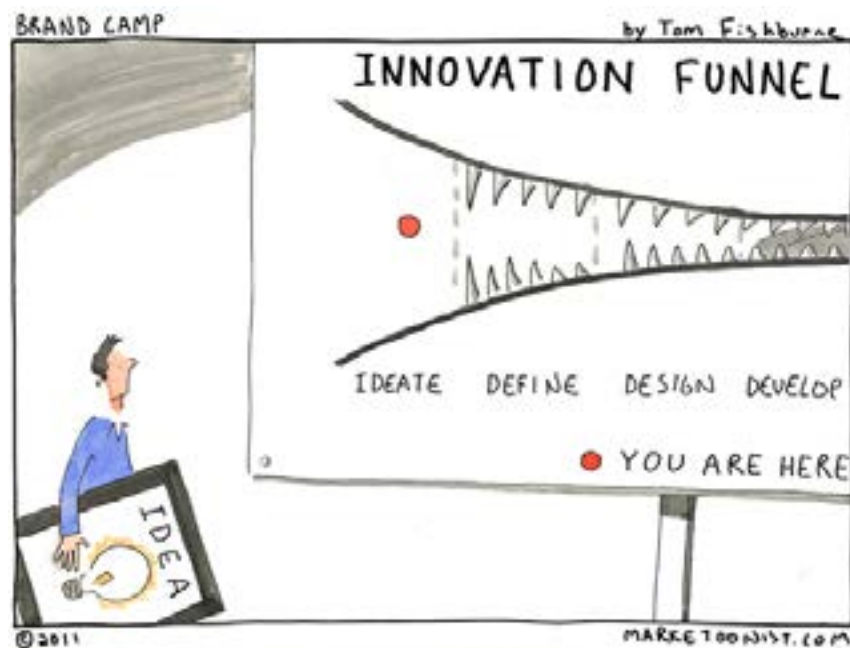


Figure 2. The innovation pipeline model.

Yet a major issue with adopting UX as a vehicle of change, was that it acted more as an empty brand than a theoretically centered discipline of research and study. Quickly after its ascent, competing definitions arose, making it hard for the free floating signifier to gain a substantial center. From “the overall experience of a person using a product such as a website or computer application, especially in terms of how easy or pleasing it is to use” (Kuniavsky 2003), to “a person's entire experience using a particular product, system or service” (Law 2008), to “the experience the product creates for the people who use it in the real world” (Garett 2010; 6), each definition retained a few core elements, but lacked a theoretical center. Last year at EPIC even, researchers were still working to define the field:

“User experience” ...is human-centered and is the co-creation of an interaction between a person or persons and an artifact. User experience includes usability and all aspects a user encounters when dealing with a product or service from the branding to the motion and audio design to customer support. It is about how the product or service makes the user feel and encompasses both user behavior and the social context of the user-artifact relationship” (Baxter 2015).

The key scaffolding of the definition lies largely in a causal relationship between three objects, the “user” or “person,” and the subjective “experience” of said person in relation to a “product” or “company.” Though the qualifiers in each definition may change, the dualistic and circular setup between the binary of use and used remains consistent throughout. However, each of its components are so absolutely divergent of one another in their epistemic, philosophical, cultural and material origins that the term is left hollow. As one UXer described, “it’s as if one was to call themselves a ‘fundamentalist atheist,’ the logic of the term does not go far beyond the structure of its very phrasing” (Interview Archives, CD 2012). The answer to the question ‘what is user experience?’ can offer little more than the name itself, ‘a user’s experience.’ Cohen examined the logic of this phenomena at EPIC back in 2005. “It goes a little something like this:

study users of X in order to understand the phenomenon of X, where we can replace X with “mobile phones” or “toothbrushes” or “SUVs” or “Internet-based investment banking tools.” We identify a thing that we want to study, then look for “users” of that thing. This is common in design research as well as in studies of technology more generally, whether conducted in universities or companies... Another assumption—in some ways far more problematic—is that users of X are the only people who can tell us about the social life of X. If homeless women are not “users” (and the first assumption has it that they are not), if for instance they use Ys rather than Xs, then they are the wrong people to study, especially if what you want to design are improved Xs (3).

What seemed like a brand that anthropologists could use to gain traction in the corporation, began to fundamentally alter the way in which research problems were framed and solved for in a subtle way.⁸ Rather than looking at how people live in the “real world,” with ethnographically informed theory and practice – as subjects of the state, colonization or capitalist expansion; gendered, raced, and classed bodies; or spiritual/religious ideologues (Scott 1998; Anderson 2006; Hardt and Negri 2001; Haraway 2006) – instead the world and the people in it were flattened, reduced to a binary of use and commodity. Venkataramani

expanded on this critique in 2012, sussing out just how insidious and stifling the logic of the user can be for “making positive change” when taken to extremes in project work.

the “user” frame limits the interactional phenomena visible to research whilst also limiting who are considered part of the phenomena...the second problem is that such framing assumes, and further naturalizes, market logic – the logic of exchange – as the dominant mode of relationship between the consumers of research output (“producers”) and the consumers of their products (“users”), thus eliding aspects of the relationship that have to do with civic commons and power hierarchies (4).

Indeed, despite anthropologists best efforts to reel in the language of UX to work for them, the more they seemed to work for it. Its lack of theoretical center left the brand open to becoming increasingly disarticulated by the diverse group of actors attempting to use the language to their own ends. Indeed, as Norman himself noted in a moment of somewhat ironic reflection,

I invented the term because I thought human interface and usability were too narrow. I wanted to cover all aspects of the person’s experience with the system including industrial design, graphics, the interface, the physical interaction, and the manual. Since then the term has spread widely, so much so that it is starting to lose it’s meaning...user experience, human centered design, usability; all those things, even affordances. They just sort of entered the vocabulary and no longer have any special meaning. People use them often without having any idea why, what the word means, its origin, history, or what it’s about (UX Design 2016).

Where words failed to capture the essence of UX, others tried to use diagrams and models as working analogies, though these too were plagued by similar issues of communicative generality and confusion. Moving from highly complex (see Figure 3), to oversimplified (see Figure 4), these models reflected the efforts of the highly diverse group of working professionals now tied to the term, struggling under the corporation to make it something more pragmatic, normalized, and standardized – something that could shift organizational practices directly, rather than remaining an ephemeral brand.



Figure 3. The UX wheel hieroglyphic.



Figure 4. The UX horse.

Indeed the issue with UX was very much the same as with the idea of the user itself. It was such a malleable term of reference that it stifled the ability of anthropologists to do what differentiated them from the start – bring cultural specificity and difference from outside the corporation within to enact change. Instead UX became a means by which the corporation could “distill” the outside world, purifying it, and making it ultimately look nothing like the outside, but instead, just like its internal self.⁹ A reflection rather than a representation. Cohen again:

Because “users” refers both to actual people (*the ones we interviewed*) and to a kind of abstraction or methodological fiction (*inspired by our users*), they (and I mean both the notion and the actual people it abstracts) can be used diversely, pressed easily into service as research methods, marketing tools, advertising slogans. They are an exemplary human tool, in Suchman’s sense: highly reified (obscured) and themselves part of a larger process which reifies the theories, methods and projects with which they are associated (2005;7.)

In this laid the power of UX and its seduction as a means of corporate infiltration for ethnographers. UX was infinitely malleable within the organization. Without a theoretical core, what it offered was a ‘methodological fiction’ rather than scientifically produced research. It was a brand that did not represent people in the world, but instead morphed them into reified objects that reflected the corporations own image of itself. Indeed it was this nesting in corporate narcissism that gave UX its power. As Robinson noted, adopting UX for self-marketing purposes was a double edged sword,

The early [ethnographic] work changed the way in which large swathes of consumer, medical, and technology was developed. But in the post-.com world, the proliferation of ways to deliver up the hype around ethnography’s contribution to “new”, to deliver “innovation” at the paradigm-shaking level, has seemed a struggle...the way in which many professional practices market this work [such as UX] has come to have the perverse impact of *limiting* the range and nature of the types of inquiry that observational and ethnographic practices are understood to provide. “Discovering user needs” and the various forms of “product innovation” – each a class of claim—implicitly frame the work as “about” those ends in ways that elide much of the scope and diversity the work is capable of accomplishing (2010).

Indeed, many viewed the shift as just a first step in the commodification of the field by the forces of capital, an inevitable de-skilling of what was once artisanal ethnographic labor in a race to the bottom line (Lombardi 2009). The unintended drawback for some practitioners adopting UX as part of their now ‘open’ practice of ethnography, meant that their language began to reel them in – making their efforts to create change less effective, their methods less fundamentally transformative, and their core differentiator to representing “the other” in their native contexts, their anthropology as brand, lost (Suchman 2007). UX, the thing that was meant to reel in the corporation to “make the world a better place,” ultimately came to reel in the anthropologists.

UX'S COOPTION OF ETHNOGRAPHY

As ethnography masquerading as UX went from a purported “revolution” to a normalized mode of industrial parlance, researchers stories and the way they intersected the corporation began to change. This change was gradual, and often subtle, but it represented a slippery slope – away from embracing complexity, towards a re-framing of culture as simple and dualistic. In a world of diversity, reducing our language of description to a binary (user and used), did not advance social science practitioners goals of making the corporation humanistic, but instead acted as a homogenizing force – remaking the world outside in the view of the corporation.

To illustrate this point, I offer a couple examples from interviews conducted during my time at Intel. When I joined the company in 2012 as a UX Researcher, it was in the middle of a large structural change. Two years previously the then CEO Paul Otellini had announced the next five year strategic mission plan to become a “user centered company,” providing the “best experiences” for their users. In response to a lingering post 2008 recession and lack of “innovation,” Otellini’s actions mirrored a broader movement in Silicon Valley among corporate elites at Google, Facebook, Microsoft, and Apple, to create a “user centric” future, geared towards “solving” the “needs” of everyday people (Morozov 2014). Swept up in the solutionist-oriented change, anthropologists and ethnographers – the same who had experimented there for the decade prior – had to shift the tone and orientation of their work to fit the new frame of UX.

As one anthropologist turned UXer illustrated,

“We did a project looking at location data on notions of privacy and security around the world, from the EU, to India, to China. Our more quantitative arm ran a large survey to test if users would be uncomfortable with location based services monitoring their every move if the trade off was more convenience in their everyday lives. The surveys showed that tracking wasn’t a big deal – that most users didn’t care. Yet when we did ethnographic in-home visits, we found that every woman said it mattered – every single one. They didn’t care about the data being recorded, unless it meant corporations knew where they lived. They didn’t care if companies knew they were at a restaurant or an ATM, but if someone knew where they lived, this freaked them out.

None of the men we interviewed ever mentioned this. They figured, “if it helps me get through traffic faster, I don’t care, I’m not worried – if I can do better google searches, why not.” But it’s hard to compete with big numbers vs. ethnographic richness. In surveys they never asked the pivotal questions, they just asked general questions about ‘use’ and ‘experience’ in relation to the product in question – these don’t get at the very real issues. They don’t ask about home, or culturally embedded notions of privacy, or gender norms. In fact, we didn’t think to ask these things either until people volunteered the information to us when we sat down with them. Those surveys that prefaced “use” and “experience” over people missed the very real, cross-cultural differences in perception of tracking data based on gender, yet ended up having more weight with our stakeholders since it was in the language of UX” (Interview Archives 2016)

This instance may seem unique, but it is all too common in the way small changes in methods based on the frame of “UX” come to shape overall research findings, and subsequent product impacts. Without ethnographic language and richness beyond the frame of “user” and “used,” this work would have very likely led to new products that reinforced male gender norms through design, or other business strategies that entailed surveillance of the subjugated bodies of half the world – outcomes directly antithetical to practitioners’ foundational goal of “making the world a better place,” as well as putting businesses at risk to public outcry down the line.

Another ethnographer described her experience conducting UX research in India.

“We were looking at early adopters and local forms of technology innovation in India. We found ourselves interviewing college students struggling to make ends meet in Dharavi, the largest slum in the world. We asked them about their tablet and smartphone use, what features they preferred, how they had hacked their devices to run all kinds of apps they’d otherwise have to pay for. In the background, the richest man in India had built a billion dollar skyscraper home. The students told us about this in passing, as well as about their families’ lives making ends meet by making pots from a shallow pit of clay earth between their shanty homes, showed us their hang out spots where they liked to smoke, play a makeshift game of cricket, and hang out to watch illegally downloaded Bollywood films on one of their Chinese made tablets, and their dreams of leaving Dharavi someday to become engineers or doctors.

We had enough to paint a rich picture of life there – of the role of class, caste, gender, tradition, industry, pollution, the pitfalls of globalization, neoliberalism, and so on. All the facets of this global place that make a person who they are. But of all of this holistic rich data we hoped to convey to our corporate stakeholders – to get them to champion the cause of these kids, to bring awareness to our role as implicit in this wealth inequality – our presentation was ultimately reduced to a discussion of one thing: How are they using these devices? What was their experience when on it? How often do they buy new ones?

We used images of the kids on their phablets, with quotes and short videos of them playing with their apps. We wanted to show more but it was all our stakeholders cared about. What we could not get across was that these devices were only one small part of a much larger picture – an essential picture within which to place use, as an escape from circumstance or a tool for realizing ambitions – though through our presentations, the devices became the privileged object of discussion by necessity. The people fell to the background, relegated to the role of users of things and how they felt when on them. To describe this entire culture and life way as an “experience” by privileging one piece of technology was a skewed representation – yet it was what was expected of us – it’s what was translatable to our stakeholders (Interview Archives 2014).

Indeed in this, almost tragic recounting of stories not told, we can see the very pitfalls of adopting a language of UX to describe what ethnographic data would have otherwise been able to more fully address. The sheer richness of data was systematically reduced to preference only one small facet of these peoples’ lives – their use of the object. Without concern for the broader socio-historical, political, and structural forces underpinning peoples’ lives in the slum, they became blanched, and flattened ‘non-people’ – standing in as figure

heads to discuss only the devices in use, in only their moment of use. The user erased who these people were. It fetishized their histories, their lives, and instead re-wrote their stories in an a-contextual narrative centered around the experience of a product to be manufactured. But the ethnographer's hands were tied. Ethnography as part of product development was subject to cooptation. She could not overcome the expectation of stakeholders, or the frame of the research to be about the user and their experience. Indeed UX – the very tool of the ethnographer hoped would condition the corporation, had conditioned her and her work – corporatizing it, and eliding it of the very diversity necessary to drive innovation and positive social change.

THE PARADOX OF CONTROLLABLE INNOVATION

Why was UX so seductive? For anthropologists UX was a powerful self-marketing tool, but for business stakeholders, UX made a seductive yet structurally impossible promise - to 'unlock' the consumer mind in a controllable and predictable way, meeting the organizational demands of conformity while upholding 'innovation,' something that implies change. Not even in the history of the social sciences or philosophy could the vast difference and complexity of the human condition be so conveniently unraveled.

As UX grew across the valley, to many executives, engineers and other outsiders to the practice of research and design, it looked like a new standard for innovation had arrived. Indeed many of the arguments for the adoption of UX – to put the user first, to do iterative innovation that began with understanding “real people” out in the “real world” (Nafus 2006)– made a lot of sense within certain business logics. As Venkataramani discusses, the logic went something like this: “You make products for people. A better understanding of people will help you make better products... you need to understand them in their context—their homes and workplaces. You need to understand how *they* see and experience the world” (1). Users represented people after all, and people were the bread and butter of markets to be conquered. To know your users would inherently drive your business towards growth.

Innovation, as most Silicon Valley executives agreed, was essential for long term success in a fast paced and ever-changing, global marketplace. Yet the practice of how to “make innovation happen” was always something opaque, convoluted, and costly – something that needed discipline and repeatability like that of other industrial processes (Christensen 1997; Marx 2015). UX seemed to offer a middle ground to this dilemma, as one product development executive discussed:

We realized...to be a leader [in technology innovation] you must also have a reliable, repeatable discovery and development process; otherwise, products won't emerge regularly from the pipeline. These larger processes are themselves divided into many smaller ones – in the case of product development, [for us] more than 3,000 in all. Today each of these processes is charted and on the way to being repeatable and controllable (Suchman 2011; 9)

Though corporations spent billions on research and design in their unending quest for “the new” (Cefikin 2010), their efforts to do innovation remained an uncomfortable

expenditure, rather than an essential cost for long term growth. The nature of the corporation demands consistency and uniformity, indeed as one UX lead claimed, invoking a reading of *The Innovators Dilemma*, “corporations are highly optimized to produce what they’re highly optimized to produce...which tends to be one or two things...it’s hard to get them to do something different” (Interview Archives 2013).

Yet, innovation work is – like the world around us and the people in it – multifarious and non-conforming. It is precisely a recognition and upholding of difference that makes it opposed to corporate optimization of one thing (Hage 1999). Innovation happens at the seams, where boundary objects and ideas come into contact in new and unexpected ways (Starr 1989). Indeed, despite excessive spending on R&D at large companies, many “disruptive” innovations even today still seem to come from small and unexpected pockets of work, outside of corporate walls (Christensen 1997).

Though mythic origin stories of amateur hobbyists working in their garages to create ‘the next big thing’ transfixed work cultures and executives (Flynn 2010;44), it seemed the “essence” of what made these breakthroughs possible was, ironically, hard to capture by the very corporations these innovations eventually grew around them. As Suchman (2011) noted from her experience, in fact institutional structures meant to encourage and streamline innovation, often come to inhibit it, “I would argue, contrary the widely accepted narrative, that a site such as PARC is designed in important respects systematically to block innovation” (13). This tension – the necessary act of innovation for corporate growth vs. the institutional demand for uniformity and efficiency – is exactly where UX found its way onto the main stage.

UX promised to at last provide a standard of innovation work that both met corporate needs for uniformity in a clearly modeled innovation pipeline, but also captured the diversity of ethnographic innovation work. The field offered the focus, tools, and language to at last “unlock” the consumer mind by providing “winning experiences” in a consistent, methodologically proven, way – by placing the user at the center of the imaginary of iterative innovation work rather than the garage tinkerer whom the corporation could not replicate (See Figures 1 & 2.). Though as we have seen, what promised to be a new field through which to drive change, brought not a standard for doing innovation work, but instead little more than a popular brand for marketing it.

THE RISE OF UX AND THE FALL OF PEOPLE

During my time at Intel I had the fortune of having a long discussion with the head of UX research about the rise of the field as a new language of power in the valley. As a fledgling anthropologist, new to the field of praxis, naïve to the long history of ethnography in industry, I found the conversation particularly revealing. In it, we touched on the intimate struggles of getting research recognized and adopted, as well as the moral and ethical dilemmas of those anthropologists now grappling to control the language they had adopted in an effort to wed their research more closely with product development – and ultimately how they had lost out on the one thing they once felt they owned the representation of: people.

Shaheen: So why do you think...what is it about this moment in particular which has made UX such a hot topic? I mean, there are job postings all across Silicon Valley for UX X, Y, and Z...it's become a major buzz word.

"I think part of what has made it [UX] compelling and seductive to imagine there is a set of disciplines that might unlock human desire is that we're at a moment in time when the chief decision makers in most big companies no longer resemble the markets with whom they want success. The delta is growing, right, the delta between the key decision makers and the people they want to have their service, buy their stuff...you know in new start-ups those are often very close, right; 'I made the thing I wanted for myself and then we see if it scales.' What we've had instead is a series of companies who for demographic reasons, political reasons, political economy reasons - their key decision makers don't necessarily resemble [them] demographically, psycho-demographically, aspirationally...

Shaheen: old white guys?

Well, even if they're not, you know, I'm sorry; the guys who run Google aren't all old white guys, but they also know they need to be successful in some other ways, with other kinds of people...the auto industry, some of the tech industry, certainly some of the others, [historically] haven't actually had to think about the fact that people might be consuming their goods and services and experiences who aren't like them...as the range and scope of markets shift, when your key decision makers no longer look like the markets you want to be successful in - you need interventions.

And, you know, social science and design thinking have been very neatly packaged as an intervention because they offer a bridge from the world of the boardroom to 'the world everywhere else'. It's an effective one; it's got a disciplinary history; it has all of those things. I think at that level it makes sense to me. And it's been conveniently packaged in lots of useful ways. I think, more interestingly for me, is there's something else going on in that shift that is potentially both more intellectually and politically problematic.

Which is, we are now talking about users again. For me, the move between talking about people to talking about users is a really dangerous one. Because we... privilege the moment of use, right, whether it's the swipe across the screen, the push of the button, the swipe of the credit card, the entry of data, the turning the key...it simply becomes what is happening in the moment of engagement/use. So there's kind of a Marxist argument here that says, in fact, a focus on user experience is the ultimate expression of the alienation of people and stuff. Because we're now just focusing not just on people, but 'people in their moment of using things'.

Shaheen: I was having a discussion with a colleague earlier in a similar vein - you might say there's even an ontological shift here. As corporations moved from talking about consumers to users, they also changed the frame of engagement, from being about "attracting repeat customers" or "consumers" who would otherwise use an object up, throw it away, and leave - to ones who are always engaged. The user implies a continued, ongoing relationship with

capital and the corporations at the helm. It's a new imaginary for the relationship of capital to the consumer, one in which there is no outside to capital – there is only the individual as they are defined by their continual use patterns. It's a thought anyway.

It also means we're privileging the notion of experience which I think is interesting. There's something about that language - about affect¹⁰ being put back into science that I think is interesting. For me that notion that we're all talking about user experience, not talking about people, is really interesting. There's stuff that sort of falls out of the equation. I think it means there's stuff we've had a harder time thinking through. If you don't have to think about people as whole beings, with cultures, and histories, and practices, and habits, and idiosyncrasies, and you just have to think about, 'does it need to be yellow or green?' or, you now, 'do they need to feel liberated in this moment using this product, and will it give them brand happiness?' There's some flattening out of humanity that goes on with that.

Shaheen: It certainly seems to be an ironic kind of departure from ethnography and the upholding of difference, as we are now sort of ambassadors to this user. At least that's what they told me when I joined, "represent and evangelize the end-user voice," whatever that means.

It doesn't surprise me that UX has come up as the replacement language to globalization. As a linked discourse... Thomas Freedman complains about the world being flat, but really what he meant was America wasn't exceptional any more. Globalization was never really a thing; we've always been global as much as we've been local. Goods and services have moved around the world for two thousand years, if not more.¹¹ There's sort of something about 'what was globalization hiding?', and I wonder - my question is always, 'what is UX hiding?', 'what is being silenced in that conversation?' I think there's a number of things that get silenced. As soon as you say 'user', you don't have to think quite as exquisitely and explicitly about gender, race, class, and religion. You also don't have to think as explicitly about power, about, you know in a Foucauldian move,¹² the lines of its transmission kind of get erased. You go back to an ethno-methodological approach where it's all just about the moment of use. Which for me was always the problem.

Shaheen: That's a cool idea. The user as a replacement language for globalization. I like it. It keeps the system going, describes it, but now with a kind of "cleaned" palate. It gets rid of all the moral issues of intervening in the world – you're just 'filling needs.' But then, does it offer the same kind of theoretical rigor of analysis as ethnography?

For me, I'm interested at a personal, professional and intellectual level about theory. When you talk about user experience you don't have to talk about theory either. Design thinking, whilst deeply rooted in certain kinds of theories, it all just gets lost. It becomes a... 'well we did ethnography'. Well, what does that mean? We talked to someone. Well that's not an ethnography, that's just an interview. Where do all the big theoretical moves that informed all of the disciplines that are now rolled up under UX go? Psychology is rooted in a set of

important theoretical paradigms over the last hundred and fifty years; the same with anthropology, the same with sociology, the same with - in fact, all the things that cluster around industrial design, ergonomics, participatory design, human factors engineering, interaction design, HCI – all come out of very particular ideas about people and bodies and stuff. For me there's something about the user experience that just erases bodies.

Shaheen: Bodies? Of users or of people?

Bodies, ultimately - it's a bit feminist - bodies matter.¹³ So you want to put bodies back into the equation. We know that bodies as gendered and raced, classed, aged things do particular kinds of work and have particular kinds of desires that just can't be tidied up into 'an experience'. It's always a singular user experience. I don't think it's easy. User experience is clean. We worry about user experience and I'm like... really? I like to worry about people. [The corporation has] waxed and waned in terms of how much you need to pay attention to people. Who might those people be? I'm always curious about when a vocabulary pervades that way, and seems to have... become ubiquitous; you sort of have to ask what's being disappeared. I do think it's about users, in that [they're] incredibly absent of bodies, and desires, and politics, and mess. And, of course, [people have] the ability to resist you. And non-compliance, which sort of disappears in that too. How do you talk about the people who don't use the stuff? Are they non-users? Are they non-experiencers? ...It's kind of a compulsory acquisition. Then there is a question to ask, about; 'is it political?' Not in a kind of macro sense but in a micro sense, and to what end.

Shaheen: It certainly would seem that users are a kind of inherently a-political, non-people. But then why use this language?

I resisted... for a really long time... at every turn of the cog. My teams have always been called other things... I never wanted to do user experience... I don't think it's a helpful term. For all those reasons... but it wasn't really a choice... [you] pick your battles. That wasn't the battle. (Interview Archives 2012a).

CONCLUSIONS: WE MAKE THE USER AND THE USER MAKES US

In this paper I've attempted to show how the nascent field of ethnographic praxis went from something experimental and done on the peripheries, to something central to organizational form and the processes of corporate product development and innovation. As ethnography-as-method became separated from the field of anthropology, it was opened to new collaborations with adjacent fields (from design, to HCI, to psychology, media studies, and so on). This 'opening up' was largely done as part of the ongoing attempt by researchers to use their work to "make a positive change" in capitalism. Yet over the years, with many twists and turns and reinventions of the field, the practice of ethnography came to incorporate User Experience as a means of getting closer to product development. This language helped ethnographers to further normalize their work, and infiltrate the core of the

corporation in the quest to change it and its productions. But in this recent adoption of the user, ethnographers found that the one thing that once made them distinct and differentiated (their representation of diversity of global cultures, the ability to think laterally with historical theoretical approaches, etc.) was lost. UX, though a useful marketing tool, came to change the researchers and their productions – taming the researcher who once sought to tame the corporation. This brought with it tremendous moral and ethical tensions for the group, as well as foundational questions of legitimacy still strongly felt in the field today.

Languages of power shift over time within corporations. User Experience has certainly made its mark as one of these, with reaching effects that will likely be felt for years to come. Indeed it is a language that has enabled many researchers to seemingly forge inroads, gaining influencer positions and opening doors, getting some of our ideas for change across to the corporation. This is an ongoing linguistic evolution for researchers translating their value; and there are many substantial cases highlighting success (O’loughlin 2014; Oygur 2009; Hassenzahl 2006).

Yet in the long run, with its normalization as an organizational language of choice and the conditioning of ethnographers away from exploratory roles, to product development roles, it has in many ways erased common theoretical critiques that other globalization discourses enable (from exploitation, to hegemony, colonialism, to race and gender, etc) and supplanted it with a new “clean” language for describing the messiness of people – deracinated from their contexts, and remade anew as users. The conversation about corporate aims has shifted. Their purpose is not about making profit, its about “building great experiences,” products are not about forced child labor to build components, they’re about “intuitive design.”

UX has allowed us room to side step the issues of capital that are inherent in the system. If the goal of social science researchers in industry is indeed “to make positive social change,” we can’t shy away from this kind of discussion. As one ethnographer put it, “We can’t keep churning out pieces of work talking about white millennial kids tapping on their phones, because they’re the next market” (Interview Archives 2012a). Are we really making an impact, or placating an inevitably exploitative system?

This is not simply a linguistic shift, it has performative effects as well. Mackenzie discusses the effect of models on markets with Wall Street traders. They create models they believe help them understand the shape of markets, but in fact those very models come to shape their own trading behavior and thusly the markets they engage with (2008). In the same way with users and experience, the lack of broader contextual understanding relinquished in privileging models of “users” over people causes the corporation to project its own internal interpretations of the outside world through the design of products. As people engage with these products, they too are shaped by the very structures, dialogues, and cultures of the corporation – becoming users first. No one is born a user, they are made a user. Indeed the logics of global capital are recapitulated in this dialectical way, with a new brand face.

What remains then, is the question of what is to be done?

The EPIC community has long been aware of these problematics, and has offered practical solutions for dealing with the issue. Many of these are wholly legitimate and I too

would advocate them, such as designing for “publics” instead of users, forcing our work to think more broadly of our subjects beyond the confines of use (Cohen 2005; p20). Or using our work to encourage critical consciousness, produce more problems rather than solutionist insights, and devise tactical power strategies to reshape corporate hierarchies from within (Venkataramani and Avery 2012; 292). Or playing a more active role in “creating...new (external) bodies to consume our work” that might take to newly impactful domains (Bezaitis 2009 p160). These are all valid responses that many ethnographers have since employed in their day to day work. In due course a new language of power may come to replace UX alongside the next “tech breakthrough,” but perhaps an even simpler approach might be as effective.

UX is a brand, and in that it offers only general thematic direction. Perhaps then the way to deal with it is on its own brand-like terms. Taking a page from Madjburg’s 2014 EPIC presentation in which he announced the field should “divorce design” (2014); perhaps it is time we similarly “Divorce UX.” Ethnographers work, after our long and embedded history making change, is now essential to product development. Our practices are normalized. We’re on the inside and we have influence. Our work and priorities may have been tamed, or even coopted, but we still have the power to represent difference and foster innovation.

We are political. Our existence is political. Our work is political. UX fetishizes these politics. It is time to divorce the language of user experience, and inject politics back into our work, back into design, back into the everyday.

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NOTES

1. This claim is in reference to a moment in 2012 when many of my colleagues and I were pulled into Silicon Valley during a wave of hiring and anointed ‘UX researchers.’ At this time large tech companies were publicly discussing their plans to become “user centered” as a means of re-igniting a slump in innovation (Economist 2013; Wise 2014). This was not new per-se – people centered innovation work had been happening for decades in tech in varying forms – but it was a kind of re-discovery that, coupled with new marketing programs, signaled an acceptance by corporate elites of the new language. The possibility for which came only after years of incremental work and negotiation done by veteran researchers – work which is ongoing and continues today.

2 Though the aims of anthropologists in industry vary widely – from ‘opening discussions’ of techno-social/techno-material possibilities, to making more culturally sensitive corporate cultures – for the practitioners interviewed in this research, they claimed the rise of the language of UX, though necessary to communicate and translate the value of ethnographic insights to the corporation, ultimately stymied their full analytical potential. In a way “taming,” or making commonplace, what was once seen as “exotic” research. See Suchman 2007 for a discussion of anthro as exotic.

3. An early example of which was Suchman’s hiring at Xerox PARC by John Seely Brown, and Robinson’s later hiring at the Doblin group.

4. This phrase was a geo-demographic segment developed by Claritas Inc, later bought by Nielsen Company. It was a widely used consumer segmentation system for marketing in the US in the 90s.

5. See Dourish 2004.
6. I'm thinking here of professionals like Bonnie Nardi, Eleanor Wynn, David Hakkin, Joe Dumit, Rick Robinson, and others.
7. Though Apple has worked fiercely to maintain an occult mythos that they do no "user research," and that instead their innovations come from pure brand genius, in fact the company has spent billions on UX R&D. This was revealed during the Samsung v. Apple case, ongoing since 2012, where the company was forced to release research studies showing the user value of rounded edges for their patent claim. See Roberts 2015.
8. Though it is true that sister disciplines to anthropology – like HCI, human centered design, or industrial psychology – began framing research in terms of "users" as far back as the 80's, many ethnographers held off from such framing as best they could before the rise of UX. Indeed as Robinson commented, "if one were to trace the origin of the word user, you'd likely end up in computer science, not product design or the social sciences – that is telling" of the ongoing tension felt by researchers (2016).
9. For a deeper analysis of this "distilling" process I describe as part of the "research industrial complex," see Amirebrahimi 2015.
10. For expanded discussions on affective technologies see Gregg and Seigworth 2010.
11. For more, see Friedman 2005, Appadurai 1996, or Harvey 2007.
12. See Foucault 1977.
13. For more, see Price 1999.

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PAPER SESSION 2

Ethnography / Carnavalesque

Curators: ANNE MCCLARD, Intel Corporation & JAMIE SHERMAN, Intel Corporation

These papers highlight the way ethnography excels at making salient the unspoken practices and bottom-up tensions inhabiting any context or system (however 'expert') involving people. "The Carnavalesque" is theoretical shorthand (via Bakhtin) for the riotous human characteristics that seem most prominent during ecstatic cultural or religious festivals, yet in truth, are ever-present.

Carnavalesque thinking posits the world-turned-upside-down (in key aspects like social hierarchy) as a theoretical gambit to highlight the suppressed forces, which, however unspoken, equally constitute our settings and situations. Most notably, it reverses that hegemony of attributes which portrays 'mankind' (sic) as essentially serious, hardworking, purposive.

Carnavalesque thinking could examine how play, humor, the pursuit of pleasure, distaste, rebelliousness, assertions of self and style, or sociality-for-its-own-sake act as powerful factors shaping commercial offers and industries, even when their influence is not acknowledged. Describing such phenomena falls within ethnography's stock-in-trade: it can supply insights into some of those black boxes known as "unintended consequences"; as well as illuminate Schumpeter's infamous process of "creative destruction" as it applies to how business & product conventions (or canons) are challenged, disintegrate, and re-form.

Taking Sides in E-cigarette Research

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In the last ten years, an eclectic mix of electronic nicotine delivery products ('e-cigarettes') and practices have proliferated in the US with little restriction, producing a vast array of vaping mechanisms, flavors, and styles. At the same time, anti-tobacco movements have targeted e-cigarettes as a threat to public health and advocated for restricting e-cigarettes in much the same way as conventional cigarettes. While anti-vaping proponents associated with public health movements have typically regarded e-cigarettes as primarily harmful products that should be suppressed, vaping advocates regard e-cigarettes as harm reduction products that should be readily accessible to smokers. Distrust between these two warring "sides" animates the controversy over e-cigarettes. In our role as researchers conducting a qualitative study on e-cigarette use, we encountered suspicion and anger from members of an e-cigarette forum who felt that pro-vaping perspectives were often misrepresented by researchers. As a result, we dropped our initial plan to host a group discussion of questions directly related to our study on the forum. Nevertheless, the incident illuminated how vaping advocates have resisted dominant narratives regarding tobacco and nicotine use, destabilized nicotine product categories and challenged interpretations of nicotine use that dichotomize pleasure and health.

Keywords: E-cigarettes, Electronic Nicotine Delivery Systems, Ethnography, Qualitative research, Public health, Digital ethnography, Credibility

At the outset of a study aimed at understanding e-cigarette use among young people, we wanted to experiment with conducting a group discussion with participants on an online e-cigarette forum, but we also worried about how we would be perceived in our role as researchers linked to a public health organization. The wars over e-cigarettes – their health effects, how safe they are, how they should or should not be regulated – had grown ugly, and we had seen colleagues harassed online or professionally sidelined because they were perceived as either too anti-vaping or too pro-vaping.

Our own position researching vapers' perspectives within a public health framework trapped us between the "vapers" side (relatively pro-vaping, construes e-cigarettes as primarily reducing harm-reducing) and the "public health" side (relatively anti-vaping, construes e-cigarettes as primarily harmful)¹. Acceptance by one side, it seemed, led to rejection by the other side. Ultimately our e-cigarette forum experiment failed, in part because of how users perceived our position in the conflict between vapers and public health. Nevertheless, the experiment also highlighted aspects of "carnival spirit" animating the credibility contest between the two opposing sides, and the challenge that vaping advocates have posed to conventional narratives about tobacco and nicotine products. In particular, our encounter with e-cigarette forum members points to vaping advocates' "transgressive resistance" to institutional messaging about e-cigarettes, and their refusal to subordinate the pleasures of the "sensual body" to the austere "ascetic body" (Lachmann,

Eshelman, and Davis 1988). In order to approach these points, we will first need to summarize some recent history that shapes the dominant sides in the e-cigarette wars.

THE E-CIGARETTE WARS

Over the last ten years, the use of nicotine vaporizers (a product category also referred to as “e-cigarettes” or “electronic nicotine delivery systems”²) in the US has proliferated within a highly contested environment. In 2009, the Food and Drug Administration (FDA) blocked entry of these devices into the US on the grounds that they were unapproved drug-device combination products. After e-cigarette makers were granted an injunction against the agency’s ban, the FDA proposed new regulations extending its authority over nicotine vaporizers and other nicotine products that were not initially contemplated under the Tobacco Control Act. Although the FDA announced its intent to regulate in April of 2011, the regulations were only finalized in May of 2016, following protracted public comment periods that yielded little agreement in the battles between the pro-vaping and anti-vaping camps. At present, the new regulations are the subject of several lawsuits (Center for Tobacco Products 2016; Deyton and Woodcock 2011; Kirshner 2011; Swanson 2016).

Conflict over the meanings and consequences of e-cigarette use is reflected in disparate approaches to e-cigarette access both nationally and internationally. For example, while the FDA’s new regulations seek to curb e-cigarette access, the UK’s National Health Service (NHS) has moved toward promoting e-cigarettes for smoking cessation and harm reduction (Food and Drug Administration and Health and Human Services 2016; NHS Choices 2015). Meanwhile within the US, controversy over tobacco harm reduction and e-cigarette safety has led to the creation of groups such as the Consumer Advocates for Smoke-free Alternatives Association (CASAA), which promotes e-cigarette access in the face of public health campaigns aimed at curbing e-cigarette use. CASAA and other vaping advocates have criticized mainstream health organizations including the American Lung Association and the American Cancer Society Cancer Action Network for portraying nicotine vaporizers as a health threat virtually indistinguishable from combustible cigarettes, but have also recognized pro-vaping stances from organizations such as the American Association of Public Health Physicians (Nitzkin 2009; Noll-Marsh 2013b).

In California, which has long been a breeding ground for influential tobacco control policies, the divide over e-cigarettes is especially stark. Several milestones in changing social norms related to tobacco use have origins in California’s tobacco control movement, including laws that restrict smoking in public spaces, the publication of incriminating tobacco industry documents that had been hidden from the public, and the subsequent crafting of the Tobacco Master Settlement Agreement negotiated between US tobacco companies and attorneys general nationwide. Rooted in 1970s activism targeting “Big Tobacco,” California’s anti-tobacco movement is embedded in a dramatic history of “tobacco wars” waged by activists against a powerful and unscrupulous industry (Americans for Nonsmokers’ Rights 2016; Buckley 2012; Davis 1992; Francey and Chapman 2000; Glantz and Balbach 2000).

In particular, support for anti-vaping perspectives in the California anti-tobacco movement (Davis 1992) may be shaped by the legacy of public health support for “light” or low yield cigarettes as a harm reduction strategy. Federal Trade Commission (FTC) labeling of cigarette tar levels, begun in 1966 with support from public health officials, did not cease

until 2008, as it became increasingly clear that light cigarettes did not substantially reduce tobacco-related harm. Meanwhile, internal industry documents revealed that tobacco companies had knowingly misled the public about light cigarettes for decades (L. T. Kozlowski and Abrams 2016; L. Kozlowski and Pillitteri 2001; Shiffman et al. 2001). Among some present day tobacco control activists, commitment to a tobacco “endgame” abolishing recreational tobacco products and an aversion to tobacco harm reduction measures may be an inheritance of this recent past. From this point of view, tobacco harm reduction is a disingenuous label for industry attempts to keep people using deadly products (Brownell and Warner 2009; Glantz and Balbach 2000; Hurt and Robertson 1998; Rabin 1992).

Nevertheless, California’s reputation as a center for technological and cultural innovation has also made it a fertile setting for the ongoing development of e-cigarette technologies and practices, with the support of California’s ubiquitous start-up and DIY/hacker ethos. Orange County, for example, is known for manufacturing e-liquid flavors and has been heralded as the “Silicon Valley of vaping,” while the Bay Area is home to a series C vaporizer start-up known for its innovative e-cigarette designs, as well as DIY vaping and e-liquid enthusiasts (Vaknine 2015; Williams 2015). In an unrestricted, pre-regulation e-cigarette marketplace, the West Coast has emerged as a hotbed for the vaping industry (Groskopf 2016).

DAVID OR GOLIATH

As the regulatory environment evolves, it is unclear whether the challenge to public health officialdom posed by e-cigarettes will persist, or emerge as a fleeting Mardi Gras – one soon constrained by Lenten restrictions on a “vice” that had previously escaped bureaucratic control. Regardless, e-cigarette use has flourished during a period of suspended constraints, outside the reach of regulators and public health advocates who seek to restrict e-cigarettes in much the same way as conventional cigarettes. During this period in which e-cigarettes have broken away from the “usual rut” of the tobacco marketplace (Bakhtin and Emerson 1993), pro-vaping advocacy has also inverted conventional narratives about the health hazards of nicotine use, the dangers of smokeless tobacco, and who is the righteous underdog of the tobacco wars⁴. While the anti-tobacco movement sees itself as an array of nonprofits doing battle with Big Tobacco, the pro-vaping side sees itself as a collection of ordinary citizens and small businesses battling a public health funding apparatus that they believe protects the pharmaceutical industry’s investment in Nicotine Replacement Therapy (NRT) products such as nicotine patches, nicotine gum and nicotine inhalers, as well as Big Tobacco’s monopoly on recreational tobacco products. Each side, therefore, sees itself as David to its adversary’s Goliath.

It was no surprise then when members of the online e-cigarette forum we approached did not greet us, the representatives of Goliath, with open arms. After negotiating approval and guidelines between both our Institutional Review Board (IRB) and a forum moderator, we introduced ourselves as researchers on the site’s welcome channel as requested of all new user accounts. The response we received to our introductory post was so overwhelmingly negative that we decided not to post our proposed thread with group discussion questions directly related to our study at all. Our experiment failed. And yet, as we listened to participants’ concerns and answered their questions about our motives, we became engaged in extended dialogue with several forum members and one moderator, both on our initial

thread and through the site's private messaging system. (Although nearly all of the forum members initially regarded us with suspicion, those we spoke to via backchannel seemed more open to dialogue, perhaps attributable to the intimacy of one-on-one conversation or an element of social pressure on the thread.)

Forum members inverted our typical practices through their vociferous opposition to our proposed research. In a reversal of the dynamic we often participate in as qualitative researchers, the thread's participants essentially interviewed us, on their own turf. First and foremost, they sought to establish whose side we were on. E-cigarette research, they noted, typically has a "political stance." On one side, they suggested, were those who believed that vaporizers can be useful as a less harmful alternative to combustible cigarettes and/or as a cessation tool. On this side, a forum member noted, researchers were "trying to prove what vapers already know." On the other side, forum participants observed, were those who believed that e-cigarettes should not or cannot be used to reduce harm or for smoking cessation. On that side, forum members suggested, researchers exaggerated and misrepresented the potential harms of e-cigarette use. Much like Becker, forum participants' comments suggested that "the question is not whether we should take sides, since we inevitably will, but rather whose side we are on" (Becker 1967)

Since our study received public health funding, we were perceived as having arrived at predetermined conclusions. No matter what forum members said to us, they feared, we would "twist [their] words." As one forum participant explained:

After being burned several times by researchers...most of the user base is likely going to be extremely hostile toward anyone claiming to be researching vaping, so you probably won't get a lot of volunteers.³

In addition, forum members regarded us as complicit in what they considered to be bad acts on the part of public health institutions. Among these bad acts was the California Department of Public Health's mass media campaign "Still Blowing Smoke," which forum members pointed to as a vehicle for misleading messages about e-cigarettes. Still Blowing Smoke is presented as a campaign against "the e-cig industry," as shown in the campaign image below (Figure 1), reinforcing a hierarchy of credibility in which less credible information about vaping is attributed to industry.



Figure 1. “There’s a lot the e-cig industry isn’t telling us about vaping” (“Still Blowing Smoke” 2016)

In this campaign, the health department is looking out for the general public by protecting “us” from e-cigarette companies. Other messaging from Still Blowing Smoke suggests that, for example, e-cigarettes may pose equivalent or even greater risks than combustible cigarettes (“E-cig vapor can contain even more particles than tobacco smoke” (“Health” 2016)). In addition, the campaign equates the e-cigarette industry with Big Tobacco, as shown in Figure 2.



Figure 2. “It’s no surprise that Big Tobacco would be all over e-cigarettes” (“Still Blowing Smoke” 2016)

However, the forum members we spoke to saw their support for vaping as opposition to Big Tobacco. Vaping advocates have suggested that some of the restrictions forwarded by anti-vaping advocates will benefit Big Tobacco and disadvantage the smaller companies that initially dominated the e-cigarette market in the US. Thus messaging like that found in Still Blowing Smoke can read as support for Big Tobacco masquerading as opposition, whether wittingly or unwittingly. As a result, public health campaigns that take this approach are often parodied online. Still Blowing Smoke, for example, has a counter-campaign devoted to it called “Not Blowing Smoke” that challenges the original campaign’s credibility, as shown in the image below (Figure 3) from the counter-campaign’s website (“Not Blowing Smoke” 2016).



Figure 3. “There’s a lot that California public health isn’t telling us about vaping” (“Not Blowing Smoke” 2016)

Since vapers associated us, as California public health researchers, with the “California public health” institutions referred to in the Not Blowing Smoke campaign as shown in Figure 3, they did not find us credible. From this perspective, California public health is a superordinate group of “official and professional authorities in charge of some important institution” (Becker 1967) atop a hierarchy of credibility that relegates “us” – a general public seeking information about vaping -- to a subordinate position. The Not Blowing Smoke campaign inverts this hierarchy by suggesting that public health institutions are not credible on the subject of vaping, and that vaping is qualitatively different from combustible cigarettes, i.e., vaping is “not blowing smoke.” As shown in Figure 4, Now Blowing Smoke frames “public health funding” as generating misinformation about vaping because researchers fear “losing their revenue from the harmful effects of... combustible tobacco products” (“Not Blowing Smoke” 2016).

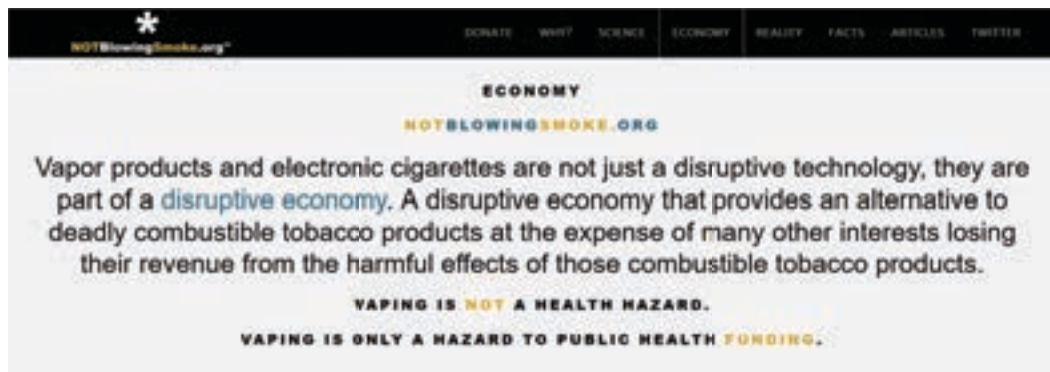


Figure 4. “Vaping is only a hazard to public health funding” (“NOT Blowing Smoke” 2016)

The positioning of pro-vaping advocacy as David facing Goliath is further reflected in Not Blowing Smoke’s portrayal of its promotional strategies: Still Blowing Smoke is familiar to Californians as a mass media campaign that is disseminated through professional radio and television advertising and billboards in major traffic centers. Not Blowing Smoke, by contrast, presents itself primarily as a parodic website that started with “a \$0 budget and small out-of-pocket expense,” and that is currently supported by a fundraising drive hosted on the crowdfunding site GoFundMe (Didak 2016, “Donate” 2016). Within this framing, Still Blowing Smoke represents mass messaging bearing the imprimatur of government institutions and promoted through conventional means, while Not Blowing Smoke presents itself as a carnivalesque expression of “nonlegitimated voice” (Quantz and O’Connor 1988), without institutional branding and circulated through personal social networks. Furthermore, by refusing the presumptive credibility of “public health,” this pro-vaping narrative expresses “disrespect for the entire established order” (Becker 1967).

Still, the different hierarchical models endorsed by Still Blowing Smoke and Not Blowing Smoke are mirror images of each other, with each side construing its opposite as a disproportionately powerful purveyor of discredited information. As Becker observed, in a setting of covertly political conflict, i.e., one in which one side’s superordinate status is undisputed, researchers are more likely to be accused of bias when they grant the presumption of credibility to the subordinate group’s narrative. (For example, Becker argues that researchers who grant prison inmates the presumption of credibility typically afforded to prison officials are likely to be accused of bias against prison officials, while researchers who grant this presumption to prison officials but not inmates are unlikely to be accused of bias.) However in the e-cigarette case, in which pro-vaping narratives openly challenge the authority of public health institutions, researchers are “in double jeopardy” of being charged with bias on both sides. The notion that “There’s a lot [they’re] not telling us” (See Figure 1 and Figure 2) highlights this potential jeopardy by implying that those who grant credibility to the opposing side are necessarily biased, or “seeing things from the perspective of only one party to the conflict” (Becker 1967).

MONOLOGUE OR DIALOGUE

In our own experience, it seemed that a corollary to “There’s a lot they’re not telling us” was “There’s a lot we’re not hearing.” In the polarized battle over e-cigarettes, the hierarchies of

credibility in question were not only about whose narrative was perceived as more credible, but also about which narratives each side was even aware of and/or had access to. On one memorable occasion we attended a public health event where we heard multiple presentations emphasizing the dangers of e-cigarettes and the need to restrict access to vaping devices. As we listened to the event's speakers, we were deluged with urgent messages from a number of email lists for vapers about the need to take action against an imminent development in e-cigarette regulation. As we were presented with these opposing perspectives on vaping simultaneously, we were struck by how disengaged each side seemed to be from the other. We were aware of no acknowledgment during the public health event of the upheaval happening among vaping advocates that day, nor did the presentations we attended address the pro-vaping arguments we heard most commonly from vapers online.

As a result, we wondered how much consideration or awareness some anti-vaping advocates were of divergent perspectives. Like our online forum participants, anti-tobacco movement activists too have been "burned several times," not by researchers outside industry, but by sophisticated misinformation campaigns orchestrated by industry to misrepresent research and public opinion (Buckley 2012; Hurt and Robertson 1998). Perhaps due to reflexive avoidance of perspectives from the other "side", the narrative of campaigns like Still Blowing Smoke is more "monologic" than "dialogic" (Bakhtin 1982; Bakhtin and Emerson 1993), bearing little relation to or comment upon the perspectives of those who argue against its messaging.

Conversely, the Not Blowing Smoke website reads as a response to Still Blowing Smoke; a satirical invitation to dialogue. Nevertheless, as was evidenced in our own e-cigarette forum experience, some vapers may reflexively discount the possibility of dialogue with individuals connected to public health institutions. Furthermore, grassroots players on the pro-vaping side, such as ordinary vapers and small vaping businesses, may have asymmetrical information access that can complicate perceptions of public health research and their engagement (or disengagement) with researchers. Access to paywall-protected research is perhaps the most obvious asymmetry between researchers and non-researchers. In the e-cigarette case, this asymmetry constrains assessment of competing claims regarding the potential health effects of vaping.

Paradoxically, asymmetrical attention resources, as opposed to information access (Goldhaber 1997), can also constrain engagement between researchers and non-researchers. In our encounter with the e-cigarette forum, for example, participants located abstracts describing our study on public health research-oriented websites. The public health research conventions employed in these abstracts took on a very different meaning when read outside of their original context, resulting in forum participants believing that we were biased against tobacco and nicotine users. Although much of our current research portfolio critically examines tobacco stigma, to participants it appeared that we uncritically accepted the stigmatization of smokers as beneficial to public health.

In particular, our use of the phrase "tobacco denormalization" came under fire, with one forum member observing that the phrase "comes off about as well as telling a more liberal-minded group you're against the normalization of interracial marriage." To tobacco researchers however, "tobacco denormalization" is a term that can encompass, for example, attempts to counter industry promotions that essentially amount to "Hey kids, smoking is cool!" – a message that nearly everyone we spoke to online felt should be countered. "Tobacco denormalization" can also refer to more stigmatizing anti-tobacco messaging like

forum members objected to, but our use of the phrase was not intended as support for the stigmatization of smokers. Instead, we were describing the questions we would be addressing as framed by the literature in our field.

MEDICINE OR PLEASURE

In addition to challenging the hierarchy of credibility that frames anti-vaping narratives as more credible than pro-vaping narratives, vaping advocacy has destabilized conventional tobacco and nicotine product categories. Vapers' objections to the language used in our abstract highlighted this destabilization, as some forum members took issue with the fact that our abstract appeared in conjunction with groups that classed e-cigarettes with tobacco products. To these vapers and other vaping proponents online, e-cigarettes are not tobacco. As illustrated by their contention, the meaning of "tobacco" is contested in e-cigarette discourse. Although this disagreement is sometimes presented as a clear divide between the two sides in the tobacco wars, in which one side interprets e-cigarettes as tobacco and the other side does not, the reality is more complicated.

Like medically-approved Nicotine Replacement Therapies (NRT) such as nicotine gum, nicotine patches, and nicotine inhalers, e-cigarettes are not used to combust tobacco, but instead provide nicotine in an alternative form. Thus, they are "not tobacco", and vaping advocacy may also be considered anti-tobacco (Cahn and Siegel 2011). On the other hand, some vaping proponents have framed nicotine vaporizers as tobacco products based on regulatory distinctions (Noll-Marsh 2013a). These regulatory distinctions underline how tobacco and nicotine products are conventionally categorized. Although the FDA initially sought to regulate e-cigarettes as unapproved NRT products, the e-cigarette maker Sottera successfully argued that its products were marketed as recreational tobacco products rather than medical devices ("Tobacco Control Act Cases: Sottera Inc. v. U.S. Food and Drug Administration" 2010). As a result, the FDA's new regulations deem e-cigarettes to be tobacco products.

Thus vaping advocates have suggested that e-cigarettes are not pharmaceutical products, but also that they are not medical products, destabilizing existing product categories. Furthermore, in challenging these categories, pro-vaping narratives have also questioned the dichotomizing of pleasure and health implicit in conventional models of medical and recreational nicotine use. Although NRT labeling requirements have recently changed in accordance with research suggesting that nicotine use in itself may not be particularly unsafe compared to smoking, nicotine use has long been constructed as the singular "health problem" of smoking. Following this framing, NRT is nearly equivalent to recreational tobacco use with a notable exception: smoking is more fun than NRT -- and therefore more dangerous ("recreational" rather than "medical"). Pro-vaping narratives, by contrast, treat sensory pleasure and health-affirmation as mutually reinforcing rather than mutually exclusive. While anti-vaping advocates call for restrictions on e-liquid flavors just as there are restrictions on conventional cigarette flavors due to their appeal to children, the vapers we spoke to pointed out that "adults like flavors too," noting that flavors helped them transition to less harmful e-cigarettes, or away from nicotine use altogether.

As regulation of combustible cigarettes moves toward increasingly utilitarian design and flavoring restrictions, e-cigarettes have exploded into a vast array of mechanisms, flavors and styles. While NRT offers little in the way of pleasure, vaping products cater to users' desires,

resulting in both risks (such as exploding batteries) and rewards (such as safety improvements and more satisfying devices) (Barbeau, Burda, and Siegel 2013; Dawkins et al. 2013; McQueen, Tower, and Sumner 2011). In particular, they cater to the desire for sensory satisfaction, including the “throat hit” that smokers may miss when using NRT. Amid a carnival of e-liquid flavors and personal vaporizer styles from minimalist to “blinged out,” as one forum participant put it, vaping has become a “performance of pleasure” (Presdee 2000), challenging perspectives that erase pleasure in the pursuit of medicalized treatment and/or optimal physical health (Bunton and Coveney 2011; Hunt and Evans 2008). By suggesting that nicotine products do not need to resist users’ sensual appetites in order to be beneficial or “anti-tobacco,” pro vaping narratives challenge the binary divide between cigarettes for pleasure and NRT for abstention.

WHOSE SIDE ARE WE ON?

As other scholars have noted, the environments in which researchers are working have changed since Becker asked “Whose side are we on?” (Becker 1967). Many of us do not work in ivory towers anymore, and many more who are in academia are no longer protected from the consequences of controversial stances by tenure (Warren and Garthwaite 2015). Outside academia, we compete for piecemeal grants, for industry or institutional jobs, and for contract work. Another recent change in research settings is broadening access to researchers’ processes and context collapse between professional and non-professional identities, as research practices become increasingly transparent and multiple facets of our lives are shared online, both by ourselves and by others (Marwick and boyd 2011; Wesch 2010). The increased transparency of research processes and the people who carry them out can facilitate questioning of the authority of research, giving people without official research credentials more direct access to research products for their own analysis and appropriation. While this increased transparency is ethically and pragmatically valuable, it may also require us to rethink who we write for in some settings. Working outside the ivory tower, working in an information-rich setting enlivened by social media, writing for multiple audiences, dealing with a highly polarizing topic – all of these factors can complicate researchers’ attempts to manage credibility, access, and the impact of their work. However, these factors can also afford us with enhanced opportunities to accommodate polyphony and dialogue. Given these factors, avoiding “the dungeon of a single context” may not only be preferable, but increasingly impossible (Bakhtin and Emerson 1993).

As qualitative researchers studying vapers’ perspectives and professionally connected with public health institutions, we have a pragmatic interest in negotiating credibility on both sides—but also a broader interest that may be central to our identities as ethnographers. The “with us or against us” stance that rendered outside perspectives suspicious makes it unusually difficult to maintain communication with both sides, but also highlights the value of the “in between” position of researchers who write about culture. Qualitative methods are particularly suited to this position due to their capacity to unearth conflicting points of view, multiplicity, and ambiguity (Antin, Constantine, and Hunt 2013). As our study has proceeded to another phase that includes in-person qualitative interviews with e-cigarette users from a wide range of backgrounds, we note also that while two sides have been highly visible in e-cigarette discourse, there are other sides. The pro-vaping and anti-vaping narratives we describe here appear to originate from relatively privileged groups on both sides. Online pro-

vaping narratives seem to be forwarded primarily by white men, for example, while anti-vaping narratives have been disseminated by representatives of major institutions. Notably, third parties can be rendered less visible within contested narratives, as members of two dominating sides in opposition may be “unlikely to be placed in the position of *being* that third party” (Rodmell 1981). Given that “research is in all circumstances a political activity” (Warren and Garthwaite 2015), our “side” in this case does not aim to reinforce any particular hierarchy or polarized viewpoint, but rather to facilitate exchange across multiple voices and social positions.

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1. “Vapers” and “public health” are labels often applied to the pro-vaping and anti-vaping sides, respectively. However, there are both vapers and public health professionals with stances that do not fit neatly into this divide. In addition, we note that the pro-vaping side often refers to anti-vaping side as “the e-cigarette industry” or “Big Tobacco,” but we have avoided this since the conflation of pro-vaping perspectives with industry is a point of contention.

2. We use “e-cigarettes” here because it is an umbrella term widely used for a range of products including cigalikes, vape pens, e-hookah, tanks and mods. However, some vapers use “e-cigarettes” to refer to cigalikes only, or object to the term “e-cigarettes” altogether. A common public health term for this category is “Electronic Nicotine Delivery Systems” or “ENDS”, but we have largely avoided it here because it is not in popular use, and the acronym is not search-friendly.

3. Direct quotes used with participants’ permission.

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Understanding Users: The Extensions of Expectant Systems

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This paper provides an ethnographic understanding of users in the Persian blogosphere through the framework of the carnivalesque. The repertoire of concepts provided by the carnivalesque draws attention to (1) the significance of the material, (2) the dynamic, transforming nature of things, and (3) the possibility of upsetting hierarchies. Drawing upon these insights, ethnographic evidence in this paper suggests that in the Persian blogosphere the material expression of thoughts at times precedes thoughts themselves. The same thoughts may then in turn be used by bloggers in transforming selves. The materiality of the tools bloggers use also contributes to self-fashioning in the Persian blogosphere as the formal properties of blogging services turn users into the instruments of their functionality. Blogs in this sense are expectant systems that demand specific intervention from users so they can function. As such, this paper in the tradition of the carnivalesque playfully turns McLuhan's famous formulation of media as the "extension of man" on its head by arguing that users can likewise be understood as extensions of expectant systems.

INTRODUCTION

As one of the most active blogging communities in the world, since its inception in 2001, the Persian blogosphere has attracted attention both inside and outside of academia, amounting to a body of research that largely conceives of blogging as a transparent means for reflecting Iranian bloggers' inner selves. The dominant narrative (Alavi 2005; Loewenstein 2008; Parker 2007) suggests that Iranians became interested in this technology of online writing because they had been historically denied opportunities to publicly and freely communicate their thoughts and opinions. In other words, the prevalent view states that Iranians, eager to share their opinions with the public, flocked to the Persian blogosphere and later other social media platforms, because they were desperate to be heard but were left with no alternative ways of expressing themselves due to the government's strict control over conventional media. It is presumed that because centrally-controlled media, such as national television and radio networks, as well as closely monitored ones, like print media, did not reflect the voices and values of their audience, Iranians welcomed the new participatory Web 2.0-based media so they could publicly express their real selves and freely reflect their true identities. The dominant accounts therefore tend to scrutinize the Persian blogosphere to learn about the identities that are supposedly mirrored in the content—identities that otherwise had little possibility to be expressed. Although scholars in the field of internet studies have approached the Persian blogosphere differently by using big data methodologies (Kelly and Etling 2008), they also still share the same understanding as the dominant accounts. Although big-data-based studies are successful in providing a big picture of the diverse identities represented in the Persian blogosphere, they do not bring depth and texture to the topic and also fail to explain how these identities are fashioned in the first place.

Based on extensive ethnographic fieldwork in the Persian blogosphere, my study problematizes the idea of blogging as a simple reflection of the blogger's inner self and

argues that unlike its portrayal in the majority of studies, the Persian blogosphere is not a ‘theater’ where bloggers simply stage their already-formed inner selves. On the contrary, it is a ‘factory’ whereby bloggers constantly fashion selves. The factory metaphor may also be helpful in understanding blogging, because it underlines the technological and material dimensions of this practice of writing. In the Persian blogosphere, bloggers create selves in interaction with not only their fellow bloggers but also the blogging interface and software. Nevertheless, despite what it may suggest, the factory metaphor must not be taken to imply an exclusively goal-oriented approach to self-fashioning informed by a means-end schema. In using technological systems, purposefulness, intentionality, and having plans are usually taken for granted. However, as I will show here the assumptions about the relationship between purpose and practice embedded in the technological systems and beliefs about the relationship between intentionality and materiality innate in cultural understandings of writing fail to account for people’s actual experiences.

In this paper, I look at the relationship between users and systems in the Persian blogosphere through the lens of the carnivalesque. Since the carnivalesque draws attention to material, ongoing, and subversive practices suppressed by an obsession for meaning, purpose, order, and hierarchy, the repertoire of analytic tools it provides will help us better understand the Persian blogosphere.

THE MATERIAL BASIS OF MEANING

“You really don’t want to hear this,” said Nooshin and mirthlessly laughed. We were about to conclude our conversation for the night (or, for me, the morning, as Nooshin and I resided in time zones 10½ hours apart) when I asked “What do you want to write next in your blog? Do you already have an idea in mind?” I asked this question as a preface to a request that I had planned to bring up afterwards so I could set our next meeting’s agenda. I expected a quick affirmative response and a brief description of her next post and had planned to follow up my initial question by asking whether she would let me observe her while she writes the idea down and edits, publishes, and shares the write-up as a blogpost. However, her unexpected response and the brief conversation it triggered did not let me bring up my request as planned.

When she said I would not want to know if she had an idea in mind for her next blogpost, I surmised the worst and thought she might want to close her blog—something she had done a few times in the past. In addition to the anxiety caused by her unexpected response, I was doubly worried because I was running out of time. I had to go to my class shortly and did not have enough time to discuss what I imagined was her decision to close the blog. Trying not to display my nervousness, I asked why she thought I would not like to hear her answer. Nooshin responded in a more serious tone that because she wanted to be honest with me; but at the same time she did not want to disappoint me and embarrass herself by talking about her lousy, inelegant (زشت) method of blogging. I felt somewhat relieved since her explanation did not necessarily indicate that she wanted to discontinue her blog. But she next discounted her blogging skills some more. Her tone and choice of words now gave me the impression that maybe she wanted to confess that she was plagiarizing and stealing her blogposts’ ideas from others—a fairly common practice in the Persian blogosphere. But she then immediately said in a slow voice that maybe she was not the right person with whom I should work for my research. I now wondered if she was simply

priming me to announce that she was opting out of my study. Thinking that it was one of those fieldwork tag-you-are-it moments when the informant politely puts the ethnographer in touch with a supposedly more knowledgeable and possibly elder person in the community to take the burden off herself, I inaudibly blamed myself: “You should have known better. She guessed you want to observe her writing. It was too soon to bring this request up.” To control the damage, I tried to assure Nooshin that her participation had been very helpful to my research: “I have read many blogs and honestly I do not see anything lousy about yours. You have been a great help.”

Fortunately, she sensed my anxiety and soon put me out of my worries by mentioning that she in fact was happy to help. But she quickly added that I was not aware of her behind-the-scenes practices of blogging and that I would also admit her blogging practices were lousy if I learned it often happened that she did not have a specific idea in mind, but she nonetheless wrote: “Sometimes I have a good idea; sometimes I don’t. But when I don’t have an idea, I still blog. Isn’t it very lousy (xeylī zāye nīsī)?” Surprised by her answer, I promised Nooshin that it, quite the opposite of what she thought, sounded very fascinating to me and I was in fact extremely interested to learn about and if possible observe her blog’s ‘backstage’. Apologizing that I must leave our conversation to run to my class, I hurriedly asked one last question so it would not sound as if I was abandoning a conversation that I just described as fascinating. I asked what she wrote about, when she did not have an idea in mind. Nooshin responded that “it is hard to say, because the topic itself comes” (moẓū’ xodeš mīyād).

Nooshin was not the only person who made such a statement during my fieldwork. However, she probably more than any other informant considered the practice of writing without a preplanned idea to be mortifying and discrediting. It does not mean though that other bloggers valued highly the blogposts produced through comparable practices. For other bloggers, although such blogposts were not necessarily mortifying and disqualifying, they were considered to be playful rather than serious pieces which did not deserve one’s full attention. When bloggers did not know what to write, but wanted to write something nonetheless, they casually *played* with their keyboards and did some trials and errors until an idea developed. “It is like doodling (xatxatī kardan),” said a long-time blogger and added “it is why there are so many blogs whose names include ‘doodles’ (xatxatī-bā)” —e.g., The Doodles of a Manic Boy (xatxatī-bā-ye yek pesar-e ravāni), The Doodles of a Young Seminary Student (xatxatī-bā-ye yek talabe-ye javān), and The Doodles of a Menstrual Mind (xatxatī-bā-ye yek perīyod-e maqẓī), to name a few. Another blogger whose blog’s name in fact included the word “doodles,” said that all she was doing when blogging was essentially doodle. She characterized her blogposts as such to draw a distinction between the well-contemplated and serious pieces she wrote as a journalist and her “for-no-reason” (haminjūrt) blogposts. It is worth noting, in passing, that the Iranian bloggers’ use of a drawing-related term (i.e., doodling, whose Persian translation includes the word for line, *xat*) for describing their practice of writing in the Persian blogosphere hints at an understanding of writing that is not fully separable from drawing (Gray 1971; cited in Ingold (2007:129)). It is important to my argument, because it indicates an understanding that highlights the significance of the materiality of writing as it holds that written meaningful words, first and foremost, are formed by material, *meaningless* lines. This is to say that, following Heidegger (1971; 1977),

the meaningful written words are the disclosed ‘world’ brought forth out from the ‘earthly’ material lines, in an act of *poiesis*.

The *poiesis* of technology (or *techne-as-poiesis*, in the Heideggerian terminology) is in fact what is overlooked in the dominant assumptions about blogging—and technology in general. Blogging is a factory, not because it is simply a means helping bloggers achieve their planned ends (e.g., fashioning an identity), but because it turns the virtuality of the *not-yet* into actuality—just like the *meaningful* words that are revealed from the *meaningless* doodles. As we shall see, the bloggers’ digital doodles are places where meaning, sometimes unknown to the blogger, is brought forth as the blogger *plays* with words. Playful doodles are not usually based on previously-contemplated ideas and take and change form as they are being scribbled. In other words, the meaning and purpose of what one doodles or, in Nooshin’s words, the topic (*mozū*), if any, usually follows its material expression. Contrary to one’s commonsense expectation of a topic as directive and intentional, it sometimes non-intentionally comes after the fact of its writing. Borrowing the concept from Laidlaw and Humphrey’s (2008:277) ritual terminology developed out of their ethnography of the Jain rite of worship (Humphrey and Laidlaw 1994), “non-intentional” best describes Nooshin’s practice of blogging. It is in contrast to both intentional and unintentional. In other words, as I will show, although her blogposts were not the result of an unintentional writing, as she was aware of what she did, the material expression of words on the computer display evoked some implications that in return non-intentionally determined the meaning of the written words—words that may have an actual effect on her real life. But more importantly, it seems that a deviation from the commonsense expectation of a topic as directive and planned is at the root of Nooshin’s embarrassment at confessing to the absence of a previously-thought topic in a number of her blogposts. There is a parallel between bloggers’ actual practice of blogging and the carnivalesque as both defy the dominance of meaning, purpose, and order. Similar to the carnivalesque, actual practices of blogging highlight the materiality (in contrast to meaning) and creativity (in contrast to pre-determination) of written words. The dominance of order and meaning also explains other bloggers’ descriptions of blogposts produced comparably that suggest a lack of seriousness when in fact their doodles sometimes have real-life ramifications. In other words, when one’s actual practice does not fit the dominant view of writing as a planned movement from ideas in the mind to words on the computer display (see, for example, Figure 1, an illustration in the Department of Education’s Writing Skills book for all Iranian students in the seventh grade), bloggers label it at worst an embarrassment and at best playful and unserious—in any case not precisely ‘valuable’.

Thinking she was engaged in doing something not valuable, Nooshin was embarrassed by her practice of blogging because she thought of her written words as insincere. Sincerity is an account of a certain relationship between one’s words and interiority (Trilling 1972). In the dominant commonsense view of writing, the precedence of the material expression of words—i.e., the physical appearance of the written words on one’s computer display—over the immaterial thoughts and meaning that are supposed to initiate from one’s interiority and be represented by the exterior words indicates insincerity (Keane 1997). Therefore, when the words do not reflect what the writer means or intends, since as I shortly show there is in fact no specific intention before writing these blogposts, the individual’s writing is thought to be insincere. Also, in this view the notions of intention and meaning are closely connected for intentionality is defined as the ability of the mind of a thinking and perceiving subject to be

about something (Duranti 1999:134). Meaning is therefore the result of an act of intentionality and is placed in the individual's heart and mind, the seats of all feelings and thoughts.

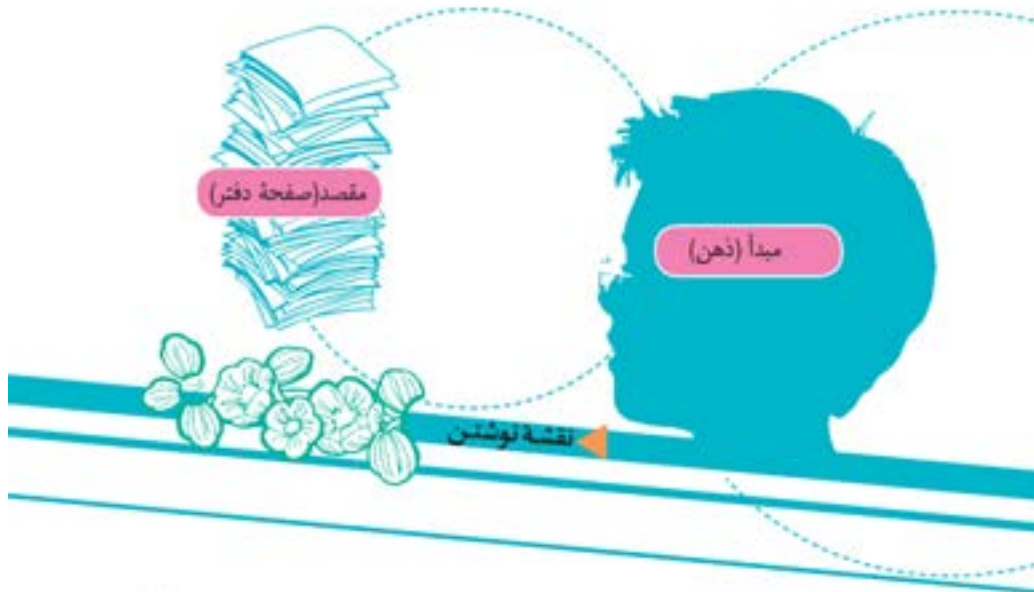


Figure 1. The diagram depicting “The Map of Writing,” with the mind as the starting point and the page inside the notebook as the destination (Akbari-Sheldareh, et al. 2014:15)

Sizing up her practice of blogging against that of others in the blogosphere who in her mind supposedly were following the conventions of the established view of writing and accordingly that of intentionality and sincerity, Nooshin felt embarrassed to expose her insincerity and lack of intentionality to me. In fact, that she wanted to refer me to other bloggers for my research shows that Nooshin thought others in the Persian blogosphere blog in accordance with the conventions of the commonsense view of writing in which people write to make their minds and hearts (in its non-anatomical sense) present to others¹. Nooshin, however, did not have any certain ideas in mind prior to writing and as a result used writing not to refer to some pre-existing thoughts but to create them. In other words, the blogposts like those of hers in which the thought or topic trails after its expression in written words are, according to the dominant view, insincere, and hence a source of embarrassment—if not, for example in the case of other bloggers discussed above, it is because they were deliberately and playfully “insincere” and as such were exempted from the dominant discourse of sincerity. If the logic of the carnivalesque is to be followed, playfulness seems to be the permit for limited acts of upsetting the Cartesian ideas-materiality hierarchy so the dominant ideology could recover its thorough power outside the controlled domain of these blogs. In contrast, Nooshin’s practice of writing marks an unrestricted version of subversion that in spite of a prevailing quest for order and hierarchy is dispersed through and contaminated the commonplace.

Particularly in the Persian blogosphere, a departure from the dominant view was effortlessly construed as insincerity, for blogs were largely considered to simply reflect in writing an already-experienced episode in the blogger's life, his or her inner states, or his or her previously-thought ideas—rather than allowing typed words to *fabricate* one for them. This dominant view is embedded in a majority of existing studies of the Persian blogosphere that scrutinize blogposts as a reflection of the bloggers' inner states, “as product but not as production” (Roseberry 1982:1023-1024). Also, although the Iranian bloggers' practices of writing and their understandings of those practices contradicted this view, it was predominantly acknowledged as the dominant view in the Persian blogosphere itself where a considerable stress was placed on other bloggers' inner states, and consequently, their intention. Taking other bloggers' words by default as sincere, people in the Persian blogosphere were deeply engaged in a process of mindreading (Lillard 1998) and interpreting other bloggers' intentions via their written words, although they themselves ironically may not have considered their own blogposts sincere.

In a later conversation with Nooshin, I brought up the request I was not able to ask that morning. After she agreed to my request, late one night in November 2014, through Skype's 'Share Screen' function, I observed Nooshin's practice of writing a blogpost without having a preplanned idea. She started what fifteen minutes later turned into a blogpost with simply typing the word “bread” (*nān*) in the first line of the editor window of her blog's content management software. She then cut the word out using the keyboard shortcuts and pasted it in the “Post Title” box whose content appears as the *topic* of the published blogpost. She however changed the title after proofreading the post and before hitting the “Publish” button.

Once she published her blogpost, I asked why she chose this specific word (“*nān*”) to which she answered because “it is one of the first words that strikes your mind when it is totally empty.” In other words, she did not essentially choose the word; the word itself emerged in her mind. Interestingly, in the now-retired pedagogical method by which I and most of my informants in Iran learned to write back in first grade, along with some other words like “water” (*āb*), “father” (*bābā*) and the third-person past form of the verb “to give” (*dād*), “bread” (*nān*) was one of the very first words that children were taught to write—simply because these short words are very easy to spell and comprise simple repeating letters making them good pedagogical tools. Then as they compiled these words into unsophisticated sentences that make only a little sense (like, Father gave bread: *bābā nān dād*), children learned some of the most frequently-used letters of the Persian alphabet. Although literacy education in Iran has recently shifted towards a more meaning-centered method wherein pupils are given more extensive and meaningful texts to subsequently recognize alphabet letters in a reverse (i.e., meaningful texts to meaningless letters) process, the old method through which my informants were initially introduced into literacy seemed not to so much care about meaning.

This pattern of creating larger linguistic units out of smaller ones³, reminiscent of the literacy education of my informants, is observable in Nooshin's practice of blogging. Like a new learner who puts together the few letters and then words she can spell to create some sort of a meaning about which she did not know before writing, Nooshin retyped the word “bread” (the word that she had removed from the body section of the editor and pasted in the title box) and added other words to it to create a sentence. She typed, deleted, and undeleted a few more half- and full sentences. The sentences sounded like clichés with ready-

made meanings not fully of her own making implying predictable moral messages: “In the past bread always used to be on our table (*sofre*) regardless of the type of food we ate;” “Bread is the table’s blessing (*barkat-e sofr*);” “People no longer kiss and put at a corner [away from the well-trodden path] the pieces of bread they find left on the street;” “Afghans still call any type of food ‘bread;” and “Taking out the half-baked dough (*xamīr*) from the inside of the bread is what we do first before eating it.” She deleted all sentences and kept the latter after restoring it (undoing the delete action). The moral message of this sentence, although guessable, was not as clear to me as the other ones.

After producing, deleting, and moving around a few more sentences inspired by the implied meaning of the first sentence, she added that although the half-baked dough is delicious and it is why children love it, parents advise against eating it, lest it gives the children stomachache. She then linked this observation to the activities she had started but did not finish (including learning French on her own and learning to play *setār* (a string instrument) with an instructor and concluded that

Although delicious, they are not good for my health. It is not good for me to go to private music sessions once in a while without enough practice. I’ve learned very little. I must decide to either carry those half-done (*nesfe nā me*) projects through or forget about them altogether and instead spend my time and money on more useful things important to me.

She finished the blogpost by giving herself a deadline until her upcoming birthday almost a month away to either take those projects seriously or “act like an adult and throw away the dough and instead eat the bread.” Nooshin ended up giving up her self-instructed French lessons because she did not pick them up the way she wanted by the deadline, but dedicated enough time to her *setār* practices and has since been meeting with her instructor routinely.

Although before writing the blogpost she had occasionally thought about concentrating on her half-done projects more seriously, Nooshin had never considered divesting herself of them. More importantly, she did not have any decisive plan for them whatsoever. She also did not remember to think about these personal projects immediately before she wrote the blogpost and even “for weeks if not months before that;” but she is happy that she “finally did something about them.”

Did the written form of the noun “bread” on the computer screen which was probably inscribed in her mind at an early age when she learned how to write for the very first time alter Nooshin’s life—even if in an insignificant way? Is not it then true that the written form of the word lent her “an adoptive place to speak from” (Pandolfo 1997:29) and summoned sentences not fully of Nooshin’s own making with culturally predictable messages? Even beyond that, is what she thought not determined “by facts external to, and perhaps even unknown” (Glock 2001:112) to her? Is not it the case that one of those sentences consequently altered something in Nooshin’s life? Is Nooshin’s new understanding of herself not dependent on an external, material cognition to some extent already thought for her? In other words, is not it true that an *inscription* of a word initiated by an external source that summons culturally recognizable meanings in a mnemonic process resulted in Nooshin’s *description* of her life—“a more or less coherent representation” (Clifford 1990:51) of the reality of her life? Then is it not similar to the carnivalesque which, although suppressed by a quest for order, undergirds the orderly itself?

Similar to Nooshin's practice of digital doodling with words in her blog with the hope of creating a meaningful blogpost at the end, one informant told me that he sometimes started to write not with a topic in mind but with a new idiom, adage, or aesthetically pleasant word that he had recently heard of or read. Another blogger mentioned that it brought him to giggle every time when people commented on how well-thought his essentially little-thought posts were. He said that he was being judged on thoughts over which he initially did not feel any ownership. It was only, in other words, when other bloggers attributed intention to his words that he became responsible for them. Another informant wrote to me that she thought that a practice similar to what Nooshin did was ridiculous because it sounded "like buying a car because you happen to have a spare wheel." In all these examples, the dominant view that gives precedence to ideas over the materiality of words and upon which Iranian bloggers' view of writing is based is violated by the very blogging practices of the same bloggers.

NONPURPOSIVE BECOMING

The lack of purpose and intention also played a role in as to why bloggers opened their blogs in the first place and then kept blogging. Iranian users started blogging for various reasons, but for the majority of my interlocutors, including Bahman, a prolific blogger in his mid-thirties, blogging was simply a new technology they wished to try out, with no set agenda as to about what they would write. In a conversation with Bahman that took place in 2013 when Instagram was becoming exponentially popular in Iran, he naturally used this photo sharing application as an example to illuminate his explanation as to why Iranians started blogging:

Do you think Iranians who are joining Instagram know what type of things they want to take a photo of and because of that they create their accounts? Do you think they themselves even believe they're good photographers? I do not think so. They are signing up because everyone they know is on Instagram now. They create their accounts because their colleagues and cousins and friends are on Instagram. It was the same story when everyone joined Facebook and Orkut and, before them all, the blogosphere. Just look how many Instagramers post photos that they haven't even taken themselves. They are opening the accounts, but they don't have any worthy pictures in their phone galleries to share. So they end up posting pictures they download from the internet, just because they want to be part of the wave (*mog*)—not because they are good photographers or leading an exciting life worth sharing with others or even because they know what Instagram is good for.

The commonly familiar self-criticism of "us Iranians" (*mā īrānīhā*) not knowing the right way of using Western technologies aside, I found this explanation vastly at odds with the dominantly acknowledged reason for a massive interest in blogging and other digital social media platforms in Iran that attributes the popularity of blogging to a dire need to be heard. In contrast to this assumption, Bahman explained that users' introduction into online services was not planned and also not out of a necessity to be heard. It certainly does not mean that a lack of true representation in conventional media did not contribute to the Iranians' interest in blogging. However, it was neither the sole nor probably the most significant reason for joining the blogosphere. In many cases Iranians' initial interest in these online services and subsequent use of them were conversely for its own sake—to *play* with a new technology. In other words, they used the services simply because the online social

media were appealing to use. Moreover, according to Bahman, users did not always use these services as intended or prescribed by the designers. Instagram, for example, is designed for people to share the photos they snap with their mobile phones (Instagram.com), not for reposting publicly available pictures taken by others.

In remembering his early days of blogging, Bahman pointed out in another conversation that he sometimes posted on his blog “a few times a day” not because he considerably had more to say when he started his blog, but because when he was comparing his newly born blog with older ones in the blogosphere, he “was embarrassed and didn’t like it empty, like a barren desert (*biyābūn-e bī āb-o alaf*).” For him, not only did the main area of the blog where the blogposts appear look better when it was filled with “words, sentences, and good-shaped (*xoʃ form*) paragraphs,” but also the left-hand side column of his blog looked better too “when there were things there—like links to archived content, archive categories, and links to other people’s blogs.” Answering his blog’s demand to look more like the older blogs in the Persian blogosphere, he started forming his own network of bloggers so he could post their URLs in his blog. His blog, in other words, used Bahman to link it to other blogs—to mediate its interaction with other blogs. Evoking animistic beliefs in objects having a life (Rod and Kera 2010), Bahman contended that he wrote more frequently and was more active during the first months after he created his blog, because it was as if the empty spaces in the blog looked him in the eyes, begging him to “write something—anything.” In a similar vein, others described their blogs as human kids who needed the care of their parents. The common practice of celebrating the anniversary of a blog was called the birthday of the blog and similar to parents celebrating their kid’s birthdays, bloggers sometimes celebrated the birth of their blogs by buying cakes, blowing candles, and posting the pictures on their blogs. Another informant told me once that blogs are like human babies (not any other animal babies) because just like human babies they are born prematurely and similar to human babies requiring more attention compared to other animals, blogs need more active attention than Facebook profiles (cf. the discussion of the Tmagotchi, the Furby, and other digital pets in: Turkle 2011).

Bahman did not want to write about just anything so his blog could look full and alive: “I did not want to embarrass myself to escape another embarrassment.” So, to fulfill his blog’s hankering for more posts without adding to his embarrassment of writing about tasteless topics, Bahman started to pay more attention to himself and his surroundings and to think more deeply about his experiences:

I needed more meaningful things to say. So, I started to pay attention to things that I had never attended to. I did not use to pay attention to details or to my emotions, as a matter of fact. In the past, I did not really look that much for meaning behind everything. I was really a shallow person (*ādam-e sathi*). I can even say, I was a boring person with nothing interesting to say. I now had to pay more attention to feed my blog (*xorāk barāye vebāgam tahaye konam*). But even more importantly, I did not use to think of myself as a creative person in the past. So, it came to me as a big surprise when for the first time in the comment section my readers applauded my writing for its creativity.

Bahman was made subject (Foucault 1982:777) by being voluntarily objectified by his own blog. As he responded to the expectations of his blog, he was transformed into a certain subject, a creative person with a good eye for details. The “obligatory syntax” of the medium, or more accurately its recipe as it did not include “explicit and obligatory

prescriptions” (Foucault 1977:153), enabled a new self. More specifically, Bahman’s blog communicated its recipe for constituting a suitable blogger-blog collective *negatively* through an aesthetic judgment by showing how *ugly* and *useless* (*zešt-o bīxasīyat*) it looks when it is unattended: “like the diaries (*daftarče xāterāi*) we were gifted when we were kids and we wrote only in the first two pages before we use the rest of the blank pages to solve school math problems (*qabl az īnke be omvān-e čerknevīs-e rīyāzī az baqīyaš estefāde konīm*).” He noted the disciplinary nature of the recipe by half-jokingly half-seriously pointing out the cruelty of his blog’s recipe compared to Facebook’s syntax which is communicated positively by automatically filling out some holes with tentative suggested items to show how *beautiful* your profile would look if you attend to it. This aesthetically charged recipe is an example of how what some Science and Technology Studies scholars (Latour 1992; Latour and Akrich 1992) call “scripts” demand specific things from the user and invite him or her to intervene in a certain way. The way Bahman’s blog guided and compelled him to perform contributed to his perception of the person he now was.

The blogger-blog collective discussed here is an illustration of the “body-tool [or] body-machine” complex Foucault (1977:153) points out in his cultural history of discipline. This association was formed as soon as the blogger signed up and created his or her blog. However, the relationship between the blogger and the blog was always at the risk of demise. For the collective to maintain itself, in addition to the blog’s caring for the blogger, the blogger must also persistently take care of the blog. In the absence of the necessary work and without the blogger’s care for the blog the assemblage would stop to exist. A myriad of inactive blogs and retired bloggers are an evidence of the incessant care and work required to keep the instability of the assemblage in check. In spite of the required work, there is a tendency to either not consider the blogger-blog collective to be an interdependent assemblage, or the existence of the collective is taken for granted without noting the labor of maintenance, invention, and intervention that goes into the work of holding this heterogeneous complex together (Law 1992:386). Bahman’s account of his early days of blogging is important, because it bears witness to the kind of care that is required for the process of reproduction and renewal of the relationship between the blogger and the blog that ensures the continuation of the collective.

The division of labor between the blogger and the blog indicates an expectant system in which the human-nonhuman hierarchy is upset. In a theoretical approach to the history of computing from an organizational perspective, Ekbia and Nardi (2014) contrast the better-known epoch of automation to that of heteromation, a phase in the history of computing where some critical tasks are pushed “to end users as indispensable mediators.” Using the notion of expectant organization, they describe the division of labor between machines and their human users in this era. Following this characterization, an expectant system can be defined as a system with considerable built-in holes and gaps that are intended to be filled and bridged by the end user (Ekbia, et al. 2015). Expectant organization turns systems into “objectifying technologies” that operate based on what Ekbia and Nardi (2012) elsewhere term “inverse instrumentality.” These technologies, unlike “automation technologies” that disallow user’s intervention to a great extent, delegate some of their most significant tasks to end users and as a result, turn users into the instruments of their functionality. The technology therefore needs the user to mediate its functions. More clearly than in any other system, users are constructed by what we may call the machine’s gaze (literally, in the case of Bahman whose blog looked him in his eyes and demanded content) when they interact with

expectant systems. Following the carnivalesque, this view in fact offers an unconventional correlationist view—a corellationism that is not centered on the perception of humans as technologies also *technocentrize* their human users and appropriate them for their own needs. Expectant systems in other words *use the users* as vehicles to extend their functionality, accomplish their goals, and mediate their interactions with other technologies.

CONCLUSION

The repertoire of analytic tools the carnivalesque provides guides us to consider user experience not as the outcome of fully-known technological patterns, cultural codes, or social structures. It similarly should not be thought of as a relation between an already-decided plan and a final product. Also, it is important that the plan does not magically transfer into the desired product with the help of technological systems with them having no effect on the form the final product takes.

If we look at the bloggers use of the technological medium in the Persian blogosphere through the framework of the carnivalesque, we observe a picture different from what is usually portrayed. The heed the carnivalesque pays to becoming and transformation (Bakhtin 1984:10) guides us to see the Persian blogosphere as a ‘factory’ whereby the interiorities of bloggers are constantly fashioned; and not as a ‘theater’ stage where the already-made interiorities are reflected. It also directs us to realize the significance of materiality⁴ in meaning making and the importance of the encounter with the material and the technological for creativity. As we saw, the interaction between bloggers and words brings to the forth, in a non-intentional manner, unplanned but consequential meanings. The subversive logic of the carnivalesque moreover allows us to see the heterogeneity of assemblages and collectives that bloggers create with the blogging technologies they use. It lets us account for the reversal of roles that takes place in the formation of those assemblages when users appear to be used by blogging platforms for them to be able to function.

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NOTES

1. The relationship between sincerity and one’s interiority as the place of meaning and intention is a ground for the New Poetry movement in Iran in the early 20th century. The New Poetry gave precedence to a fully intended meaning in line with the “natural order” of an artwork not restricted by formal limitations imposed on expression (mostly *arūz*, or the metrical system used in Persian and Arabic poetry) (Akhavan Sales 1990 [1369]:104). As the descriptor “new” itself indicates, this literary movement deliberately departed from a “pre-modern” (*koban*, literally: ancient) view of writing towards a “modern” regime that treated words as “tools of the poet’s expression of his intended meaning, not the other way around” (104).

2. No longer part of the literacy education in Iran, these sentences were also criticized for the patriarchal gender roles they instilled in the minds of the new learners.

3. To be precise, the Iranian students’ literacy education used to begin with non-linguistic units—i.e., lines—that were copied by pupils from a model in a practice called “*lohe-nerīst*.” Lohe (tablet) was a small wooden board

students used to practice writing in pre-modern Quranic elementary schools (*maktab-xāne*, literally, writing house). This educational method where writing was thought to be a form of and develop out of drawing lines, similar to the use of *doodling*, a drawing-related word to describe a practice of writing, is in line with Ingold's (2007) description of writing prior to the seventeenth century when it was identical to drawing.

4. Etymologically, carnival is derived from the Latin for flesh, *carnem*.

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PAPER SESSION 3

Ethnography / Innovation

Curators: STOKES JONES, Ricoh Innovations & JOHANNES SUIKKANEN, Gemic

Over the last twenty years innovation projects have been established as a mainstay for ethnographic researchers. During this time, a dominant 'folk model' accounting for ethnography's role in innovation has correspondingly emerged. The innovation process begins (at least on paper) with a phase of opportunity research to clarify the 'Fuzzy Front End' of an initiative, and provide 'direction setting' by identifying the promising 'White Spaces' for a new offering or refinement. Research then helps innovators understand 'contexts' and 'users', plus 'current practices' to galvanize the 'ideation' of new concepts. As these evolve, research and researchers intervene to keep 'detail design' on track, and preserve the power of the innovation direction (which they initially identified) from the vicissitudes of actually bringing a new offer to market.

From those subscribing to this type of approach (including most 'Design Thinkers'), some form of ethnography is usually advocated as the gold standard for research. This preference for fueling innovation with ethnography is variously attributed to its superior ability for: capturing 'unmet needs'; discovering 'unarticulated desires'; achieving 'empathy with users'; as well as, delivering 'deep insights' that bring epiphanies which realign corporate strategy—putting companies on the right paths to success. The persistence of this model indicates it must have some descriptive (or sales) value for explaining the relationship between ethnography/innovation. Papers for this track confirm, challenge, and explore the theoretical underpinnings of such innovation models in practice.

We suggest that, despite the diversity of innovation approaches, most continue to trade on a 'Realist' ontology and epistemology. Approaches seem to share a belief in which "the truth is out there" waiting to be discovered (whether about 'real' customer needs, or objective 'market spaces'). On this view, doing research for innovation is akin to discovering that unknown territory ripest for innovation, then helping your collaborators colonize it (either by Drucker's "hitting them where they ain't" or being "fastest with the mostest"). Is there any viable alternative to this tacit foundation underlying most research in innovation? Has ethnographic research largely shored up this ideology, or problematized it? To make the most 'impact' should practicing ethnographers stay quiet on such 'meta' issues, or if not, is anything gained for innovation by making such issues an explicit focus?

Tell Me Why You Did That: Learning “Ethnography” from the Design Studio

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This paper questions the role and form of ethnography in the studio setting through a comparative analysis of interviews with service and brand designers, and the promotional rhetoric of the studio organizations in which they work. It proposes that the way in which designers practice ‘ethnography’ consists of an adapted and hybrid methodological approach based not on theoretically informed data collection, analysis and interpretation, but instead of an assemblage of embodied research approaches. The ways in which designers substitute proxy audience membership, performance and praxiography for traditional ethnographic methods in their creative work and their acts of negotiation between the structural expectations of the studio organization and their own practice of cultural production are considered.

Keywords: Design Ethnography, Design Research, Methodology, Practice

INTRODUCTION

In the online space of design studio websites, there is ethnography everywhere – the method appears in descriptions of studio specific approaches, in outlines of services, and in the briefing details provided alongside award winning portfolio pieces. Ethnographic methods would appear to have taken over the design practice – but is this only true in the virtual world of studio portfolios and promises? In the real life space of the studio we find the designers at work – a group of cultural producers tasked with making good on the methodological claims of their studio organizations, each engaged in their own version of observational data collection, analysis and interpretation. A designer will tell you that this is just ‘designing’. But look to the studio website, and you’ll see a very different story.

The disconnect between how branding, service, experience and graphic designers interpret and practice ethnography, and how the rhetorical pronouncements regarding the use of ethnographic methodology are mobilized as market differentiators by studio organizations creates a unique and creative tension within the creative workspace. How do designers deliver on the claims made by their studio organizations about the type, scope and methods of ethnographic research practiced by the creative team, and how do they negotiate and acknowledge the role of ethnography in their own work? This paper compares findings from interviews conducted with 27 graphic, branding, experience and service designers, and a thematic content analysis of online promotional communications developed by innovation focused design organizations to question the role and form of ethnographic research methods in the studio setting. By comparing the realities of design practice and the rhetoric of design studio promotion, we can see how the tension between the promotion of ethnography as a market differentiator and the daily practice of designers can generate new forms of designer-led ethnographic methods unique to this creative context of cultural production. But however generative, this gap between the promoted aspect of the designer’s

ethnographic activity, and the reality of their practice raises critical questions. What is the role of ethnography in the studio setting, and what form does the method take in the practice of designers? How is design-ethnography becoming synonymous with qualitative data collection, and how is the method interpreted, negotiated and adapted in circumstances based not on theoretical frameworks, but on creative briefs?

What emerges from this comparative study is, most clearly, a conflict around what “counts” as ethnography – a debate familiar to EPIC community but one that is often unacknowledged in the design studio itself. Findings from both designer interviews and content analysis of their studio’s online presence suggest that considerations around ethnographic practice are challenged in two key ways. First, though designers are tasked with the use of ethnographic methods in the implicit promises offered by their studio’s promotional discourse, they are untrained and uninformed about the conventions and values of ethnographic practice. Second, out of negotiation and necessity, designers in the studio setting have developed unique ways of interpreting ethnographic methods to their own use, engaging in a hybrid method assemblage consisting of proxy audience membership, performance and praxiography to justify and qualify their abductive thinking practices.

By examining the ways in which designers substitute a hybrid methodological assemblage of performance, proxy audience membership and praxiography for the ethnographic promises of their studio, we see how designers make use of ethnography in their effort to clarify the ‘fuzzy front end’ of innovation. This paper will confirm the potential contribution that ethnographic work can have within an innovation focused setting, while challenging the existence of a purely ethnographic practice in design studios. Themes arising from the comparative analysis of both the online promotional rhetoric and the interview responses of designers indicate that, as a result of this tension, designers are generating innovative insight not through the use of ethnographic methods celebrated and promoted in their studio promotions, but by mobilizing forms of empathic and embodied knowledge – knowledge that resides within the designers and is reused, repatriated and reconfigured to fit the creative brief at hand. This process of negotiation presents a new view into how the “other” fields have appropriated the floating signifier of ethnography for their own means.

CONCEPTUAL BACKGROUND

Design Practice and the Practice of Ethnography

An examination of ways in which designers interpret, practice and negotiate the use of ethnographic methods in the studio setting is reliant on a wide literature of work – most notably contributions from the field of design studies which establish the role of observational and ethnographic field work within innovation focused design processes. The role of observational and ethnographic work in developing innovation (Hawkins & Davis, 2012; Utterback, 2006), in examining “use before use” (Redström, 2008, p. 241), and as an instigator of design thinking (Brown, 2009; Cross, 2011; Rowe, 1987) is foundational both to the integration of ethnographic methods in design practice, and to the analysis of design practice as a research method unto itself (Dorst, 2011). The use of ethnography in design practice has been identified as a key function of service, experience and future oriented design work (Lindley, Sharma and Potts, 2014; Kjærsgaard, Gislev & Charlotte Smith, 2014)

and is defined by its adaptation to collaborative research, limited time frames, and iterative applications (Crabtree, Andrew, Rouncefield, Mark, et al. 2012).

Many have challenged, as I do here, the notion of a purely ethnographic practice within the design studio: we have long known as ethnographers that the ways in which designers create a rich and detailed account of a culture through observation and interpretation differ markedly from traditional or academic methods (Fulton-Suri, 2011; Plowman, 2003). As Tunstall has noted, ethnography can be understood as a “transdisciplinary boundary object”, occupying different roles in the worlds of business, service, design and marketing (2008). The differentiating factor between ethnographic practice more broadly, and design-ethnography is, as Lindley, Sharma and Potts have suggested, one of observation versus intervention: the ethnographer seeks to explain and understand, whereas the design ethnographer seeks to intervene (2014). However, the goal of design-ethnography is recognizable to researchers in other disciplines as well: to experience and explore firsthand a social or cultural setting with the intent “to decode, translate, and interpret the behaviours and attached meaning systems of those occupying and creating the social system being studied” (Rosen, 1991, p.12).

The role, potential and function of ethnographic methods in the design studio have been well established by both anthropologists and design theorists (Anderson, 2009; Anderson, Salvador and Barnett, 2013). In fact, it has been a full decade since Blauvelt formally suggested the existence of a formal ethnographic turn in design research (2007) bringing about, as Bremner and Roxburg suggest, both the creative in the anthropologist and the anthropologist hidden inside the creative (2015). Currently, the use of ethnography and ethnographic method in the design studio serves as a market differentiator for the industry (Gunn, Otto, & Charlotte Smith, 2013). The integration of design-ethnography practices into the work of the designer serves to expand and make visible the porous boundaries of creative work, integrating a new set of capacities into the description of the designer, and expanding the definition of design itself to include practices of research through design processes (Wasson, 2000; Rogers and Yee, 2015; Salvador, Bell and Anderson, 1999).

Within the larger context of ethnography’s acknowledged role in the growth of innovation, the role of the designer as ethnographer is much celebrated, but remains relatively unexamined (Banks, Caldwell and Mayer, 2009). This lack of attention to the working practices of designers extends beyond their role in the shifting definition of ethnography: as Kimbell notes,

“detailed studies of professional designers such as...graphic designers – from whom we might learn something about design – have been relatively rare.” (2011)

In contrast to this lack of attention to their daily work practice, examinations of cultural industries in which designers engage as intermediaries concerned with the implementation of strategies of differentiation (Bourdieu, 1984) position the designers as cultural producers, a framework which allows scholars such as Maguire and Matthews (2012) and Banks, Gill and Taylor (2014) to investigate the social and political forces that shape the working practices involved in the production of culture, and the cultures of production. As Weisner has noted, because all research activity conducted by designers is situated within a specific cultural context, it could all be understood to be ethnographic by default (1996) – the key differentiator between the “natural” ethnographic praxis of designers and the “deliberate” praxis of the ethnographer being a matter of, as Wollcott suggests, intent (1999). In this way,

the process of filtering personal experience over time in order to devise innovative solutions to research problems becomes a form of ethnography in action, or design-informed ethnography (Sharma, 2016). This corresponds to Wolcott's notion of ethnography as the analysis of the component parts of a culture, rather than the larger culture itself – a perspective which privileges the study of the practices that form a key differentiator between traditional and design ethnography methods (1999). However, most design education at the post secondary level does not offer research methodology training (Barab, Thomas, Dodge, Squire and Newell, 2004), resulting in a nearly two-decade long call for increased pedagogical focus on design research methods at the post secondary level (Strickler, 1999) and a change in focus from design thinking to design learning in the educational studio space (Oxman, 1999).

Reconfiguring the User Within Ethnographic, Performance Oriented and Praxeographic Discourse

Of key importance in this issue is the conception of empathy – how it is developed differently within ethnographic practice and design-thinking, how it is accessed as a research tool, and how it is represented in ethnographic work. Empathy has been an established and qualified part of design work since the beginnings of human and user centered interaction design (Suchman, Blomberg, Orr and Trigg, 1999). As Brown has argued, the idea of empathy underpins the conception of designers as being “willing and able to interpret the perspectives of end users and the problems they face” (2009, p. 115). The implication is that the use of empathy within design is implicitly tied to the birth of the user – a movement that has been traced back to human computer interface (Norman and Draper, 1986), architectural (Alexander, 1975) and ergonomic design (Henry Dreyfuss Associates and Tilley, 2002) and which has, since the 1960s, positioned the image of the ‘user’ as the center of design practice. Movements such as human-centered design and user-centered design have created a user-centric model of design solutions focused on obscuring the system created by the designer themselves, rendering the labour and the practice of designers, as well as service providers, invisible and hidden from view. This has become increasingly problematic because of the use of stereotyped or market-data driven conceptions of the “user” of a product, service or communication – conceptions often unrelated to the needs and desires created by the practice (Warde, 2005) of which the designed product will soon become a part, and one which only hints at the realities of the user's experience.

As Scott et al. outline, user-centric methods and movements such as universal, human-centered, participatory and interaction design often focus on “user needs to legitimize the conventional motive of design, which is of course to make and sell presumably better, but most definitely more stuff” (Shove et al., 2007, p. 137). However, as Anderson has noted, the scope and meaning of “human factors” has evolved as designers move from being concerned with physical and ergonomic factors (Dreyfuss, 2003) to concerns regarding psychological and emotional factors related to experience, service and interaction design (Crouch and Pearce, 2012). A desire for a collaborative and integrated relationship with the user has also expanded into the practices of participatory design and practice oriented design methods (Julier, 2007; Shove et al. 2007) – further complicating both the role of the user and the role of empathy in the development of design solutions.

Of particular interest in the reconfiguration of both the designer and ethnographic praxis in the studio setting are intertwined notions of practice and performance. Notions of performance, are, of course, not new to ethnographic praxis or the social sciences, with Goffman's (1959) introduction of rhetorical performativity advanced and expanded in the wider methodological discourse by Conquergood (2002), Feldman (2011) and Hamera (2005). In addition, the performative aspects of observational field work, and of the reflexive position of "researcher" have been explored by Radway (1989), Gill (2011) and Rosen (1991). As Morisawa notes, the labour of the designer as researcher, and the labour of the designer as cultural producer can be understood as affective labour forms, a focus which in turn highlights the performative aspect of creative industry work (2015).

These performative aspects of cultural production have been a point of focus in the growing practice-oriented and situated approaches in design studies, a shift marked by a growing body of work by theorists such as Scott, Bakker and Quist (2012) and Simonsen et al. (2014). Situated and practice-oriented design methods propose an expanded definition of the integrative practice of design: abandoning the creator-centric professional model for one that involves "shaping and changing society" (Simonsen, Baerenholdt, Büscher, & Scheuer, 2010, p. 203) through collaborative and participatory acts that only hint at the desk-bound work of the designer of the past. Situated and practice-oriented design methods propose a redefinition of design practice to include the situated knowledges (Haraway, 1988) of a cast of participants including designers and users, making use of and generating new situated knowledge to, as Bjogvinsson, Ehn and Hillgren suggest, "move from designing things (objects) to designing Things (socio-material assemblies)" (Bjögvinsson, Ehn, & Hillgren, 2012, p. 102).

This practice-oriented perspective is informed by the broader application of practice-oriented analysis methods (Nicolini, 2012; Feldman and Orlikowski, 2011) – a field defined more specifically as practice theory by Schatzki (2012) and Shove (2012). Practice theory allows for an examination of the interconnected and entangled assemblages of, as Shove explains, images, skills and stuff that make up social life, and the deconstruction and examination of the component parts which form the performative acts of everyday life (2007). A practice-oriented perspective within qualitative research, or a praxiographic study, assumes that the researcher examines the practice itself, and the practitioner and their praxis as separate though collaborative entities (Warde, 2005). A practice oriented perspective on design has been resoundingly taken up in work on the application of praxiographic research within the design studio (Scott, Bakker and Quist 2012) or what Simonsen, Svabo, Strandvad, Samson, Hertzum and Hansen (2014) have called "situated design". A practice oriented analysis allows the designer to engage with not only the social or material design problem at hand, but the social values (images) and user needs (skills) that come together to form the desired practice (Shove, 2012). Buegar (2014) and Mol (2002) each go so far as to suggest a praxiographic approach to the study of culture as a substitution for ethnographic methods, noting the importance of multiple understandings of the career of a practice as a changing entity within a larger system.

RESEARCH METHOD AND CONTEXT

The foundation for the analysis presented in this paper is a research study conducted in 2015 which compares data from two linked but separate sources: the online promotional rhetoric

of design studios and individual interviews with practicing designers from the sampled studio organizations. This initial case study was conducted in the over a one year period and originally began as a locating exercise for larger questions about design practice, and the implementation of design thinking practices in workplaces other than the studio. First, content was analyzed from 15 large-scale (more than 50 employees) Canadian design studio's promotional portfolio websites, using references to designer-led research as a sorting analytical category. The original intent was to explore points of negotiation and alignment in the rhetoric used by the designers and the studios, and to investigate how the promotional conventions of the studio setting's language shaped or was shaped by the personal descriptions of individual creatives in reference to their work practice. However, after analyzing findings from the studio's websites, and comparing and contrasting that data with the designer's interview responses it became clear that a larger tension prevailed in this space of cultural production: the rhetorical pronouncements invoked by innovation focused design studios in order to promote ethnography (qualified or unqualified with the term "design") as a billable service offering contrasted sharply with interview data from designers regarding the ways in which they negotiated the studio demands, and the ways in which they interpreted and practiced ethnography within their own work.

For the website analysis phase of this study, studios were selected by size (more than 50 employees) and location (Canadian context), and all members of the sample size provided common service offerings (service design, graphic design, branding and web/digital design). Sampled studios ranged from large international (with 850 employees and 12 global offices including two central original offices in Canada) firms to smaller single-office organizations (with only 50 employees, and 12 designers). The majority of the sampled studios referred to themselves as "experience design" and "multidisciplinary" studios with a wide range of service offerings. Textual content from all 15 studios was collected and archived over the course of three months, and this snapshot of what are, of course, evolving online spaces was kept as a static sample for analysis. Qualitative content analysis was used to derive coding categories directly from the collected and transcribed textual data (Hsieh & Shannon, 2005), using a descriptive approach to examine the larger narrative presented in the online text (Sparker, 2005). These initial coding categories were then collated into potential themes, which were subsequently tested in relation to the larger data set (Braun & Clarke 2006).

In contrast, interviews with designers were conducted over the course of one year, as the purposive sample size grew to 27 designers, allowing for the exploration of "a particular set of social processes in a particular context" as suggested by Mason (2002, p. 91). All respondents self-identified as designers working in service, graphic, branding, web/digital design fields, and participating respondents were limited to those employed at one of the sampled studios at the time of the interview. Semi-structured interviews were conducted both in person and via teleconference, and interview data from these conversations was coded and gathered into relevant themes. These themes were used to generate further thought about the dominant social discourse surrounding creative work, while prioritizing the respondents localized experience (Deetz, 1994). The sample of designers was considered complete when saturation had been reached, and respondents included 16 men and 11 women – a gender balance representational of the larger industry (Statistics Canada, 2016). All of the respondents had attended formal design training at a post-secondary institution, and had an average of 13.6 years experience within their field.

FINDINGS

“Our work is built on our research”: Content Analysis of the Online Promotional Rhetoric of Design Studios

Four key themes emerged quickly from the online promotional studio rhetoric data set: the promotion of ethnographic methods as a market differentiator, as a method of targeting a specific audience, as an insight development tool, or as a method of testing for fit or optimization.

Table 1. Thematic Content Analysis of the Online Promotional Rhetoric of Design Studios

Theme	Identified role of the designer	Representative comments
Ethnography as a market differentiator	Designer as researcher	“Optimal research approach...” “Exclusive team of lead researchers...” “Unlike other studios...” “Our relentless focus on the customer is behind everything we do” “Industry leading ethnographic research...”
Ethnography as a method of targeting an audience	Designer as interpreter/translator	“Using a combined 174 years of design experience, we translate...” “Our ability to understand and reach your audience...” “A team of curious, passionate researchers dedicated to understanding the experience of the user” “Transform the stories we hear into experiences”
Ethnography as an insight tool	Designer as clairvoyant	“Getting into the field to generate the insight you need” “Our team gathers actionable insights to drive our strategy”
Ethnography as a fitness test	Designer as evaluator	“The data behind our design thinking” “Optimized solutions using real life research” “By designing with your audience, we assure success”

Analysis of 15 Canadian-based design studio websites with data collected between January and March 2015.

The promotion of ethnography (or designer-led research) as a market differentiator, and as the creative foundation for the work of designers was a common theme across 13 of the 15 sampled studio websites. Ethnography and research conducted by designers for the purposes of the design project was positioned, in all but two of the studios, as a market differentiator – a unique approach held by each studio to the creation of an experience, service, design or brand. Studios also referred to their ability to “prototype, produce, test, deploy, operate, and optimize digital properties of all types and at scale” using “design thinking and design research” but only three of the studios sampled provided a specific description of what their service offering would entail. Of those three, the terms “user

experience research” and “user research were dominant”. Appeals to the value of “insight”, “experience” and “real-life testing” occurred in 10 of the sampled studio websites, indicating that studio led research formed a component of their billable offerings, but these appeals were not tied to a clear definition of the methodologies employed. Overall, initial codes of “consumer testing” and “experience testing” were supported by appeals to the value of “knowing the customer” or “audience research”.

None of the websites provided references to formal research training or credentials held by their staff, but of the studios that referred to ethnography or designer-led research services, the client-experience and professional history of the designer was presented as a stand in for formal methodological or analytical training. In sections of the website devoted to the role of the designer in the testing process, the most specific mention was provided in the largest studio, who defined their designer-led research processes as “a team of curious, passionate researchers dedicated to understanding the experience of the user”.

The term “ethnography” appeared most consistently in the portfolio sections of the websites, where references to ethnographic research appeared in 7 of the 15 websites, and references to design thinking appeared in 11. Of note, the primary coding set that emerged in reference to services of research referred to “story telling”, and the development of research to, as one studio put it, “transform the stories we hear into experiences”.

“I’m not doing ethnography, I’m just designing”: Interviews with Designers

In contrast, interviews with designers provided a picture of design practice as being increasingly defined by studio-demands for the use of observational data as justification for abductive reasoning practices, or to support a solution to a creative brief that had already been determined. Designers described their practices of design and research as shifting to include a mix of “real work” and “just digging around to justify it” – and presented a variety of responses to their understanding of observational research methodologies in practice in the studio setting.

One designer, with 14 years experience in the field of branding and graphic design stated,

“We just do it, and sometimes we get to talk to real people before we do [research]. But mostly, we talk to the audience, or customer, or whoever, after we come up with our solution – you know. Just to check to see.”

Others positioned designer-led research practices as jumping-off points before the “real work” began:

“It can be super helpful to talk to someone in the real world outside before you get into your own head – we bring that back and talk about them for ages, like they were here...we use what they have to speak for them”

Respondents also focused on the incorporation of qualitative data into traditional studio practices more commonly associated with abductive reasoning aspects of design thinking. In particular, 11 of the designers interviewed described the use of personas developed through some form of participant observation (often categorized under the larger term of “research”) in their studio-based practices. They described the role-playing made possible through participant observation, and the manner in which design team members continued to use

their own performances as data for continual testing in the studio setting.

“...testing and retesting from their point of view – we can do that because we talked to them, and then we can just use their point of view in the studio too. Because we know now – we wouldn’t have known before we talked to them”.

“I can go into ...in their life they need someone who is a blank slate, who shows them what...what they need what they were really thinking. And then I carry that back with me into work, I can be them for a bit when I’m making, I’m deciding.”

In each interview, respondent designers also shifted their description of the audience from that used by the studio setting (a customer or market, for whom an ideal fit can be found in the design solution) to that of a participant in the design process, albeit an unacknowledged one. Those observed were described as “sources” or “fertile ground” for new ideas, and credited with “showing us a whole new side” of how a design solution could be reached. The descriptions of the generative function of observational research in the design process extended to metaphors around “mining” and “extracting” truth-values from participants for storage inside the designer’s mind and use at a later point in the studio based phases of the project.

Designers described their lack of training in observational research methods (“god it is awkward. I mean what are we even doing? Just stalking? But I guess it can work”) sharing stories of frustration with the demands of the audit culture of the studio that requires fully informed research based on observational fieldwork, but presents few billable hours for untrained designers to conduct this research labour. Designers also described their use of preconceived structures and routines of practice (Ryan and Peterson, 1982) in both the creation of initial design solutions, and the conducting of what they determined to *count* as ethnography:

“I mean, its not like they are from space. We already know about their world. Someone just goes out there, spends some time, get some confirmation, and then we already know we are on the right track.”

“The brief is already there, and we already know the user. The client already knows what they want. We have to find a way to get them into a future space where what they want isn’t what they want today. So if we can talk to some people, that helps.”

“If I can say I talked to, if we have their backup, with the audience, then we can get the client to buy in faster. Accounts like it too – less talking, less of “why” and “how will it work” and more of “yes, if they say so”.

Responses such as these highlighted the ways that designers negotiate both the studio’s audit culture and the structure of their own role. When asked about the role and purpose of the research methods they employed in their own creative work, respondents focused on the corroboration of brief details, the conditioning of client expectations, and the confirmation of a design solution’s validity.

When designers who used the term “ethnography” to describe the type of work they were being tasked with implementing were asked about their understanding of the method, only one of the 27 was able to provide a definition beyond a description of conversations with audience samples selected and established by the studio’s account team. In general, descriptions of what was meant by “ethnography” (or, in two cases, “design ethnography”) focused on the use of “storytelling”, “focus groups” and “hanging out”. This may not

contradict an understanding of ethnography held by members of the EPIC community, but does indicate a fairly shallow dive into the larger methodological pool.

Perhaps most interestingly, the descriptions provided by designers of their use of participant-observation methods in design practice focused on the ways in which their negotiations of the studio structure, and the studio's promotional rhetoric shaped their research work.

"It's not like you can always do it. Sometimes you just have to bill it, and dig from something you've already done. We're usually able to come up with something in house that works, gets accounts off our back."

Respondents told stories of re-using existing research documentation for multiple clients, or repurposing findings in order to confirm the validity of design solutions as a way of negotiating the limited billable hours accorded to designer-led research of any kind, and the attendant high value placed on the findings by the accounts team. Of the 27 interviews analyzed, 22 presented coding related to a lack of understanding about how respondents could "go deeper" while acknowledging the value of conducting in depth research work.

ANALYSIS

In comparing the promotional rhetoric of design studio websites, and the personal experience of individual designers, a tension emerges: *design studios* present research, particularly observational research, as the foundation upon which creative decisions are made. But *designers* present the use of participant observation and design ethnography as, at best, an addition to an already established creative process and, at worst, a process of corroborating brief details, conditioning client expectations, and confirming design solution success. Based on the overwhelming references to the use of design research and design ethnography as a market differentiator by the studios, and the familiarity of designers with the importance of the process within their own work, the question is clearly not "is design ethnography useful and important". Instead, these findings prompt us to ask, "what are designers really doing when they are doing designer-led research"?

"We Just Look Around a Bit": Critical Reflections on the Implications of 'Designer Driven' Ethnography.

The visible gap between the epistemological positions of ethnography, and those of design ethnography, or designer-led research forms is made evident in these interviews with designers. In the interview responses, we see marked differences in how designers select whom and what is studied, their methodological approach, and the goals of their inquiry. Though traditional ethnographic study would position knowledge as something that has to be personally experienced, designers appear to interpret their practice as the collection or acquisition of knowledge, and its internalization. In addition, designers report the objectification of their research subjects – suggesting that their ontological reality differs slightly, if at all, from that of the designer-researcher. Though designers appear to adopt the holistic, iterative, constructivist and socio-culturally focused epistemological imperatives of the ethnographic approach, they appear to reject the use of thick description, or the requirement of etic validity in coming to understand their object of study. One could argue

for the value of the emic approach enacted by designers: by assuming the perspective of their community of study to the extent that they are able to embody it through empathic approaches, designers take on an extreme form of what Whitehead calls “emic validity” (2004). But the lack of investigations into behavioral context, and the privileging of behavioral acts over their linkages presents a stark contrast to epistemological assumptions that Boyle (1994) suggests are often shared in larger ethnographic communities. This begs the question: if designers engage observational research methods not founded on theoretical frameworks but on the satisfaction of the creative brief, are they doing ethnography at all? What aspects of their methodological assemblage move their ‘design ethnography’ investigations beyond qualitative data collection, and into ethnographic territory?

Bringing The Field Into The Studio: The Adapted And Hybrid Research Methods Of Designers

This comparative analysis suggests that the lacunae formed by these contrasting but co-existing forces in design practice hides a new form of observational and interactive design thinking. Designer respondents demonstrated the ways in which they mobilized ethnographic methods to justify or generate abductive thinking practices, retaining the interpretive phase of ethnographic work and reconfiguring methods of observation and documentation beyond the suggested alterations to intent essential to the difference between design ethnography and its more traditional method forms. Analysis of these interviews and the overarching promotional audit structure of the studio suggests that as a result of the tension between the rhetoric of studios and the practice forms of designers, a new hybrid methodology is developed – one in which designers do not engage in ethnographic methods in order to achieve empathy, but rather substitute empathy for ethnography and formulate an adapted hybrid approach to ‘design ethnography’ through a three-part model of praxiography, performance and proxy audience membership. This three part model bridges the understanding of the user as presented in human centered design and user centered design models with one presented in ethnographic methods, repositioning the user not as a model or template to be fitted to with a specific market offering, but rather as a participant in the creative process made real either by collaborative involvement, or through their designer in the role of proxy.

Though designers may be untrained and uninformed about traditional conventions and values of ethnographic practice, it appears that a hybrid form of embodied research is emerging as a result of necessity: the review of the studio rhetoric provides ample context for the ways in which designers are required to engage in observational and participatory research methods in order to satisfy the customer promise, and these requirements have thus shaped the way that designers negotiate and engage ethnographic methods in their work. In this way, what designers are doing could be further understood as a form of applied observational design thinking, or empathy centered design, rather than traditional market-factor and innovation driven creative process.

Kimbell suggests a critique of empathy focused aspects of “design thinking”, suggesting that though designers are positioned as interpreters of what end users need, and though they are tasked with the use of ethnographic methods to help them develop empathy with situated actions and perspectives of users, designers themselves are not trained to examine

issues of reflexivity, their own theoretical and political commitments, or the ways in which these commitments and perspectives shape their research findings (2011). As she suggests, this complexity manifests itself in the ways in which design thinking fails to reference wider theories of the social, or to illuminate the context of the design intervention.

Though ethnographic methods have become reified as the “unseen key to user’s needs” (Tunstall, 2010) the comparative analysis of both the interview data from designers and the promotional materials of innovation focused studios suggests that designers achieve empathy with users, and develop innovative insight not through the “design ethnography” so celebrated in writings from the field (Dishman, 2003; Laurel, 2003) and in promotional materials generated by studios, but through a unique methodological combination of performance, praxiography, and proxy audience membership developed in reaction to the requirements of the studio structure. The findings from the comparative analysis of the designer interviews and the studio website content shine a new light on the way in which designers negotiate and challenge – in essence, make use of – ethnography in their work: answering the question of how embodied research forms reconfigure conceptions of who is licensed to act as a participant, how data is collected and used, and even the focus of observational field work itself. Analysis of these findings concentrates on these three hybrid practices introduced by designers that serve as altered or negotiated embodied research forms.

Shifting the Boundaries of Participants: The Designer as Proxy Audience Member

Analysis of the tensions between the studio rhetoric and the designer’s self described practice highlights the unique and creative ways in which designers engaged in documenting their observations for further interpretation. Contrary to traditionally understood ethnographic practice, designers were not using sketchbooks or other codified forms of field notes, but were instead treating their observations more akin to a form of method acting: immersion in a character that could then be summoned at a later date, with the designer standing in as proxy. In one interview, a designer shared that

“...you only have to talk to one grandma to know about how to think like a grandma. I mean, here, watch: I’m 88, I wish I was more socially engaged, I have limited mobility, I like tea. See? I can be the grandma now for everyone”.

When prompted to examine this move in more detail, specifically in reference to how designers record their observations for later use, the same designer shared that “You don’t record, you just learn to be them. Then you can use it”. By assuming the role of proxy audience member for future stages of design work, designers are able to limit the amount of time spent in the field while maximizing the value of their findings throughout the design project. This has clear implications for bias, assumptions, and value of the research itself. However, it emerges as a hybrid born of compromise in the daily practice of designers in the studio setting. The use of the proxy (or surrogate) audience member is a common trope in the development of conventional narratives – in fiction an audience proxy is permitted to advance a narrative both by asking the questions that the audience might have, and by serving as a mirror for the projections that the audience might feel. The development of the proxy user appears to serve the same dual role in both the generation and interpretation of findings for designers engaged in embodied research or empathy centered design, allowing

the user or audience to project their needs onto the designer as blank slate, and for those needs and beliefs to be re-projected in the studio setting through the vehicle of the designer.

“She Did It Just Like This”: Replacing Data Analysis With Performance in the Studio

As Conquergood proposed, and as has been taken up by leading voices in the field of contemporary ethnography, the delivery of ethnography in the form of performance is not only radical, but it can be additionally transformative. The field of design may have skipped the initial step of the textual encoding of a culture, and moved immediately to the performance of their interpretive work: findings from this comparative analysis suggest that designers use acts of performance, or as Dishman has suggested, “informance” or informed practice (2002) to recreate their observations for the purposes of interpretation and analysis in the studio setting. In this way, the performance of observational data replaces the data itself, with the performance of the designer in the studio space made repeatable and replicable for further analysis. “We want to know how they do it” was a common response found in the interview data – in this hybrid model of design ethnography performance appears to play a key role in the extension of fieldwork into the studio space.

Observational Design Thinking: A Praxeographical Approach to Designer-Led Field Work

Findings from this study suggest one final bridge or shift from traditional ethnographic methods to a hybrid designer-led embodied research form. Instead of focusing on understanding a culture, designers instead reported following a practice – a method akin to praxiography rather than ethnography. In interview responses, designers indicated that though they knew that the expectations of the studio space was that they provide a “deep dive” into the culture of their audience, their actual research work focused more on the practice at hand, and the entanglements of what Shove describes as “images, skills and stuff” (2012). In examining how audience members interacted with material forms through embodied action, in reaction to social conditions, values and expectations, designers demonstrated reliance not on ethnographic methods, which were being sold by the studios, but on praxiographic ones (Mol, 2002). Though design studio websites used terms referencing the importance of the audience or user culture, and though promotional rhetoric positioned the designer as either the researcher, interpreter/translator, clairvoyant or evaluator of this culture, designers appear to satisfy the requirements of their creative brief by focusing on practices and material influences, following the practice form through its career and not the culture as expected in traditional ethnographic forms. This, though complicating the ethnographic approach, aligns closely with the practice-oriented and situated design methodological proposals issued by Scott et al., (2012) and Simonsen et al., (2014): hewing closely to more contemporary approaches encouraged not only in design studies, but also in social theories of practice (Shove et al., 2012).

CONCLUSIONS

The findings from this comparative analysis are, perhaps, not news to the design community – recent advances in design studies have advocated for this very practice-theory informed approach (Kimbrell, 2011; Julier, 2012; Shove, 2012). However, the tension that exists between the rhetorical promises made by studios and the lived realities of the ‘design ethnographers’ on the ground suggest the existence of an emerging form of applied observational ‘design thinking’.

The rejection by designers of the epistemological assumptions of ethnography – including their approach to how best to understand their community of study, and how best to contextualize and theorize their findings – forces the question of whether design ethnography is indeed ethnography at all. By adopting what can be understood as a praxeographic approach to end-user research based not on observations of Geertz’ web of culture (1973) but rather on engagement with audience practices defined by the triangulation of the material, social and corporeal (Schatzki, 2012), designers appear to have bypassed the requirements of thick description, contextual understanding, or participant subjectivity in favour of needs based qualitative methods focused on the satisfaction of a creative brief (or worse – an account team). By employing a hybrid methodological assemblage based on the triangulation of the assumption of the role of proxy audience member, acts of interpretive performance and a praxiographic focus, designers satisfy two key goals: the justification and quantification of abductive thinking practices, the repositioning of the participant in their observational field work as an ongoing resource for idea generation.

With this in mind, what is to become of design ethnography? Is it to remain a promotional description of qualitative research and observation based design-thinking practices engaged by designers? Or will the methodology evolve in ways that bring it closer to the epistemological assumptions of the larger ethnographic community? Redefining what it is designers *do* when they do ethnography serves to expand the market/product/fit view of the role of ethnographic engagement in the design of services, brands, experiences and visual communication, presenting a new way of understanding both the practice and the value of the embodied research form designers are building. A focus on this aspect may shine a light on how design ethnography allows for a new interpretation of fieldwork: achieved not through the insertion of the designer into the field, but the field into the studio, thus creating a further bridge between us and them.

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The Anthropology of Wearables: The Self, The Social, and the Autobiographical

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A wide range of new digital products lumped together under the category of 'Wearables' or 'Wearable Technology' raises fundamental questions about the way we think about our individual bodies and the species Homo Sapiens. This paper traces three different relationships to what are called the 'wearables' and extends the notion to cover all material technologies that mediate our relations between various embodied practices and the world, and beyond pure 'hi tech' products. Therefore, this paper develops a general cultural approach to wearables, informed by empirical examples from the US and China, and ends by mapping valuable design spaces for the next generation of digital technologies that are getting closer to our bodies and our skin, even venturing beneath it.

WE, THE CYBORGS

As proclaimed by Donna Haraway and other cultural theorists already in the late 1990s, the cyborgization of modern people is taking place at full speed (Haraway 1991, see also Hayles 1999). Technology is getting closer to our bodies, to our skin, and venturing beneath it. The inherent technological promise of making our lives and ourselves better, whatever “better” may mean, has led us to become reliant on novel gadgets. Consequently, we have granted technology unprecedented access to actions and relationships in our day-to-day life and even use them to reconfigure our bodily practices. One of the running claims is that the “effective traditions” of the embodied self (Mauss 2006) – culturally informed practices of the body from sitting to running, from worshipping to workshopping – are being reshaped by a set of technologies collectively dubbed as ‘Wearables’.

The wide range of new digital products, today lumped together under the category of ‘Wearables’ or ‘Wearable Technology’ (Ryan 2015) has come to question the way we think about our individual bodies and the species *Homo Sapiens*. On the one hand, the question about the value of Wearables in general links directly back to the individual body and how might they be augmenting, alternating, extending bodies’ natural capacities to act and to be affected. On the other hand, altering the capacities of an individual body within the larger context of the globalized, digitalized and uber-capitalized society is raising concerns about large scale social engineering. Thus, the questions about biopower and social governance resurface in a new context. (Lupton 2014; Ruckenstein and Pantzar 2015; cf. Foucault 1990.)

This is why Wearables touch upon ideas of what it is to be properly ‘human’ and where the boundaries of humanity lie. This is not a question that should, or for that matter ethically could, be answered only from the perspective of the ‘users’ of wearables, even if users have already started small scale revolts against wearable device manufacturers and their data

practices when they are perceived unfair (Nafus and Sherman 2014). Rather, the question about Wearables requires much more analytical reflection informed by an anthropological and cultural approach that is not reduced only to quick empirically driven user research and the optimization of user experiences. To put it in more concrete terms, Wearables (whatever individual technologies we might count into the category) pose central questions about the role of material technologies in our lives: why should we want to modify or augment whatever capacities we have as human beings today, which capacities do we want to modify, and why.

For example, when introduced, the Apple Watch promised to nudge the (assumed office worker) wearer to change positions every 30 minutes, literally promoting the change of bodily practices of its wearers. Within the Quantified Self movement, in turn, users are measuring everything from sleep patterns to quality of air, the data gathered allowing them to change their behavior in order to self-optimize. With computational power attached to many of the things we wear and embed into our bodies, we are well on our way to complete the envisioned cyborgization of the species *Homo Sapiens*.¹ The rise of the ‘wearables market’ brings this blurring of boundaries between human and technology to everyday consumers. For example, it has been recently estimated that in 2020, 411 million wearables worth 34 billion USD will be sold globally, with wrist-based devices such as smartwatches and fitness trackers dominating the market (CCS Insight 2016).

Thus, the promise attached to this category of products, (and the sheer volume of them in the market today), we believe, make Wearables a major technological driver encapsulating a techno-determinist ideology determined to change human behaviors across the globe. This is exactly why the question of Wearables - what they are, how we should think and live with them - we maintain is really a philosophical, political and ethical question about the future visions concerning the human being with augmented bodily capacities, both at individual and species levels. Thus, if we want to alter or augment the human through wearable “techniques of the body” then do we have an implicit (or explicit vision) about what is the ‘human’ that we are trying to augment, why we want this change it, and through which technological means we aim for it.

Of course, this is not only a question about the nature of the embodied human being, but also a question about how we, as anthropologists, developers, designers and consultants should define ‘wearable technology’ as a category. What is at stake here are the limits of our cultural imagination, the logic of our research strategies and analytical categories used, and their fit to the human needs we seek to identify in order to inform the development of new wearable form factors, algorithms, and overall design patterns affecting their wearers in everyday life.

Our point of departure is the claim that the current academic discourse about wearables acting as our collective cultural imagination centers around wearable technologies for self-optimization, and the ethical implications that follow. Within this discourse, some argue that the commodification of big data gathered through wearable technologies such as fitness trackers tempts not only government, but also managerial and commercial enterprises to appropriate data emerging from self-tracking for their own purposes (Lupton, 2014). Others claim that people drawn to tracking are not just internalizing predetermined frameworks but instead navigating them and ending up having more ‘agency’ than the collectors of big data (Nafus and Sherman 2014; Ruckenstein and Pantzar 2015). While ethical and political issues like these are certainly important to explore, turning them into the key aspect of wearables

runs the risk of overshadowing rather than reframing the full potential of the subject. Thus, we think that while these are important studies, they might cage the sleeping cyborg in us by needlessly limiting the sphere of cultural imagination around the body and techniques of the self.

Therefore, this paper will develop a more general cultural approach to wearables, informed by empirical examples from the US and China, and will end by mapping valuable design spaces for the next generation of digital wearables. There are three specific reasons for writing this paper.

First, and as mentioned above, most of the current studies of ‘wearable technology’ concentrate on the most popular devices today – the fitness tracker and the smartwatch. There is no doubt that the learnings from these studies are important politically, ethically, and economically. Empirically speaking this research strategy also is the only way to study the latest technologies if one defines the category of ‘wearable technology’ in the way the consumer electronics industry does today. We feel, however, that the discussion needs to be steered towards more profound questions related to the category, such as how to define ‘wearable technology’, or if a reconsideration of what ‘wearable technology’ consists of is needed. We claim that we should do so to arrive at culturally informed, anthropologically sensible analysis of our anthropological present that is valuable to the developers of future wearable technologies.

Secondly, we think that this line of questioning allows us to avoid the premature closure of discussion and to remind us that the results from user study results concerning the most popular new wearable devices of today – trackers being the prime example– might not be generalizable over time as the technologies affecting our embodied being are themselves changing rapidly. Consider, for example, the latest much hyped developments around exoskeletons, augmented contact lenses, interactive skin and tattoos that are very different from trackers, and their effect on human lives are still largely unknown. We claim that opening up the category of wearables this way can lead to more open research settings in terms of the technology studied, and therefore also to more profound and long lasting insights in comparison to one that takes the current market definition (wearables as trackers) as an unquestioned starting point for the study.

Thirdly, precisely because of the two reasons cited above, we think that ‘Wearables’ should not be *primarily* defined through their form factors (technological objects one can ‘wear’) or their technical functions such as ‘tracking’ (or nudging, reminding et cetera). Instead, the question of *wearable technology* should be re-articulated in terms of the relationship they have to our bodies, social selves, and our personal identities to arrive at more useful insights about the role of these technologies in our lives.

In this paper, we will first take a look at how technologies placed close to our bodies can assume culturally relevant roles and help to mediate key relations central to our embodied being. We start this section by quickly reminding the reader that the question about human bodies and their alteration with technologies that one can wear is not culturally new. Instead, it is a question that runs deep into the essential thought processes of the Western civilization. Next, we will demonstrate how and why these relationships become important when thinking about wearables in the everyday life with empirical illustrations from the US and in China. Here, we turn away from the newest of wearables to study more ‘traditional’ wearable technologies as we argued that these will teach us important lessons about what can wearables do to their wearers, and what is expected from them. Finally, we conclude by

suggesting broad design domains for the three possible relationships wearables mediate, and discuss how these might benefit the innovation of more relevant wearable technologies in the future.

THE WEARABLES MOVEMENT RE-CONTEXTUALIZED

The ‘wearables movement’ as we witness it today started out second half of the 20th century as a science fiction dream about enhanced humanity, like so many other technological breakthroughs (Ryan 2015). The idea here was to augment human senses and capacities to act in the world, something which was driven by two world wars and the discourse of eugenics (Ryan 2015). Superheroes in popular culture paved the way for the vision of clothes and objects enabling powerfully enhanced personal abilities such as increased strength and speed (Ryan 2015). And although multiple decades have passed since the beginning of the movement, Joanna Peña-Bickley, the Global Chief Creative Officer at IBM iX, points out that science fiction remains the primary reference discourse when thinking about the category:

...when we think about wearables, and what I do with wearables, is a sense of understanding that when it comes to designing wearables, it's just not a technology... We as designers actually have to use a little bit of inspiration from our everyday lives. For me, that inspiration comes from reading fiction, and science fiction. And understanding that the potential of wearables is actually to elevate human experience.
(Joanna Peña-Bickley, 2015)

This movement has been powerful in defining many of the discussions today about what a ‘wearable’ is – a category of new products that are digital, interconnected to our body. At the same time, against this background, we should also start to question the whole category of wearables, and inherently linked to this, the idea of the whole embodied experience of the anthropos. Science fiction itself has deep philosophical undercurrents, with unexpected connections between philosophy, technology, art, and religious meditations as Eugene Thacker (2011) has recently argued with his ‘Horror philosophy’. Similarly, while recognizing this approach is not equivalent to ethnographic research, we kick-off our paper with a brief exercise in cultural semiotics.



Figure 1. Titian's "The Three Ages of Man" (1514, left) and "The Nymph and the Shepherd" (1576, right)

Titian (a 16th century Italian painter) is particularly important as a window into earlier Western thinking on man's relation to wearables. His two paintings "The Three Ages of Man" (1514) and "The Nymph and the Shepherd" (1576) mediate the nature of man across a 60 years distance.

"The Three Ages of Man" shows a nymph waking man up to his nudity and physical desire, or to a new understanding of his body. The nymph is fully dressed and holds two flutes in her hands, her light touch on man's naked body urging him to rework what it means to be human. In the second painting, "The Nymph and the Shepherd", the same characters are revisited. In this depiction, the tables have turned and it is now the man that's trying to lure the Nymph. He is now the one fully clothed and in charge of the flute, trying to seduce the now-naked Nymph and her spirit, beauty and power that go beyond the bodily presence. Behind them, the tree of knowledge is broken and withered, its decay indicating that man has used it to learn something divine. One way to interpret these two paintings is that in the time gap separating them, Titian came to a threefold conclusion about man. These three different interpretations of what it means to be human not only indicates man's relationship with other beings, but also his relation to the wearables and objects around him.

In "The Three Ages of Man", man is one with a body and bodily practices that the nymph is attempting to lure into her power. He is naked; his abilities limited to the scope his own body. With her mythological power, the nymph is trying to lure him beyond his current capacities, reappropriating his body to her wishes. Man, then, is a body waiting to be seized and enhanced by using external attributes, and according to the will of something outside of himself.

In "The Nymph and the Shepherd", man is instead understood as a being that yearns for beauty, love and imagination. He is the one wearing garments and using objects to exert power over the naked body, the nymph. In this representation of man, man is not waiting to be appropriated but instead has a more agential relationship with the world and its objects. In the years between these two paintings, Man has become what he is - a creature longing for belonging to an imaginary community of beauty, represented by the Nymph. He has

become what he is through a particular biographical development, now marked by the singularized clothing he wears as the symbol of an individual.

The final meditation on the 'nature' of man and his relationships to objects and beings emerges in the role of the clothing and flute. They are wearable (and playable) technologies of mediation building a bridge between the previously unexplained representations of man. The practice of wearing garments bridges the gap between the docile body and the agential man, between the physical world of the flesh and the imaginary world of love, beauty and desire. Through these three interpretations it becomes clear that wearable technology, such as clothing veiling the physical body and summoning the Nymph, mediate our experience of the world and other beings in it. This makes 'wearables' into something essential to human experience, and a category of technologies that is at once enigmatic yet totally defined by the relations it enables toward the self as a body, the social life involving imaginary belonging, and the autobiographical growth as an individual.

The term wearables is today often presented as a new category and taken to mean digital devices such as a wristband, clip-on activity tracker, or a heart monitoring shirt. However, as argued by Titian already in 16th century, albeit the digital aspect of wearables is fairly recent, the category itself is not. Historically, as represented by Titian's painting, even very 'basic wearable technologies' such as clothing have always been bound up with the art of *technique* - ideas, behaviours, and materials come together on our bodies so as to administer to our human condition. As Ryan (2015, Dress and Technology) explains,

“[h]istorically, from providing warmth and advantages in battle to facilitating sexual reproduction and social selection, technologies have adapted to the body to allow us to become (or imagine becoming) more agile and powerful, more sexual and desirable (e.g., the attention to sleekness was aided by the development of synthetic fibers in the early twentieth century), or more or less noticeable”.

The essence of wearables does not lie in its digital characteristics, but rather in the relationships with the world enabled through their usage. And while the current discourse seems to argue that the digital characteristics of the so called new wearable technology crafts relationships with the world that are, in essence, new, we argue that as these relationships are fundamental to the embodied experience they are less likely to change radically with the 'newest new' wearables. Thus, wearables, as discussed today, are not best defined as a new category in itself, but rather a refashioning of old categories of material technologies (like clothing, accessories and jewelry, and also sports and medical devices) that have their own historical cultural norms, occasion-specific rules and appropriation patterns, now becoming infused with digital capabilities.

EXPLORING THE THREE CULTURAL SPACES FOR WEARABLES

The previous section has explored three ideal ways for humans to be and relate to the world through wearables. These were the 1) relation to the self as an embodied being, 2) social relations of belonging (to real and imaginary communities), and 3) the autobiographical relations wearables mediate. It is important to note that every wearable and object holds the promise and potential of these three relationships. As shown, it is not the wearable per se that is the deciding factor, but rather the motivation behind the usage of it. This opens up

for the possibility of fluidity of the relationship; a wearable can fit into multiple categories at once. This section aims at illustrating and further exploring these relationships through a theoretical discussion, as well as empirical examples gathered throughout three projects in China and the US between 2013 and 2016. These projects have been studying the most traditional wearable technology categories: clothes and luxury accessories. As previously argued, this kind of cross-project fieldwork data is suitable for the purpose of exploring wearable technology, as the category of wearables should not be defined through the form factor or function of the technology, but rather through the different relationships technologies have on the body, the desired social community and the sense of self as an autobiographical being.

Wearables as Technologies of Discipline and Control

Interestingly enough, currently only one of the three relationships outlined above is mirrored in the popular wearable technology of today and in the industry vision for the future (PSFK 2014). This centers around wearables as technologies of discipline and control, following the trajectory around self-enhancement that the first sci-fi enthusiasts set in motion.

Here, ‘optimization’ of the self, based on meticulous calculation of the data generated by wearables tracking different aspects of the self and translating this into numbers, allows for a new kind of experimentation on one’s own body (such as the Quantified Self movement or biohacking). This encapsulates the ideological underpinnings behind the popular wearables such as Fitbit (see Ruckenstein and Pantzar 2015).

Consider, for example, the following example. In 2016, Mike, a 50 year old man living in NYC, during an interview by the first author, commented on the Apple Watch on his wrist. He was lamenting over the fact that one of the key functions of the watch did not work: “I wish it did something to me, would get me to train more. But it’s mostly good for checking out time and silencing incoming calls”. To Mike, the Apple Watch was constructed as a commitment to an augmentation of the body, yet it failed to instill the bodily discipline he was lacking even if he was open to the idea inscribed in the watch.

The lack of change in lifestyle that Apple Watch promises, similar to the findings from other studies (see e.g. Pizza et al 2016), is to us, not the most important point of his comment. Instead, the comment reveals something important about the relationship between the wearable device and the wearer, namely that idea of optimization of the flesh effectuated from outside is about technological mediation of the fragile link between morality and the body. As proved by Titian’s first painting, this way of relating to our surroundings is not new. Indeed, throughout history, the technologies of dress have adapted to the body to enable enhanced, or at least perceived enhanced, personal attributes (Ryan 2015). The self put forward in this interpretation casts wearables as a predetermined framework that appropriates the individual’s body in order to enhance it. Sensors and self-tracking options enable the individual to measure almost any aspect of his or her daily life. This new form of body is shaped by the ideal of keeping fit as proof of mental discipline and the capability to perform in challenging knowledge economy jobs. The augmentation of human capabilities is highly supported by functional tracking wearables and will no doubt be successful and transform what we think about our bodies and our humanness in terms of corporeal possibilities; in essence changing our understanding of physical labour, wellbeing

and health and tasks requiring extra senses. However, clearly, in this case, the Apple Watch did not live up to this promise, to the great disappointment of Mike.

An example of a slightly different type of optimization relation mediated by wearable technology is provided by Sam, 30, a practicing American Sikh living in Los Angeles. For him, wearables not so much represented the idea of bodily self-enhancement. Instead, he showed us the silvery Kara bracelet worn around his wrist. The Kara bracelet represented a specific type of wearable used within Sikhism as a consciousness activation tool. Sam told us that “it keeps me handcuffed to God, keeps me on the right path, it’s part of me always”.

The idea behind the Kara bracelet is to morally steer the wearer and to guide them through life in accordance with the religious beliefs promoted by Sikhism. For Sam, bracelet thus operated as an ever-present tool for moral guidance and direction, making its users adhere to a predetermined framework set by Sikhism as a religion. Again, this non-digital wearable bracelet was mediating a moral relationship between his embodied self and its weak flesh and God’s superior will, imposed from the outside and mediated through the Kara he wore on his wrist.

Finally, throughout our different projects in China and the US, people often return to the issue of dressing as technologies of control as the standards for certain occasions are set by someone else. Consider how in 2013, Dione, a 31-year old public health worker living in San Francisco, described that she is only starting to understand how the dress game is played in professional context:

I was always really good at my job, but I wouldn’t advance and I wouldn’t know why. I think it took all of my 20s really to realize that impression management is a thing, and people judge you on how you look at work. I think my style is kind of funky outside of work, I try to tone it down at work.

She loves color but she wears more muted tones to work. She only wears natural toned nail polish and stays away from cold colors, usually gravitating towards warmer ones. She says that in order to get a sense of what to wear, she looks at what her colleagues wear.. However, she has lately adopted the saying “Dress for the job you want, not that job you have”, and so even if she is at a lower level, she makes sure to exude professionalism and look like she could be higher up. For her, clothing thus becomes the wearable technology for augmenting her appearance to adhere to a predetermined normative framework. A similar story was shared by Chao, a 29-year old woman working in the clubbing industry in Beijing:

The clubbing industry is really dominated by men, when they see me they often think that I’m just one of those party girls that ended up working in this field because I was some DJ’s groupie. So I try harder to portray myself differently... I wear smarter clothes with them, I act with more determination... to show that I have that business sense and I know what I’m doing.

Chao uses wearables to prove both what she is and what she is not, using it as a disciplinary marker to differentiate herself and measure up to the standards of a particularly male-dominated field of work where femininity is constructed as being in opposition with business sense and hard knowledge. In these examples from China and the US, clothes are not worn only to augment their bodily appearance to fit into expectations set by their various

fields of work, but also to measure up to standards of femininity required to be regarded as attractive and fitting for romantic interests. However, the romantic ideal is in stark opposition to the standards of professional work. Where wearables in work culture is used to enhance stereotypically male attributes, the romantic ideal plays on ultimate femininity.

Through these illustrative examples we can see how wearables work as *technologies of the self* (Foucault 1988), enabling individuals to transform themselves in order to (try to) attain perfect self-optimization. In this respect, wearables become an instrument for the individual to perform ethical work on him- or herself through “monitor[ing], test[ing], improv[ing] and transform[ing]” the own body (Foucault 1986:28). It also becomes apparent that within the category of wearables acting as objects of discipline and control, there are three types of (sub)disciplinary domains. The first is about wearables as objects of bodily discipline; increasing for instance strength and endurance through various tracking devices that allow (or not) for the creation of a new link between the body and the optimization ideology. This is the domain where the wearable technology of today currently positions itself. The second domain represents wearables as objects of moral discipline, enabling certain actions due to a set frame of for instance religious beliefs, and preventing others due to the same reasons. The third disciplinary domain tackles the issue of wearables as objects of social discipline, which is where what has traditionally been seen as wearables have a strong presence in enhancing the certain features of the wearer’s self that are constructed as desirable in a specific situation. These three domains all articulate a relationship between the wearable and the wearer as a dominating one. Here the wearable technology mediates existing cultural ideologies and exerts cultural power over the wearer’s body and mind from the ‘outside’ – much like the Nymph in Titian’s first painting.

As previously argued, while some types of wearable technology clearly provides a new context for discussing issues of biopolitics, to truly understand the interrelationship between wearables and the human way of existing in the world requires to us look at the category from a broader scope. Hence, we will now reflect upon wearables from other perspectives put forward in Titian’s paintings to further explore the category and its potential for innovation.

Wearables Mediating Love, Imagination and Belonging

Compared to Titian’s two paintings, wearables make out a tension between Titian’s first depiction of man as being appropriated by wearables and the second idea of man in control of his own destiny. This more mature, grown-up man is taking part in a symbolic system where, even though it’s an interplay of production and reproduction, the individual has power over the wearables and uses them in the re-creation of the self in a *pursuit of belonging*. One way to operate within the logic of this new form of mind is through curated, cultured consumption such as fashion. While fashion in an urban context might seem to be about clothing and accessories, however, as proven, the physical attributes are not the primary point. Instead, fashion is about the imaginary sense of belonging, combining different attributes to enable and execute self-expression as a member of a desired social group. It is a habitual layering on the body, an agent-structure negotiation of social identity and class (Bourdieu 1977).

One could argue that the self-optimizing wearables of today are already forming communities. Many self-trackers view themselves as part of a bigger community in what

Lupton (2014) calls ‘communal self-tracking’, thus generating a new form of biosociality through communities emerging around new biological identities (Rabinow 1992). However, the primary goal remains to acquire personal benefits rather than being part of a collective (Lupton 2014). In comparison, the pursuit of belonging in Titian’s second painting refers back to the individual movement ‘outwards’ from him- or herself toward a collective rather than the shaping of the body through external ideologies or forces beyond his or her control.

According to Baudrillard (1981), consumer objects have no meaning in themselves, rather, they acquire meaning from either their social order, their relation to either people or other objects. Wearables are part of a symbolic value system and adhere to the logic of *bricolage*. This means that despite the nature of the symbolic community (e.g. sports or medicine) and the type of wearable supporting it, people fashion technologies to their own life and own needs, and to their own ideas about the self they want to express (Kaplan, M. 2015). This is done through combining and recombining a limited set of wearables, depending on various reasons such as personal values and economy, to come up with new ideas and ways for self-expression and self-differentiation. In this way, wearables become entrance points to what Benedict Anderson (1983) calls ‘imaginary communities’, communities created by mental imagery of affinity. Wearables thus become part of a system of other wearables on the body of the wearer, but also a symbolic system to which it grants access.

This type of relationship between the wearable and the wearer is exemplified by Yao, a 32-year old HR manager living in Beijing, who proudly showed the first author a padded jacket in bright colours when touring her house. Upon showcasing the jacket, she explained: “This is my tailor made jacket, I wear it when I go on these bike rides with my friend. He has a Harley-Davidson”.

Ying uses her jacket for self-expressive reasons, becoming a part of a symbolic community with certain values and preferences. In this context, the jacket marks a social belonging to a Chinese rendering of a Harley-Davidson lifestyle. Ying has chosen this community herself, giving her the agency of choice and power to influence the community she is entering through the wearable.

Another example further illuminates the inherent symbolic potential in all wearables. Chao, the woman who used particular kind of look to gain respect in the clubbing industry, also repeatedly emphasized how different she is compared to the average Chinese woman of her age, and how she signals it when she wants to: “I think I just wanted everyone to know that I was different, so I was even purposely acting crazy, just being completely crazy – who else would wear these kind of necklaces. No one!”

This notion of wanting to stand out was also reflected in her choices of necklaces and other accessories; she had a preference for vintage ones since they signaled her uniqueness. Through the vintage wearables, Chao is able to symbolically display her lifestyle and personality. Interestingly enough, although vintage wearables could certainly guarantee entrance into an imaginary community, it is a community that, for Chao, centers around standing out from the crowd, not being a part of it. Thus, vintage wearables, in this case, grants access to a community that works on the logic of expressive dissimilarity rather than likeness.

As proven, wearables, like all other objects, already have the inherent promise of opening up to social systems and imaginary communities. Hence, we argue that instead of adhering only to the goal of self-optimization and tracking, there is great potential for

wearables to explore this culturally relevant space, where a number of ‘old wearable technologies’ already mark its boundaries (e.g. fashion garments). The space of belonging and imaginary communities present a largely untapped potential for ‘wearable technology’, even though some companies have tried their wings here (e.g. Intels’ MICA bracelet) and failed.

However, it is crucial to note that when playing in the predefined symbolic field where fashion has long been in the game, the design of wearable technologies - or any other technologies for that matter - needs to adhere to the same symbolic logic. In order to do so, there are a number of obstacles to overcome for wearable technology, such as creating easy customization of hardware (Kaplan, K. 2014, 2015). Although the smart textiles market is expected to grow at a CAGR of more than 30% in 2021, the growth will be restrained by the high cost of production (Research and Markets, 2016), and needs solve the problem of how to make technology stretchy and flexible on the wearer’s body (Kaplan, M. 2015).

While wearable technology provides plenty of functional value in terms of self-optimization, it fails to adhere to the norms of fashionable dress as they support an instrumental view of the individual rather than playing around with the fashion norm of changing every season (Ryan, 2015). When failing to accommodate to the logic of fashion wearables become an obstacle in the system. This forces people to rethink all the choices that go into composing a look, in contrast to how smoothly the system runs when everything is operating according to its logic. In order for wearable technology to be able to truly work within the system of people’s everyday lives, it needs to resolve these obstacles, and acknowledge their potential to work as entrance points into symbolic systems of value. Thus, the design philosophy cannot solely rely on perfecting functionalities – such as heart rate or movement tracking – the way most popular wearables now do, but needs to offer clear symbolic value beyond functionality (whatever that might be). However, it is crucial to note that adding symbolic meaning does not lessen the importance of the technology; neither one can be lacking in order for the wearable to succeed. Note that this does not mean that every technology brand is believable as a creator of fashion. While there are examples of functional wearables stretching into the domains of fashion (the perfect example being the athleisure trend), there is usually a need for a strong social and symbolic capital to transcend the functional connotations of technology in making it socially aspirational. To take a more holistic approach to innovation, designers of wearable technology need take the symbolic world they want to be a part of as a starting point, rather than taking inspiration from the functional (or technological) cues that the category currently presents.

Wearables as Autobiographical Objects

The third relationship which we urge the category of wearables to explore is, from an anthropological perspective, the most fundamental one. Here objects work as containers for personal value and affection. This makes the objects stand the test of time, increasing in value as it progresses. Wearables that are autobiographical surround ourselves as they become companions to our emotional lives and provoke thought over extended periods of time. These two familiar ideas are brought together in the notion of singularized technological objects (Kopytoff 1986, or ‘evocative objects’ as Sherry Turkle 2007, calls them). These objects embody thoughts, memories and feeling for a relationship they stand

for as technological tokens. Seen in this light, some wearables come to represent and embody love towards a singular person or object, a technology of relationship, continuity and emotion; the wearables become an object to manifest a coherence of the self. This personal valuation also makes these objects escape the objective commodity pathway. Autobiographical wearable objects primarily gain their power from the specific situations and given circumstances enabling them to enter into the life of their owner and to stay in possession. This can be exemplified through old objects and heirlooms which are already singular, evoking memories and particular emotions. However, new objects can also become evocative or personal, through singularization processes and their relationship with the user or owner. This then marks a shift in value from economical to affectional, and a withdrawal from the market (Appadurai 1986; Kopytoff 1986). While heirlooms and antiquities might be the first artefacts that spring to mind when thinking about autobiographical objects, brand such as Patek Philippe, the Swiss luxury watch maker, proves that it is possible to manufacture wearables with perceived almost inherently timeless qualities. This is of course supported by both actual long-lasting functionality and branding, the slogan being that “You never actually own a Patek Philippe, you merely look after it for the next generation” (Patek Philippe 2016).

In Turkle’s (2007) notion of evocative objects, they are explained as symbolically taking the owner with them on a journey. For Yao, a 35-year old living in Beijing, one item in her closet was used to literally accompany her on journeys. As the first author toured her home for a fashion objects in 2013, she opened her closet, taking out a straw hat with a black-and-white ribbon. She exclaimed: “I love this hat! I wear it on holidays and it makes me feel happy and free”. When buying the hat, it had probably just been one of many, attracting Yao through either its functional or aesthetic features. However, through using it year after year, and always on her holidays, it becomes inscribed with personal meanings of happiness and freedom. Even when on its shelf in the closet, it works as a point of reference, a straw clad reminder of carelessness and *joie de vivre*. Thus, this hat becomes a wearable technology that links her back to her prestigious happy memories over the years. The hat, for her, is an autobiographical wearable, a container of the key moments in her personal history – this hat is a wearable technology of memory and feeling that mediates between her present self and all the happy selves of the past.

Current digital technologies have fast replacement cycles because of rapid development of processors, sensors and battery technology. This leads to technology becoming obsolete within a few years. Wearable technology thus becomes devalued with regards to two aspects of singularisation. Firstly, compared to timeless pieces such as classic watches or jewelry, current wearable technology has a short life span – too short to become autobiographical. As the lifespan of current wearable technology (trackers, watches) is comparatively brief, this type of wearables never has the chance of becoming evocative objects. Secondly, current wearables remain commodities they lack the power of being made singular and withdraw from the market, especially regarding the value judgements and comparison to other objects currently in the market place. Moreover, in a networked society it is also hard to inscribe personal meanings and affections in objects that are always on and connected to other devices – the ‘individuation’ of the device proves extremely difficult.

The rapid temporal cycles of current technology have profound environmental impact, giving rise to the term *techno trash*; “the environmental brutality of planned technological obsolescence and conspicuous technological consumption” (Hogan and Zeffiro 2015). From

this perspective, all technology is designed to be trash(ed), leaving a major trauma upon the earth (Hogan and Zeffiro 2015). Indeed, the notion of the Antropocene implies that we are, for the first time in history, living in an epoch when human activity is significantly impacting earth's geology and ecosystems. Haraway (2015) emphasizes that this impact is created first and foremost by capitalization of resources rather than by humans in and of themselves, and proposes that the Capitalocene might be a more fitting name. Although one could certainly argue for it being a consequence of human life, Haraway (2015) sees capital as the major driver in the current epoch, which forces researchers to rethink the starting point of the period.

The notion of wearables as autobiographical objects is thus profoundly linked to sustainability and a continual relationship with the same technology over an extended period of time. When designers and engineers can overcome the previously mentioned technological obstacles, we strongly believe that there is an untapped potential for wearables to be further explored through this notion. The issue of how to embed a sense of familiarity in technology has already been somewhat explored in the notion of 'calm technology' (Weiser 1995), where one of the three prerequisites is similar to that of Turkle's (2007) evocative objects. This feature centers around technology transmitting a sense of familiarity to the user, allowing an awareness and sense of continuity with the of past, present and future surroundings. The sense of familiarity and comfort is further investigated through wearables such as Tjacket, a wearable technology vest that provides its wearers with customizable deep touch pressure that calms down sensory seeking and/or sensory over-responsive people (Tjacket, n.d.).

Wearable technology as autobiographical objects is a sustainable design space that is opening up new meanings and potentials of how the category can evolve to enable people to better understand and situate themselves in the world. We hope to see a near future where wearable technology is able to take a cue from Patek Philippe (2016), urging its users to let the wearable enable the wearer to "begin [their] own tradition" and once again let 'the next generation' be framed within the trajectory of the family and interpersonal relationships, rather than the newest update in a product line (Hogan and Zeffiro 2015).

SUMMARY: RETHINKING WEARABLES THROUGH THREE KEY RELATIONSHIPS

We have argued that anthropologically informed, ethnographic inquiries into 'Wearables' enables us to build cultural taxonomies that are relevant in thinking new ways to innovate within the category. More generally speaking, new perspectives and cultural taxonomies formed through ethnographic research are valuable as tools for innovation, as they help to reframe key questions of the category in new ways – in people's terms. As such, they challenge normal innovation practices focusing on technological functions and forms by redefining the design targets around what people find relevant and valuable in contrast to innovating around products and features. These new culturally relevant design targets, exemplified here by our three spaces for wearables, are valuable for:

- *identifying* future product directions,
- for *diagnosing* high dropout rates for wearables by examining behavior around adoption,
- or for testing product functions in context and setting culturally relevant testing criteria,
- and, last but not least, for doing product planning, roadmapping and cultural portfolio optimization based on these taxonomies.

Thus, we have argued that the category of wearables should not be defined through its form or technical function to truly innovate within the category. Instead, the essence of wearables stems from the relationships mediated between wearer and the world, and between the current and past selves. We claimed that wearables take on three relations in relation the embodied self: as technologies of discipline and control (bodily, moral and social), as technologies marking social belonging and desire, or as technologies of autobiographical importance. Articulating the question of ‘wearables’ through these domains helps to see that wearable technologies have already today much broader roles than previously defined, creating a taxonomy of relevant cultural spaces that can be turned into new innovative design domains and briefs (see table 1, table 2 and table 3). This is a way to turn anthropological insight gained through ethnographic research into a tool for category innovation, and to set the direction for future design spaces. These new design spaces are not only great sources to front-end innovation teams as they describe valuable cultural practices but also work as more structured design briefs for R&D and product planning teams who seek new tools to go beyond product function or technology led innovation agenda setting.

Table 1. Wearables as technologies of Discipline and Control
Summary of mediated relationship and design implications for innovation

Typical functions	Bodily discipline: tracking, reminding Moral discipline: Social discipline:
Symbolic jobs-to-be-done	Becoming the fullest you, fitting in and feeling "worthy", being an able individual in the specific context
Overarching design drivers	Optimizing the wearer through augmentation and/or nudging
Traditional wearables examples	Sportswear, shapewear, posture wear, Kara bracelet, shapewear, work uniforms
Wearable technology examples	Trackers, Google X Labs smart contacts, HoloLens, Chromat Aero Sports Bra
Temporal cycle	Industry: Cycle lasts until the function of the wearable is no-longer working or up-to-date Learning curve: most people stop when they have accessed enough knowledge about the topic the wearable is being used to
Design implications for potential technological aspect of the wearable (functional requirement + possible use cases)	<p>Functional implications:</p> <ul style="list-style-type: none"> Technology that is focused on optimizing function: nudge and/or augment the wearer <i>Consider how trackers help the wearer to get functional benefits such as increased health and/or efficiency</i> Ability to track to help in optimization and behavior change <i>Consider how the Apple Watch nudges wearers to change (work) positions during the day</i> Moral steering of physical and mental actions <i>Consider how the Kara bracelet morally enables and prevents certain actions among its wearers</i> <p>Material implications:</p> <ul style="list-style-type: none"> - <p>User interface implications:</p> <ul style="list-style-type: none"> Amplification of physical capacities and mental performance: Filtering of impressions to enable wearers to get the most out of the task at hand <i>Consider how the Altruis smart ring lets wearers customize which alerts and notifications should come through</i> Second-order learning: acquiring knowledge around the rules of learning and change <p>Connectivity implications:</p> <ul style="list-style-type: none"> Depending on context -

Table 2. Wearables mediating Love, Imagination and Belonging
Summary of mediated relationship and design implications for innovation

Typical functions	Self-expression, marking of social community, escapism, developing the social and cultural capital
Symbolic jobs-to-be-done	Plays on freedom, imaginaries, love, desire and beauty
Overarching design drivers	Fitting into the ecosystem of lifestyle objects, easy to do bricolage
Traditional wearables examples	Statement wearables recognizable to the ones who need to know, for instance fashion brands
Wearable technology examples	Intel's iQ fashion forays, Google's project Ara
Temporal cycle	Various shorter cycles (cf. fast fashion, seasonal fashion, classics)
Design implications for potential technological aspect of the wearable (functional requirement + possible use cases)	<p>Functional implications:</p> <ul style="list-style-type: none"> Main-function remains while smart add-ons can be changed <i>Consider how the Montblanc e-Strap, a changeable watch strap with a smart display, lets wearers keep the strap up-to-date through changing it, while still being able to form a lasting relationship with the retained analogue clock</i> <p>Material implications:</p> <ul style="list-style-type: none"> Technology that is able to stretch and follow the forms of the body <i>Consider the touch, feel and shape of textiles and fabrics and their ability to flow on the wearer's body</i> Discreet technology that lets the symbolic value of the wearer stand at the forefront <i>Consider how the Fossil Q Non-Display Smart Watches look like analogue watches but has activity and notification trackers and built into it</i> Customizable and changeable hardware and accessories <i>Consider the Moto 360 Maker that lets wearers choose between watch straps and displays in different colours and materials</i> <p>User interface implications:</p> <ul style="list-style-type: none"> <p>Connectivity implications:</p> <ul style="list-style-type: none"> Possibility to symbolically connect with a shared community <i>Consider how communities are formed around certain brands</i>

Table 3. Wearables as Autobiographical Objects
Summary of mediated relationship and design implications for innovation

Typical functions	Infusing the owner with feelings of familiarity, continuity of identity, sense of true self, reflection
Symbolic jobs-to-be-done	Marks familiarity, affectionate value, connected to remembering and reliving
Overarching design drivers	Long-lasting, getting more valuable over time, rooting the wearer in temporally developing relationship, emphasizing the sense of wearer's cosmological location
Traditional wearables examples	Wedding rings, heirlooms, tattoos, watches, expensive jewelry
Wearable technology examples	Failed examples: - The Autographer camera - Teledildonics
Temporal cycle	Life-stage cycles (cf. marriage cycles)
Design implications for potential technological aspect of the wearable (functional requirement + possible use cases)	<p>Functional implications:</p> <ul style="list-style-type: none"> • Low-powered <i>Main function should be able to be used over a long period of time</i> • Core features accessible in offline mode <i>If/when the technology loses connection, breaks and/or becomes obsolete, the object should still be useable</i> • Ability to store, hide and display personally meaningful data <i>Consider traditional necklace charms with space for family pictures (US) or locks of hair (China)</i> Sleeping technology that activates only in meaningful instances <i>Marking the different life-stages: weddings, child birth, retirement and so on</i> <p>Material implications:</p> <ul style="list-style-type: none"> • Long-lasting technology with the ability to age beautifully <i>Consider how the surface of a copper plate changes over time to reveal its age, or how trees get growth rings over time</i> <p>User interface implications:</p> <ul style="list-style-type: none"> • Technology that invokes a sense of familiarity among the user <i>For instance, through an intuitive interface.</i> <p>Connectivity implications:</p> <ul style="list-style-type: none"> • Ability to turn off connectivity to other devices <i>Preventing the interconnectedness with other objects in order to stimulate individuation</i>

Traversing these three categories, there is a fourth possible relationship to be carved out: that of humans relating to the surrounding world through magic. Amongst others, this implies consecration and sanctity of objects and places, interaction with supernatural powers mediated by an expert and employment of symbolism and purification in rites, as well as

importance of tradition and continuation of knowledge with the ultimate goal of reaching tangible results (Mauss 1972). Technological advancements within contemporary clothing is sometimes linked to the idea of security and protection of the wearer (examples are Chromat's Adrenaline Dress, Ezra+Tuba's Butterfly Dress or Nimb's smart safety ring). Furthermore, the wearables category offers multiple authentication tools (for example Nymi, a wristband that authenticates individuals through various biometric modalities such as heart rhythm). These examples border on attributing characteristics of guarding objects to wearables, to some extent similar to the magical ward of for instance an amulet. However, technological wearables currently present purely functional safety, rather than the symbolic safety provided by magical objects that run counter to the idea of functionality. Indeed, while they are both goal-focused, technology reaches its goals through experimentation and development rather than belief (Mauss 1972). Furthermore, magical objects create consequences which are hard to foresee and explain, linking the individual to a higher presence (Mauss 1972). It is questionable whether wearables can provide or engineer the randomization inherent in magical objects, however, wearables incorporating augmented and/or virtual reality to some extent holds the promise of making magic visible and manifest.

Furthermore, magical objects create chains of mediations and effects which are hard to foresee and explain, by linking the individual to higher forces that are not fully controllable. This is increasingly reflected in the idea of 'cloud computing' with the metaphors that link it to religious and magical imagery, such as to the all-seeing *eye* and god-like forces sitting on top of a *cloud*. On the one hand, only a select people – the modern clergy – can truly access and understand the language of the cloud, or the data gathered from the wearable devices. Even fewer can bend its will. On the other hand, an increasingly large legion of 'users' is bound together by these forces through wearables connected to a 'cloud' and the data they track and transmit, bringing together new social groups across geographical and temporal distances. Magical cloud-based wearables already connect the 'users' to a re-enchanting, worldly infrastructures that are fully controlled by (ideologically, economically, religiously motivated) third-parties. This will reshape what we can know, access and change about ourselves and others around us (called the 'Stack', or the 'Black Stack', see Bratton 2015). Thus, the task for anthropologists of our age is also to critically examine, and constructively reframe these infrastructures that wearables are increasingly part of.

In order for the category of wearable technology to truly innovate, it is crucial not to lose sight of the overall understanding of what wearables and objects enable people to experience beyond innovated technical functionalities. When viewed critically, there is nothing new about 'wearables' in themselves – they have been around as long as *Homo Sapiens* has (furs, sandals, rings, amulets...). This is why innovating on a product and function level the category will lack strategic insight in how to refashion itself to better understand and adapt to the needs and motivations of consumers.

It is only by taking a step back and applying a culturally informed view on wearable technology that we can innovate and develop products that cater to the aspirations of people. This is, we think, what it means to use anthropological thought and sensitivity to reimagine the whole category, and how cultural taxonomies such as the one presented in this paper work as a new tool for innovation. Furthermore, with feet firmly rooted in the discipline's anthropocentric concerns, the ethical aspects of wearables touching both anthropologists and engineers should steer us to design long-lasting, sustainable solutions that

respond to human needs and enhance our social relationships in contrast to throw-away wearables aging fast. This means that as a community of ethnographers deeply entrenched in the corporate world, we should aim for sustainable and ethically sound solutions for people that help us to develop our life skills as individuals, and help us to live better together as *anthropos* in an increasingly digital, connected and complex world.

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NOTES

1. In fact, the question is if *some* human were not already cyborgs long before the digital revolution, with medical devices and aids such as glasses, pacemakers and insulin pumps blurring the boundaries between human and machine.

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Meaningful Innovation: Ethnographic Potential in the Startup and Venture Capital Spheres

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The aim of this paper is to explore the potential for ethnographic approaches in technology startups and the venture capital firms that support and control them. The current practices and model of innovation aim for “disruptive innovation,” but most efforts fall short, prioritizing mass diffusion and not focusing on where true disruptive innovation lies—creating a change in meaning. I argue that an ethnographic approach can lead to innovation of meanings, bridging the gap between radical innovation and diffusion, and creating disruptive innovation. I discuss some ways ethnography can help product innovation in the startup sphere. But, more importantly, I discuss how ethnography holds great potential for reshaping the VC field, by driving meaning into the VC I then highlight alternative viewpoints that move beyond the “realist” perspective.

Keywords: Innovation, Technology, New Product Development, Finance

INTRODUCTION

Over the last twenty years, ethnographic research has played a growing role in innovation research, but by and large, that role has been centered in the realm of corporate innovation. The dominant ‘folk model’ focuses on ethnographic research employed to identify new product opportunities and realign corporate strategies. But the world of ‘innovation’ is much broader with different potential for engaging ethnographic approaches. One of the most fruitful realms for research supporting innovation would seem to be in technology startups, and yet the startup world seems to be generally unaware of the potential of ethnographic approaches.

I have conducted research on tech startups in different parts of the globe over the past few years, with a particular focus on practices within startups, their spread, and their impact on innovation. A main contribution of this research has been investigating how recent changes in technological capabilities, practices, and structures have impacted innovation. The process of innovation as it has been conceived historically consists of three general, yet overlapping phases: invention -> innovation (use) -> diffusion (King et al. 1994). But the model of innovation being spread in startups today is now shifting to an orientation where diffusion precedes the actual ‘innovation.’ The methods employed, which emerge from the doctrines of Lean Startup and Customer Development, focus on the possibility of mass diffusion and easy adoption before anything is ever created. And, notably, the model of funding rewards those startups with this aim. I argue that this bias towards diffusion limits the tech startup landscape from developing more powerful innovations. It precludes investment in innovations that focus on localized problems, that aim for sustainable growth, that serve marginalized users, or that solve wicked, knotty problems. And, counter to common claims, it limits the possibility for truly disruptive innovations, which by definition take time to diffuse.

This paper explores the potential for ethnographic approaches to support innovation in the global tech startup scene—in startups themselves, but, more importantly, in the venture capital firms that have the capacity to fund and thus drive much of startup innovation. To some extent, “design thinking” approaches have begun to be integrated into some startups’ approaches, but by and large, ethnographic research is not known or understood within the startup world. Much in the same vein as the corporate ‘folk model,’ ethnographic research could help find new paths within seed-stage, early-stage, and growth-stage startups. In seed stage, it could enable a greater localized understanding of the context or problem space in which a product is being created and provide deeper data to base decisions on than just click-metrics. For other early-stage startups who have created a technological innovation without a clear market in mind, such research has implications for the product aims and the user groups that are focused on, which could be particularly valuable for smaller, marginalized, or otherwise neglected groups. And beyond, in growth-stage, ethnographic approaches can help in adapting successful solutions or new technologies to other markets. The potential is great, but the challenge is how startups access such resources or develop necessary skills.

A more promising area for impact, and one that has the resources for such research endeavors is in the venture capital firms that identify trends, scout startups, and invest in them. Venture capitalists make many small bets among the startups they select, with the goal of having at least one team among many become successful. The goal is to foster a portfolio that produces large capital gains within a timeframe of less than 10 years. In practice, this promotes funding of globally-focused, scalable, profitable ideas. Many founders start with the goal of solving a problem but in order to garner investment, they must prioritize diffusion. And most will fail. Rather than functioning as scouts for the next one-in-a-million globally-dominant product, venture funding could refocus on a more organized, systematic approach that incorporates research focused on anticipating trends and understanding the contexts of different markets through research. Such ethnographic research could reorient the focus to supporting more sustainable, truly innovative startups. In short, innovating the process would in turn foster more innovative products.

The role of ethnographic methods, however, is indeed not simply to provide insights into a new realm to “colonize.” I aim to highlight the potential for research in innovation to focus on more on navigating complexity, attuning startups and venture capitalists that fund them to the values and contexts surrounding their products, advocating for different user groups, and anticipating change.

SHIFTING FLOWS OF INNOVATION

Aiming for Disruption

Innovation is defined in different ways depending on the context and the author. At its most basic level, innovation refers to newness in form or approach (Van de Ven 1986). There have been countless studies of innovation, viewing the concept both from a product perspective (the innovative outcome or result) and from a process perspective (how one innovates) (Bundy 2002). Here, I want to unpack the two more closely.

From a product, or result, perspective, there are many types of innovation, discussed along a variety of spectra. But the most discussed and frequently debated conceptualization

of innovation in the current technology sphere is *disruptive innovation* — those innovations that disrupt an existing market or displace an earlier technology. Though the phrase disruptive innovation was coined by Clayton Christensen in the mid-1990's (Christensen 2013), the concept of innovation through 'creative destruction' was first popularized through economist Joseph Schumpeter's theories from the 1940s (Schumpeter 2013). Schumpeter described this 'revolution from within' as an inherent part of innovation. In today's startup sphere, this focus on disruption is very much considered the ideal. I will note here that much research has noted the dangers and downfalls of a focus on disruption, and, more broadly, that innovation does not mean the changes it creates are necessary or positive (Abrahamson 1991). I will take up these issues again later. What is important here is that disruptive innovation is currently a main goal for startup founders and the venture capitalists who fund them alike. According to Paul Graham, founder of Y Combinator, startup ideas should be risky and actually even repel you (Graham 2012). There is a pervasive attitude that startups should be disruptive, contrarian. This focus foregrounds all that follows.

This focus on disruption, then, creates a central challenge for the startup community writ large. The startup sphere has a tendency to aim for innovations that will have a revolutionary impact to the market — disruptive innovations — but at the same time, many of the innovation processes emphasize iterative, small feedback loops to refine ideas and products, based on feedback from those who would use the product— early adopters. This creates a sort of dichotomy of focus on revolution and evolution from the outset. I frame this dichotomy in terms of Norman and Verganti's (2012) discussion of radical versus incremental innovation. By their definition, radical innovation is "a change of frame ('doing what we did not do before')," while incremental innovation is "improvements within a given frame of solutions ('doing better what we already do')." Norman and Verganti argue that radical innovation is "surprisingly rare" and requires agents of meaning or technology change (2012, p. 6). In their point of view, most innovation is incremental. And this is indeed what I have witnessed in the startup community.

A Focus on Diffusion

Over the past few years, I conducted an in-depth research of technology startups and startup accelerators situated in different locations globally. Much of this research was conducted *in situ* through ethnographic fieldwork within Silicon Valley and over the several-month courses of accelerator programs in Singapore and Buenos Aires. This provided a rich view into the day-to-day workings of these accelerators and those affiliated with them— founders, funders, mentors, and more. Additionally, I have conducted interviews in Silicon Valley and abroad with a variety of people playing various roles in the startup community. Through this, I have learned the processes and practices of Silicon Valley and global startups—how they *innovate*. And what I have witnessed is a counterintuitive focus on disruption and diffusion simultaneously.

The process of innovation as it has been conceived historically consists of three general, yet overlapping phases: invention -> innovation (use) -> diffusion (King et al. 1994). There are many approaches from a variety of schools of thought on the flows and influences of innovation that critique such a linear approach and present other approaches, but diffusion is always considered to occur late in the process. I argue that the model of innovation being spread since late 2000's has shifted that flow, making it looped or even backwards. And by

way of the global reach and connectedness of the tech startup community and certain funding mechanisms, this is fundamentally changing the flow of innovation from one that begins with an invention or product to one that begins with a focus on global diffusion. And this inherently changes the types of “innovations” that make it the market.

In the first dotcom boom in the late 1990s, it was very expensive to build a software product. Startups had to have an initial product or an idea that seemed really good. Then they would get investment *a priori* to build it or to continue building it. With funding, they would then build it and then see how well it diffused. Today, it is cheap to build software, so you can easily start to develop something. But now, in order to get funding, you have to show how it would scale, not just guess how it would. Metrics showing traction and validation are key. This focus is oriented by the Lean Startup model and Customer Development practices, which rely on several concepts that originate from Rogers’ work on diffusion of innovations (DOI).

In Lean, an MVP need not be a functioning product. It can, and often is, still in the idea phase. As Steve Blank, the creator of Customer Development says: “You’re selling the vision.” The idea or experiment is tested with “early adopters,” a phrase coined in Rogers’ DOI work. Validation of the idea relies on tracking metrics and creating a “funnel” of potential customers. The goal is to exhibit the ability to “Cross the chasm,” i.e. move from early adopters to the mainstream market—which is based on the graphical depiction of innovation diffusion over time in Rogers’s work.

This is not the same as going out and researching a market to develop a product. The focus, rather, is on evaluating whether the product will scale before actually fully developing it. The process moves from finding potential early-adopter customers for an idea, to refining that idea based on how they may use the product, to then developing the actual product. The potential for diffusion *precedes* the innovation.

This flow was not possible until recent years. First, the global, networked platform of the internet has enabled software and digital products to be globally scalable. Secondly, recent technological advances underlie the ability to measure global scalability. One can now test an idea and analyze data in ways previously not possible. Analytics tools like KISSMetrics, Mixpanel, and Google Analytics enable the development of measures to determine demand and scalability. Advertising platforms like Google AdWords and social networking sites like Facebook provide methods to experiment. And the models of Lean and of Customer Development provide the structure to follow. Teams can start with a premise or an assumption of a problem and create advertisements on Facebook or Google AdWords to target potential customers. They can then measure their interest directly based off of clicks and conversion rates and other metrics, all before committing a single line of code in the product.

The common conception of ‘startups’, the canonical literature in this area, and adoption of Lean methods and principles are all products of Silicon Valley. The terminologies and cultural views of this origin are imbued into the structures, practices, and approaches — and this includes adoption of the venture capitalist business model and its underlying goals and objectives. While VCs provide value to the innovation teams by injecting economic capital, VC funds also rely on (and expect) a return of capital via increased valuation and a future liquidity event, commonly known as an “exit.” This enables the VC to provide returns and to fund its future operations. It is a hit business; it makes many small bets with the goal of having at least one team among many become successful. Therefore, by design, the goal of

VC operators is to foster an environment that produces large capital gains within a short timeframe. In practice, this translates into a culture within the startup world that promotes creation of globally-focused, scalable, and profitable businesses. It privileges global scalability (diffusion) over what the actual technology is or how it is used.

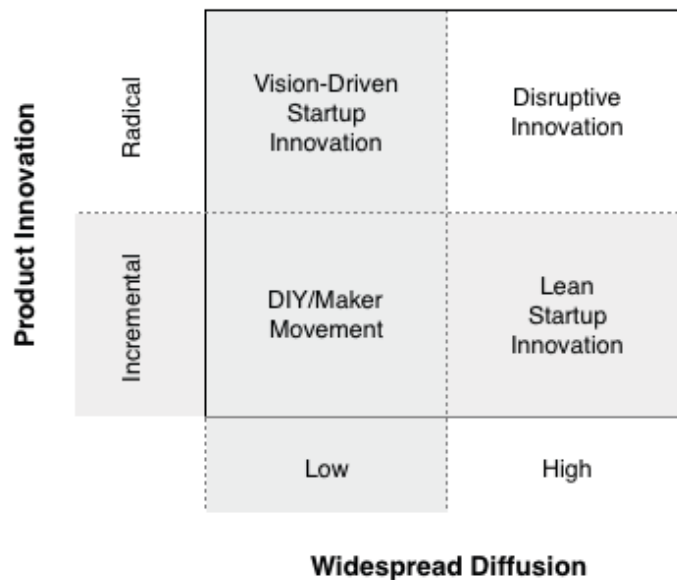
Seed-stage and early-stage startups are trying to create a product and create a business simultaneously. They are focused on doing something innovative, but also on building legitimacy and showing that they are scalable. Their survival relies on funding, and funding is rooted in both of these. They have to show investors they are building something scalable and have metrics to prove it. They also have to appear legitimate, participating in the culture and practices that are part a startup world. The incentives for mass diffusion shape the direction of the product more than developing an innovative or useful product do. Even if that is not the goal in the beginning, startups often reorient to garner continued investment from their funders, who become their advisors.

Placing the focus *a priori* and continuously on diffusion fundamentally shapes the types of innovations that are made. Namely, it shapes the focus toward designing technologies that are easily adopted, and that would be adopted broadly. This may influence focusing on broader problems that effect many people. It may also promote the development of products with immediate impact, which can then be built upon, contributing to cumulative innovation (Murray & O'Mahony 2007). But, prioritizing for potential diffusion, but not for radical change, notably also limits the possibility for disruptive innovation.

While many in the startup community—both founders and funders—tout a focus on disruptive innovation, the structure they provide is counter to promoting disruption in a number of ways. Lean is focused on incremental improvements, not bold changes and ideas. Customer Development emphasizes testing and refinement with early adopters, not those that would be “disrupted” typically. And ideas get funded based on metrics and a model that proves rapid scalability. Disruptive technologies are, by nature, not rapidly scalable. Because they are disrupting something that was stable, it takes time for them to diffuse.

Reorienting Through Meaning

In their analysis of radical and incremental innovation, Norman and Verganti present some frameworks to evaluate the relationship between the two. In doing so, they break down innovation into two dimensions: technology change and meaning change. In one framework, they map these two dimensions to incremental and radical change, illustrating how these connect to what they consider the drivers of innovation: technology, design, and users. In a second framework, they then link these types of innovation to the role of research, building upon concepts from Donald Stokes’s work on Pasteur’s Quadrant. They characterize their quadrant in terms of the “quest for a novel interpretation of meaning” and the “quest for practicality.” The resulting analysis highlights roles of research in each of the four quadrants.



Taking this framework as inspiration, I have applied similar thinking to the types of innovation in startups— from both product and process perspective. I connect the type of product innovation change with the innovation process focus on diffusion (Figure 1). The product dimension, on the Y axis, focuses on the degree of change: low is incremental, high is radical. The process dimension, on the X axis, shows the degree of widespread diffusion— low or high. This yields four quadrants, illustrating four types of startup innovation: the do-it-yourself (DIY) or maker movement innovation, Lean Startup innovation, vision-driven startup innovation, and disruptive innovation. I briefly explain them below, but will delve into more detail regarding the three main quadrants of interest in the next section.

1. *DIY or maker movement innovation.* Innovation in this quadrant for the most part is incremental, building on technologies that already exist, and by nature, DIY products are not intended to be widely diffused. While this is an interesting and important emerging area of innovation, it is not generally relevant to the types of scalable startups I will be discussing through the rest of this paper. As such, I briefly mention it here, but will not go into further depth.
2. *Lean Startup innovation.* This quadrant is where the majority of startups I have studied lie. For reasons related to funding, which I will delve into in more detail later in this paper, they focus heavily on diffusion *a priori*. And while many, if not most of these startups profess to aim for disruptive innovation, the nature of the Lean process is such that they must focus on incremental change.
3. *Vision-driven startup innovation.* This quadrant is where a much smaller minority of startups are situated. Chief among them are startups who have a strong vision they are pursuing, without following processes like Lean and Customer Development, or teams that have developed a new technology, but are unsure what it can be used for more broadly.

4. *Disruptive innovation*. This is the quadrant that the most successful startups reach. They have created a radical change through technology or meaning, and that change has been adopted and diffused widely.

While I have separated these into rather discrete categories here for the purposes of defining them, they are most certainly not separate, mutually-exclusive categories for startups. Rather, they are spectra along which types of startups can loosely be pinned at one point or another. But, importantly, movement within these dimensions is fluid and malleable. That is to say, it is entirely possible that a Lean-focused startup or a vision-driven one could ultimately become disruptive. What it depends upon, as Norman and Verganti explain at length in their paradigm, is a change in meaning.

In their analysis of different approaches to design research, the authors argue most forcefully for the power of design-driven research to enable radical innovation through “envisioning new meanings that are intended to be applied in products” (2014, p. 29) And the study they provide as their grand example is one aimed at creating new knowledge about meanings of kitchen products. While advocating broadly for this focus on meaning, they also readily admit that, as an approach to innovation, it has not been well studied. They suggest better understanding can emerge through: “research and observations rooted in more general socio-cultural changes, as an understating of how society and culture are changing.”

To an ethnographer, these topics and aims of research sound quite familiar. However, while Norman and Verganti do begin to touch on promising directions to do such work, it is focused on testing out lateral design alternatives, not deep, interpretive research like ethnography. They do in fact mention ethnography in passing—but as a method for incremental human-centered design research, not the *meaningful* research for which they are advocating. However, their aim is on design research, while here my aim is broadly on innovation in startups. And in startups, I do believe that ethnographic research could be an integral piece of the puzzle in driving meaning for startups, and helping them reach their goals of radical change and diffusion. But, moreover, ethnographic methods could be a valuable, influential asset in reshaping the venture capital sector that controls the startup sphere and largely determines which innovations have a chance to succeed. In the following sections I will highlight, in turn, how ethnographic approaches can aid startups in finding new paths by uncovering and shaping meaning, and how they can make new paths in the startup sphere by infusing meaning into venture capital practices

PATHFINDING IN STARTUP INNOVATION

A Pathology of Startup Innovation

A Lean Methodology – Through my experience and close examination of startups and innovation, an underlying thread that connects many of them is a focus on Lean Startup. Lean methodologies, based primarily on Eric Ries’s works on Lean Startup (2011), still form the core of the practices most Silicon Valley startups— and some enterprises— purport to follow. The work centered on Lean Startup helped spur a startup mania around the globe; it was the first model put forth to describe startup creation as a science and has become dominant in the startup sphere.

The concept of Lean traces its roots back to manufacturing. Lean Production, a term coined in the 1990s at MIT, was initially used to describe the Toyota Production System (TPS) (Holweg 2007). TPS is a socio-technical system that combines a distinct management philosophy and practices. According to the Toyota group that teaches the system, it is based on four core principles:

- put the customer first;
- the most valuable resources are people;
- a focus on the workplace itself; and
- *kaizen*, meaning “good change” in Japanese, which Toyota uses in the context of “continuous improvement” as a philosophy.

TPS describes itself as “a culture of problem solving at every level of the organization,” and the necessarily skills are learned by doing, not by concept. Following from Lean Production, others have borrowed the term to emphasize a focus on reducing waste and on continuous refinement, although the term is often confused with meaning small teams or low monetary cost.

The term Lean Startup was coined by Ries, who had experience with Agile Development as the Chief Technology officer of IMVU, a 3D social network. Through IMVU, he met Steve Blank, an entrepreneur and investor who created the Customer Development framework. In exchange for investment in IMVU, Blank required Ries to enroll in Blank’s entrepreneurship class at UC Berkeley. Ries was heavily influenced by the course and combined his experience with Agile with Blank’s methodology to create a continuous deployment concept that is heavily influenced by TPS. He primarily focused on two key concepts: Customer Development (Blank & Dorf 2012) and continuous deployment (Maurya 2012).

Lean Startup is thus intended to be a model of innovating rooted in experimentation and rapid iteration. The entire product development cycle is about building a hypothesis, testing, learning, and iterating on it. Using the Build-Measure-Learn framework, a startup theoretically can focus on reducing the time and labor involved in developing the product. In analyzing complexity, fast iteration almost always produces better results than in-depth analysis (Sessions 2006).

The Minimum Viable Product (MVP) is the bare minimum product (or non-technology-based experiment) a team can build to use and test a number of assumptions. By testing this with early adopters, startups can continue to iterate, using Agile development practices such as Scrum or other Kanban (a signboard/scheduling system) principles to conduct short product development sprints. The form of the product may change throughout the Lean process, but the intention is that motivation and overarching vision of the team should remain intact, that is, unless experimentation disproves assumptions. In that case, they pivot. That means they change their focus or strategy based on these learnings. This is where Lean fits into the larger Customer Development framework.

Customer Development is essentially the startup version of user research. Steve Blank, who started Customer Development has defined a startup “[as] an organization formed to search for a repeatable and scalable business model” (Blank & Dorf 2012). His conceptual practice, Customer Development, focuses on this goal and includes four distinct phases: Customer Discovery, Customer Validation, Customer Creation, and Company Building. The first two phases, Discovery and Validation are in a loop, and only when customers are

“validated” does the loop breaks off into a linear progression of Customer Creation and Company Building. The process is half of the Lean Startup methodology and parallels the hypothesis-driven Lean Startup approach. The Build-Measure-Learn cycle is centered in the first two phases, and emphasizes validation. Validation is a significant event, although it perhaps gets less and less significant to the core value of the business as iterative cycles continue to improve peripheral aspects. A key event that Lean processes create is forcing a pivot. The team moves into an entirely new direction strategy-wise. Pivoting requires drawing insight from data collected from experimentation, both quantitative and qualitative, and then building a new hypothesis. The methodology also popularized terms like Problem-Solution Fit and Product-Market Fit, creating common startup languages for entrepreneurs, investors, and stakeholders (Blank 2013; Cooper & Vlaskovits 2010). In short, these processes are very focused on incremental improvement, and also oriented toward mass-diffusion.

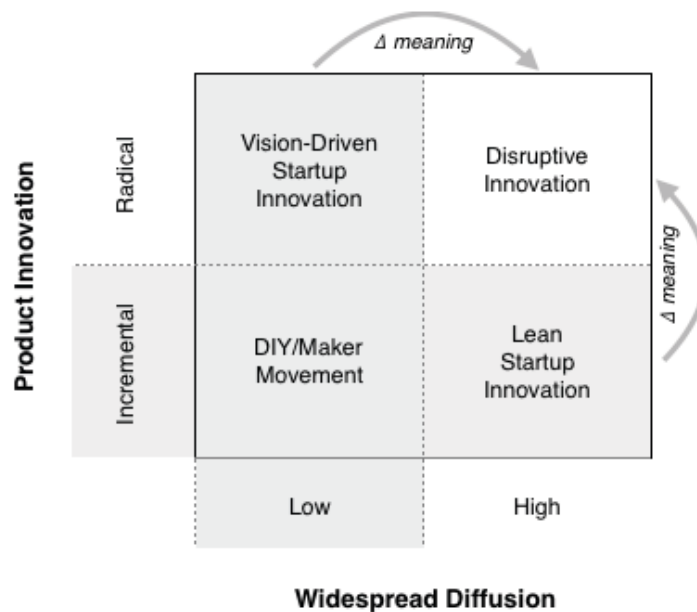
Beyond Design Thinking – While Lean processes are still dominant, other approaches, particularly from design thinking, have begun to be spread more broadly in the startup community. Design thinking is rooted in combining the context of the problem and empathy—in many ways, not dissimilar from what Customer Development preaches. However, the philosophy and the approach are more grounded in data. This grounded-theory approach provides a structure for patterns to emerge; it allows innovators to arrive at conclusions based on observations early. Thus it sets the stage for alternatives to be examined and experimentation and metrics to be used in a valuable way. In a complex environment, this allows experiments to be more focused on producing understanding, which Anderson et al. suggest is key: “the system is now too complex for a prior [sic] comprehension and thus the product launch is itself an experiment about order or arbiter of order” (2013).

As I have suggested before, combining elements of Lean and design thinking seems to have potential for startups (Haines 2014), and others have noted the potential synergies of these approaches (Müller and Thoring 2012). Lean focuses more closely on business value while design thinking focuses more on developing the right product for the end user. Together, they are useful in terms of thinking about how to provide value for both stakeholders and users at the same time.

But while some “design thinking” methodology has started to make inroads in early stage technology startups, there seems to be much more to explore in terms of approaches. And in particular, it seems we need to go beyond the simplistic tool-based discussions. For startups, it is important to consider other practices that are not currently mainstream within the startup world. As Norman and Verganti suggest, a key to pursuing radical innovation seems to be in conducting research that helps interpret what is meaningful to people—or what could be meaningful. It seems that ethnographic approaches—and *ethnographic thinking*, as Hasbrouck has articulated (2015)—are uniquely suited to help teams understand meaning and shape meaning through new technologies or business models. In other words, ethnography is well oriented to support disruptive innovation through developing and asking the right questions, pursuing ongoing inquiry, and providing rich interpretations.

Infusing Meaning to Find New Paths

The teams I have studied range from seed-stage, where there's usually just an idea, to early-stage, functioning startups, to more successful ones that are moving into growth-stage. The majority of them come from the perspective of having an initial idea or a domain or market in which they want to solve a problem. These typically fall into the quadrant that is more focused on diffusion and incremental innovation—the space where Lean is dominant. A smaller subset have created a new technology, often in school, and want to find a market for it. These tend to fall into the vision-driven startup quadrant, in which there is a more radical innovation, but diffusion tends to be limited. Both of these groups face challenges to realizing disruptive innovation with their products, but, as discussed, these categories are fluid, and with the right tools and methods, startups can focus on moving toward more radical innovation... or toward more widespread diffusion (Figure 2). And both of these can be done through developing a broader understanding of embedded meanings and focusing on how new meanings can be developed.



Developing Meaningful Solutions – While all startups initially begin with, at minimum, a general product idea, most have done little, if any, research into the context of the potential user. Some founders come from backgrounds in which they have market knowledge or domain expertise, giving them some level of insight. But in most startups, the conception of research is barely on their radar, and that which is, is rooted in Lean methodology. That is, it is focused on validating the idea with early adopters, developing an MVP, and testing it, not learning about user needs as a starting point or for greater context. “Social proof” –what other people think is correct– is a major goal, rather than really understanding the user. This is an issue rooted in the larger, Lean structure as well as the funding mechanisms. There is a lack of focus in Lean on doing any sort of in depth research. And where some level of

research activity is found, it is often boiled down to understanding whether and how early adopters use a product. These studies are typically conducted through reductionist tools, such as Crazyegg heat maps; Mixpanel, and Heap for cohort analysis; tools for funnel analytics; and A/B testing platforms, like Optimizely and Google Analytics. These are often supplemented by some interviews with actual users (early adopters) or cold calling potential would-be users. Beyond those forms, doing research with users and interpreting meaning from users' perspectives is something generally left out of the picture. And while some of these products diffuse and have solid metrics, there's often no understanding of why.

One such example of this is Molome, a Thailand-based team I followed at JFDI, an accelerator in Singapore. Molome's product was initially a sticker app for photos that had grown viral globally, in the days before apps with similar capabilities, like Snapchat. They had incredible signup numbers—in the millions—and were incredibly successful not only in Thailand, but also in Indonesia and in Brazil. But they didn't know why. The Lean process led them down a path of experimentation... but it never helped them gain any enlightened understanding of what was meaningful about the product to users. They ultimately shifted their product to a meme-generator and folded soon after.

On the flip side this conundrum of having successful diffusion and not knowing why is the me-too product conundrum. For every successful idea, there are scores of copycat products. And, often those copycats are taking an idea that has been successful in one place, like Silicon Valley, and trying to replicate in another region. Aventones, a Chilean startup I followed at NXTP, an accelerator in Buenos Aires, is a good example. Aventones was an online car-pooling system much in the same vein as the original concepts from Uber and Lyft's predecessor, Zimride. While following the model of some quite successful, disruptive startups, they did not find success themselves. What seems to be lacking was an understanding of how the introduction of this model might present a meaningful change in Chileans lives, where public transportation is safe, efficient, and relatively cheap. And, in following from that, Lean methods didn't help illuminate how the model might best be adapted to be meaningfully different there.

It seems that particularly in seed-stage startups, which are seeking product-market fit, elements of an ethnographic approach could enable a greater localized understanding of the context or problem space in which a product is being created. As a methodology with a very holistic approach, ethnography seems poised to help new founders gain a deeper view into the context surrounding the potential or nascent product. It would also open up the rigid experimental processes of Lean to more interpretation. Ethnography is an iterative and reflective process that focuses on open-ended questions, as opposed to the fairly rigid, controlled experimental process of Lean. At the front end, it would help in exploring problem spaces, before making hypotheses about them. And as a product develops, ethnographic data provides a deeper level of data on which to base decisions. This need not eclipse the types of data provided by Lean methods. Ethnography embraces both the qualitative and quantitative forms of data. It adds a richer layer of perspective through which to analyze and interpret the quantitative findings. Observing people in all the richness of the context in which they are embedded would not only serve to more thoroughly understand how a product idea might solve any sort of problem, but moreover, what problems there are, how they really matter to people, and, importantly how meaningful the solution might be in people's lives and interactions. As an approach it serves to interrogate meaning socially, and how that might inform decisions

Mapping Meaning and Interpreting Markets – For other early-stage startups, a major hurdle is that they have created a technology that solves a problem or presents an opportunity, but do not have a clear market for it, so it cannot diffuse widely. Or, they believe they have a market for it, but that market doesn't embrace it as their vision anticipated. In these instances, the larger issue is less oriented around how meaning might be radically different as a product diffuses in different social settings, and more oriented to understanding how a product that is already radically different might create new meaning for people.

Solapa4, an Argentine team I followed at NXTP, experienced this problem. They had created an algorithm to combine geographic information system (GIS) data sources from satellites. This ostensibly provided a fuller, richer set of data on locations for decision-making in agribusiness, the field in which they felt this would have the most impact. They chose to target crop insurance providers, as they felt their product provided meaningful data to them. It turns out that it is not nearly so meaningful based on the systems of assessing risk in such firms. They have since pivoted and expanded outside of Argentina, but are still in search of making a more meaningful impact in the agricultural domain.

Another team I followed, Scrollback, at JFDI, also faced these challenges. They developed a browser-based Javascript chat tool to replace Internet Relay Chat (IRC). Scrollback is backward-compatible with the open protocol IRC of the past 20 years, which has not seen any major technology innovation through that period. The Scrollback team started with the technology and initially tried to bring on customers from universities, admission offices, online forums, other communities that presently used IRC. But this did not work—they were already used to what they were using. They failed to show how this might be meaningfully different for their users.

In both of these instances, another factor to consider is the current shift from technology-driven innovation into realms where innovation is more technology-aware. That is to say, the current startup environment is much more oriented toward taking technological advances that have already been developed, and applying them in a new domain. And selecting the right domain, and the right market is key.

Founders who have created a technological innovation without a clear user base in mind need to conduct more in-depth contextual research to identify potential product-market fit. One method of doing this is targeting different markets in the fashion of Lean, and seeing what gets traction. But immediate traction doesn't give insight into how and why something is used-- why it would be a good solution for this market. Doing this type of research has implications for the product aims and the user groups that are --or could be focused on, which could be particularly valuable for smaller, marginalized, or otherwise neglected groups. For both founders who don't know their potential market, and even those who do believe they know their market, there is value in an ethnographic approach, which emphasizes both an etic and an emic approach—giving them a broader perspective, and also getting an situated understanding from the user perspective. For founders who don't know their potential market, but have done some basic research into it, an emic perspective would help reveal the perspective from the point of view of the user.

Once a startup experiences some success and moves into a growth stage, they are focused on expanding and adapting an established startup product to different markets. Here, ethnographic approaches can help in adapting successful solutions or new technologies to other markets. As noted, some founders come in with local knowledge --

often deep, detailed knowledge, and a perspective that drove them to solve a problem. They may have a strong emic perspective in that instance. But then, to grow, they need to gain an emic perspective in a different culture and understand how the society and culture are changing as well. Doing deeper research into other potential markets, while taking an etic perspective to the product vision overall would help to project a more meaningful analysis of the space and allow the founders to step back and reflect on their initial market goals.

Limitations of the Current Model

Resources, Access, and Skills – The potential for ethnographic research to aid in startup innovation is great, but the challenge is how startups access such resources or develop necessary skills. Startups are particularly cash-strapped and scrappy by nature, so they are unlikely to have resources to bring in dedicated researchers or consult research contractors before they are well into the growth stage. Through various networks and programs like accelerators, startups are able to learn many new skills and develop and expand their competencies, so there is some potential for gaining some skills in ethnographic research approaches. But, in reality, the networks of mentors and advisors such programs curate typically come from business-oriented or technology-oriented backgrounds, not the realms of design, UX, or any sort of research, for that matter. Thus, they have little access to the knowledge or resources to help them expand these skills. And those resources and mentors they do have access to generally encourage the current model and Lean methodologies, which reinforces using the aforementioned tools, which are representative of the sort of deskilling of labor in research and UX work, much like Lombardi (2009) described in relation to ethnographic work in the private sector. While there is an opportunity to extend the ethnographic community into the realm of startups, it seems that the current model of funding and prioritization of diffusion are still major barriers.

Moving Beyond the Folk Model – The potential opportunities for ethnographic methods in startups is tremendous. Ethnographic research would indeed be transformative for many startups in terms of developing more meaningful, innovative products. But aside from being unlikely to make inroads given the current approaches and dominant model, it also doesn't push the needle very far beyond the dominant folk model that exists in corporate ethnography. Ethnographic research in corporations functions much the same way as outlined here—finding a new area in which to develop a product, exploring new markets, providing richer data and a more dynamic understanding of the context, and interpreting meaning. Ethnographic research within startups would be necessarily different from corporate ethnography in many ways, and it would certainly have different sorts of impacts terms of helping startups find and develop new, innovative paths to take. Yet, it still is not too far removed from the folk model. By contrast, a much more compelling, innovative path for ethnographic research to explore – and one which would also have a tremendous impact on startups—would seem to be in forging new paths in venture capital.

PATHMAKING: ETHNOGRAPHIC POTENTIAL IN VENTURE CAPITAL

The current state of innovation coming out of Silicon Valley and other tech hubs seems lacking to many. Many of the products and services emerging at the moment seem to be

frivolous, indulgent or navel-gazing; they reflect a focus on Silicon Valley. Recent commentary on the topic suggests the goals of these “innovations” are basically to provide for themselves everything that their mothers no longer do” (Arieff 2016). Not only are women and minorities underrepresented (Whitney & Ames 2014), there is an “echo chamber” that creates a closed system in terms of what is considered novel, useful, or innovative. In short, the products aren’t very meaningful for many people. The reasons are myriad. There’s a focus on potential for diffusion above all else, leading to large bets placed on what the next “unicorn” will be. And those bets tend to come in waves that follow the latest trends projected from Silicon Valley thought leaders, not any sort of meaningful, systematic analyses.

While ethnography holds great potential in helping startups find new paths, as we’ve just discussed, the much more fruitful potential seems to be in guiding funders down new paths. After all, they play an outsized role in deciding what succeeds or fails. Venture capital-backed startups in the tech sector have a much higher survival rate than comparable companies (Parhankangas 2012). If ethnographic research has the power to drive truly transformational outcomes in the startup sphere, it is by helping identify new horizons and forging new paths for venture capital, who in turn shape the startups themselves.

A Pathology of Venture Capital

How VC Works – Access to capital is especially important at all stages, but especially the seed stage of a technology venture, and Silicon Valley provides the most VC funding globally (Kramer & Patrick 2014). This funding occurs through established VC firms and corporate VC arms, as well as through wealthy individuals known as “angel investors.” The origins of this began in the 1950s, when “The Group,” a small network of young investors began pooling investments in technology-focused startups in Palo Alto, becoming key players in the growth of the VC community there (Kenney 2000). By the 1970s, successes had spurred greater investment, and successful entrepreneurs started to become venture capitalists after exiting, organically creating the “virtuous cycle” of capital funding in Silicon Valley. This continues today, with examples such as the PayPal Mafia, a group of former PayPal employees who went on to invest in (and found) many other successful startups (Lacy 2008).

This virtuous cycle explains why there is so much more seed capital available in Silicon Valley than other places, where people tend to put money in stocks, bonds, real estate, or other more stable ventures. VC investments are notoriously risky, with average returns well underperforming other investment vehicles (Huntsman & Hoban 1980). Entrepreneurs-cum-investors, however, tend to have a higher risk tolerance, which in theory helps spur innovation at a much higher rate than corporate R&D (Kaplan & Lerner 2015). According to previous research, VC tolerance for failure help startups “overcome early difficulties and realize their innovative potential” (Tian & Wang 2011). VC firms bridge the gap between entrepreneurs and financiers, dealing with “moral hazard” and asymmetric information (Lerner & Tag 2013). They screen startups, create contracts, stage funding, and closely monitor and often advise the startups they fund. But the way they make money underlies some of the main challenges the startup world is facing.

Venture capitalists make money through financial engineering. They find companies that are undervalued, that have great potential for increasing in value dramatically. They invest at a low price, and eventually aim to sell stocks at a high price as the company garners more

investment, grows, and possibly exits – getting acquired or going public. Other, recent changes to structuring capital have also enabled angels to make more investments. Convertible notes enable them to invest in the form of a loan that converts to equity once another round of funding is raised (Feld & Mendelson 2011). This encourages investing in very early rounds, when the valuation of a startup is uncertain and unstable. About 80% of a VC funds' returns come from 20% of its investments (Rachleff, 2014). Increasingly, for investors, it is a “home run” game. They depend on outliers, investments with the potential for extreme returns within five years, usually larger than ten times the initial investment. Essentially, VC funds make lots of small bets in hopes that one will become the next “unicorn” among the likes of Google, Facebook, or Uber. This also means that a lot of those investments fail. In fact, VC funds earn capital gains from only a small portion of their portfolio companies; typically, more than 75% of investments are written off (Hochberg et al 2007). Exits from only a very small percentage of top companies are what drive returns for the majority of the VC industry (CB Insights 2015).

The funds typically range from \$50 million to \$100 million for seed-stage focus and \$100 million to \$500 million for later-stage startup investment, with a 10-year lifespan. Partners who manage a VC fund make money from managing these funds in two ways. First, they typically charge 2% of a fund in management fees, so managing a \$100 million fund garners them \$2 million over 10 years, or about \$200k a year. They also make 20% carry— 20% of the profit from the fund. This structure incentivizes them to raise and manage multiple funds simultaneously, and allows them to lock in high levels of personal income, even if they fail to return investment capital to the limited partners who invest in the fund (Mulcahy et al 2012). There is also pressure to deploy at least a third of a fund within the first 3 years of its 10-year cycle so that returns can be realized during the lifetime of the fund. This means there is a rush to make decisions on investing tens of millions of dollars. This rush to make decisions is not good for finding and fostering innovative startups, but notably, it's also not good for the VC funds themselves..

Challenges for VC – The way VCs are structured, as described above, leads to several major challenges for the VCs themselves. First, there is the virtuous cycle. The fact that many VCs have emerged from successful startup founders themselves means that, yes they have a tolerance for risk and good business insights to a large degree. But that doesn't provide them broad background and knowledge into domains and markets that they may want to invest in. Second, the structure of trying to get the “home run” investment that counterbalances the others that fail leads to a hunt for “unicorns,” or at least trends following in the footsteps of unicorns. While some VCs have overarching theses around how they aim to invest and there is some level of due diligence before selecting startups, there are no methods, broadly speaking, for doing things in a systematic way. And, importantly, the pressure to deploy exacerbates things. Most invested capital needs to be deployed in the first few years of a 10-year fund cycle, leading to rushed decision-making. This rush to find something links back to the issue of the virtuous cycle as well, as VC partners look to entrepreneurs they know to find something fast. This stifles funding for truly innovative emerging startups who may lack connections.

But beyond stifling innovation, and more to the bottom-line for investors, VCs in general just don't perform well for the risk they entail. VCs have not out-performed the public market. In fact, a recent study showed that only 20 of 100 funds generated returns

that performed 3% better than the public market; the average VC fund fails to make a return on investor capital (Mulcahy et al 2012). Between 2004 and 2014, venture capital as an asset class only slightly out-performed the S&P 500, with an average annual return of 8.1%, compared to 5.7% (Cambridge Associates, 2013). In general, this performance is mostly accounted for by the top performing firms like Andreessen Horowitz, Accel, Benchmark, Greylock, Kleiner Perkins Caufield & Byers, Sequoia, Union Square, and Y Combinator. The top approximately 20 VC firms, account for 95% of the return in the industry (Rachleff, 2014). The others struggle to have the same sorts of networks to source the best startups. In short, returns are unsatisfactory industry-wide, and venture capital underperforms as an asset class (Kedrosky 2009).

To put things bluntly, as Josh Kopelman, a well-known venture capitalist did: “[F]or an industry that funds innovation – it really doesn’t have that much” (Griffith 2013). In part, this seems due to the lack of structure and of systematic processes within the VC community. While some of the top VC firms have specific theses about the way they will invest or the domains in which they are keen to follow trends, much of the decision making relies on thought leadership and connections. But beyond these informed opinions, there are no general systems or methods for exploring potential domains, finding startups and making decisions on funding them. It seems that it may well be of interest to utilize research more adeptly within these funds, and to have a more meaningful process. VC partners have the capital available to subsidize research, and the returns from having a more informed and thoughtful process would be worth the investment, especially. It seems that incorporating ethnographic thinking and research would be a step toward creating a more innovative VC model, which in turn could fund more innovative startups and hopefully foster more sustainable ones.

A More Meaningful, Ethnographic Approach

There are several overarching challenges for the VC model-- in identifying areas of opportunity and trends, and in finding, funding, and fostering more innovative startups. Identifying areas of opportunity is often based on hunches, rather than research. And in particular, there is a lack of knowledge about different markets globally and burgeoning areas that are spreading tech innovations into other domains and industries and markets. In finding new startups-- what’s known as “deal flow”-- one of the biggest challenges is that VC firms rely on their internal knowledge and connections rather than solid ideas, and decisions are usually reactionary and informed by a herd mentality. Making decisions around funding startups usually centers on hollow metrics. While there is a level of due diligence, the data sources are not great and lead to funding startups that may not truly be innovative. And finally, fostering startups tends to be an afterthought, particularly in looking at broader impact, values, and sustainability. VC investment controls what startups succeed in large part, so these issues are paramount to fostering innovation in the startup world.

Taking a broad view, it seems that ethnography can help innovate the VC model in four main ways:

1. Gaining meaningful insights and understanding in new markets and domains
2. Developing a more holistic and proactive process to evaluate ideas and teams in which to invest
3. Providing richer data sources for making funding decisions, and

4. Reflecting on and considering values and broader impacts

In the following sections, I delve a bit deeper into some of these issues and highlight the ways in which ethnographic thinking and ethnographic methods can help create a more meaningful process to support innovation.

Meaningful Insights into Different Markets and New Domains – Across the industry, a variety of factors inhibit VCs from identifying areas of opportunity for investment and new paths for finding innovative startups. Most VC firms have some general guiding theses about what they aim to invest in, though they are very similar from firm to firm. They also keep an eye on current investment trends based on what leading firms are doing or what Silicon Valley pundits say the current trends are, making the focus between different firms even more analogous. That is to say, there is much more opinion guiding the way partners identify areas of opportunity for investment, and not much research. Within the firms themselves, this is exacerbated by the self-reinforcing perspectives that emerge from Silicon Valley insularity and from the virtuous cycle that magnifies a focus on certain types of trends. These limit both the markets and the domains that VCs set their sites on.

Paul Graham of Y Combinator has equated the rise of startups as a significant revolutionary force on the scale of agriculture or industrialization. But unlike other revolutions, he argues, the startup revolution does not need local producers. Anyone can create software, Graham says, but “it’s most likely going to come from an ecosystem like Silicon Valley” (Stross 2012, p. 237). This insular view is limiting in a number of ways. While there are certainly innovative startups emerging out of Silicon Valley, there are clearly many others in many other places. Rather than technology being created by Silicon Valley startups for the rest of the world, VCs have the potential to help foster entrepreneurs all over the globe. Yet over a quarter of worldwide VC investment is in Silicon Valley companies, and a whopping 70% in US-based companies. This reinforces the cycle, as those who receive investment generally come from US markets, and Silicon Valley in particular. If successful, they go on to invest in the areas they know and understand.

Beyond that, the herd mentality effects the rest of the world by setting the trends for “me-too” products to be developed. One VC firm I observed in Buenos Aires was a particularly strong example of this. They suggested there were 3 different types of startups there were interested in: 1) concepts that were successful elsewhere that could be adapted for a LatAm market, 2) local solutions with the potential to scale in LatAm, or 3) something completely new. In the general partner session I observed, however, only the first type was discussed. The partners took turns presenting startups they had seen covered in media or heard mentioned elsewhere that were getting funded in Silicon Valley. They discussed each and debated how well it would do if they copied it in a LatAm environment. For instance, Sendah, an online gift remittance payment platform from the Philippines, was interesting and drove a long conversation. But ultimately, the partners thought there wasn’t enough of a remittance market outside of Peru and Bolivia. By contrast, Talkspace, a real-time messaging service connecting users with therapists, they thought would be fabulous in LatAm. After all, one partner suggested: “everyone in Buenos Aires goes to a therapist,” where it was not only socially acceptable, but you were seen as odd if you didn’t. They thought this concept showed promise, and noted it down as one to evaluate further and potentially find a team to pursue. There was no research backing up these assumptions—either about the various markets or how these potential products might be meaningful for users.

It seems there's great potential for ethnographic research to play a role in expanding the horizons of this focus, certainly beyond US-based markets. An ethnographic approach emerges from both emic and etic perspectives, giving a richer picture of the cultural system being studied. It's not just about observation, but also interpretation-- in what ways is a market changing. It supports a process of discovery, of inferring things and generating deeper questions. This is a natural area of exploration for ethnography, wherein the research can focus on emic validity, and provide a richer picture of areas to explore that might be misunderstood from the perspective of a VC partner. And this extends beyond the focus on new markets, to new domains as well.

One of the major changes in the startup realm in recent years is the shift from tech innovation being centered in information-technology-specific startups to other industries where software is fundamentally transforming the business model. Or, as Elad Gil, a serial entrepreneur, has put it, it's a change characterized as a move from "software-driven" to "software-aware" (2016). As prophesized by venture capitalist Marc Andreessen and others: "software is eating the world." This has been an ongoing trend for several years, but there still is a lack of knowledge in the domains in which these transformations are happening. While many investors stick to making bets in areas they understand, others do venture into such new domains, but without much insight. One of the ways of dealing with this lack of insight is to "spray and pray." That is, investors make lots of bets all over the place to increase the odds of finding a good bet.

An ethnographic approach provides a much better way to approach this— to explore and understand these domains of interest. Having an ethnographer to research the domain would help uncover traditional beliefs and ask the obvious questions to challenge those beliefs-- to understand what would be disruptive, and if and how that disruption would help solve certain problems. It would provide insight into the business cultures and trends, representing a domain more close to reality. It would give some contextual understanding to software-aware domains, like IoT, but also potentially to entirely new domains of investment for a firm, like bio-tech.

Importantly, doing comprehensive research can help identify areas of opportunity connecting new domains and markets-- areas for positive disruption. Take virtual reality technology (VR) as an example trend. There are engineers who build cool VR stuff, without necessarily having a target market or application area or who focus on the major application of the technology-- consumer gaming. Both entrepreneurs and investors think VR can change the world, that it will be a trend. But they often seek solutions that scratch their own itch-- they relate it to their own frame of reference because they don't have knowledge or experience to understand the potential use for the technology in other industries. This is an area ripe for research-- to explore such contexts and routines and identify areas of opportunity. To not only discover these areas, but to ask important questions about what matters and why delving into such a domain would be a fruitful realm for innovation.

Finding Teams: A More Holistic Process and Deeper Analysis – The first step in finding, funding, and fostering startups is to be able to identify trends and areas of potential and then connect with entrepreneurs focused in those areas. In current VC processes, there are a number of impediments to creating a "deal flow" that is truly focused on innovation. In identifying opportunities to pursue, VCs are largely reactionary. Most VC's have an opinion on what is trendy, without necessarily sound reasoning behind it-- it typically comes from

following other lead investors' opinions. Moreover, because VC pundits are typically the ones who declare what the trends are, the whole process is self-fulfilling prophecy. If a leading VC says chat bots are the next big thing and invests heavily in them, other investors also pursue the trend of chat bots. Then more entrepreneurs flood into the chat bot trend, seeking funding. The approach the VC firm then takes to choosing from among those startups matters a great deal. Many firms focus on connections, rather than ideas. Andreessen & Horowitz, for example, and many others follow more of a "Hollywood talent agent" model, where they focus on talented teams, rather than ideas. Moreover, finding talent typically happens through networks that VCs navigate, so the startups that ultimately get funded are the ones who already had connections to begin with. The decision making process ranges depending on the firm, and may be a consensus vote, a majority, or a decision made by a single partner, but are generally informed by opinion, not a research-informed, systematic process.

The teams I followed at both NXTP and JFDI in 2013 and 2014 were chosen in a similar fashion. It was heavily influenced by who the specific team members were. Did they fill the necessary roles—or as JFDI put it: did they have a hacker, a hipster, and a hustler? Had they known each other a long time? Were they already familiar with the market? As for the idea—was it in a trendy area, either in terms of domain, like bit-coin was at the time, or similar to ideas being funded in Silicon Valley? Teams looking to dive into more obscure realms or with riskier ideas were often left by the wayside.

An ethnographic approach seems valuable here in several ways. First, it can help in developing a more systematic, grounded process for identifying trends that is anticipatory, not reactionary. Taking a holistic approach to looking at a technology from a historical viewpoint, and then analyzing trends in systematic way, we can look at the deltas and anticipate some of the changes and the directions of those changes. And we can utilize rich anthropological theory in conducting such analysis. Anthropological theories can help us frame, understand, and assess behaviors to inform analysis of these dynamics. And in moving from trends to teams, an ethnographic approach seems most valuable in terms of the rich context it provides.

Funding Choices: Richer Data for Making Decisions – Following from the process of finding to funding startups, the main area of focus for VC's is performance metrics. The main metrics VC's look for include: retention (also referred to as churn), growth (in terms of revenue), acquisition growth (number of users), daily and monthly active users (DAU/MAU), amount of time spent (depending on product), lifetime value of a user (in dollars), acquisition cost (how much it costs to acquire a customer), profit margin, and potential market size, which is more of a (usually inflated) estimate, rather than a metric. This forces startups to focus on these metrics to survive; Lean principles instill in startups a very metrics-driven focus that relates back to funding mechanisms. In order to build, measure, and test their ideas, founders must focus on metrics to benchmark progress and make sense of it.

Metrics play a large role not only for VC's, but for the teams they scout, informing their decision-making process and shaping their understanding of their product and its use. But where metrics provide direction, they can also add pressure for the teams to perform and compete, without questioning the goals. For instance, teams try to optimize for things like

conversion rates before they are even certain of their business direction. When a team is too eager to move forward to obtain a milestone, they may not be optimizing for the right thing.

Another common issue is that these benchmarks are often one-size-fit-all. Metrics tend to be overly-simplistic representations of a complex system. The emphasis on metrics can pose a danger by giving false reassurance of progress and growth. Or, on the other hand, can force abandonment of an idea —a pivot— prematurely. The problem therein is that metrics provide minimal meaning or insight. They focus on linear growth and projections to measure progress, and they only act as a scale to measure how successful or not one potential solution has been. And even at that, they are often not indicative of anything beyond a binary. That is to say that we may know that users returned. But we do not necessarily know why. Metrics don't expand one's insight around solving a particular problem or developing potential solutions. Over several conversations with one of the startup teams I studied, an advisor repeatedly suggested they really needed to "measure engagement." The team worked to do more analytics, but they never talked with potential users, so they didn't really know what was actually engaging about the product. This was common among a lot of teams, who deferred to metrics, rather than getting insight from their users. As a result, founders approach continuing development of their idea assuming they know and understand the complex system in which they are introducing the product.

Lastly, and perhaps the most frustrating aspect for startups, is that metrics can add bureaucratic overhead. One team I followed in Argentina, Gorsh, wanted to move into Brazil as a market for a number of reasons, but an advisor said they needed metrics, numbers to show they should move into Brazil. He suggested they talk to a mentor who was particularly adept at analytics to figure out what to measure. These metrics force teams to work within that specific structure to show progress, rather than following their own journey. Metrics thus become a form of currency. Investors and founders nod and fire off questions based on their perception of how well, or how poorly, a startup is doing, based on such metrics. With the right metrics, a startup can garner more funding; without, it's unlikely. Metrics mean survival.

It seems that despite using data and doing their due diligence, VCs are not necessarily selecting truly innovative startups, but rather ones that provide immediate quantitative rationale. But growth metrics don't tell the whole story, particularly in early stage startups. And they may in fact be misleading if something truly has the potential to be disruptive. Reliance on metrics is not going away, but an ethnographic approach would provide an opportunity to extend and enhance the story and complement or contradict these limited data sources. These quantitative metrics don't tell you why people are using something, how they're using it, or what underlying needs are addressed. They don't provide meaning. Ethnographic data would provide deeper focus, and richer context. Within a VC setting, having someone to consult with on qualitative data would be beneficial to both the firm and the startups to get a fuller picture to how the metrics relate to the bigger picture. And would help firms and teams make better, more informed decisions that incorporate metrics into a richer understanding.

Influencing Startups: Reflection and Values – Finally, once a startup receives funding and becomes part of a VC's portfolio, the firm's role is to advise the startup and foster their growth and success. A VC partner typically takes an important advisory role for the startup or sits on the board, making strategic decisions to shape the startup's direction and growth.

The firm also draws upon service providers in their networks to help their portfolio companies succeed (Hochberg et al 2007). But, at the same time, the structure of limited and general partners' investment is such that about 99% of a fund is limited partner dollars; the general partner commits only about 1%, which insulates the general partner from feeling the effects of a poor fund return. These economics encourage the VC general partners to aim for generating high returns in the short term by “flipping” companies, instead of focusing on long-term, scale growth of their portfolio startups (Mulcahy et al 2012). Regarding the majority of startups funded, this part of the process tends to be an afterthought, particularly in considering the startups' core goals as they relate to broader impact, values, and sustainability. It is here that the most critical assets of ethnographic thinking, as Hasbrouck outlines (2015) would have the most impact—relativism, interpretation, deconstruction, and reflexivity.

In the nascent companies I have observed, VC's have an outsized impact in shaping their direction, and unfortunately, that is often fueled on how they can gain traction most rapidly and scale, for the benefit of returns. This, then, often has the effect of dramatically changing the focus and vision of the startup itself. Startups focused on smaller or more niche markets are encouraged to jump to bigger, more lucrative ones. Founders with an intense passion for solving a specific problem reorient to other problems that VCs suggest are more worthwhile to pursue. And in the end, there is a distinctive shift in values—a shift that moves teams from doing something potentially meaningful and of value for a particular type of end user to doing something that potentially leads to value for the VC firm.

One poignant example of this is Obatech, whose founders joined JFDI's program with the grand vision of developing a technological solution to eradicate fake drugs in Indonesia. At the beginning of the program, Obatech's focus was to create “a mobile-based validation platform connecting good pharma to patients in an emerging market.” But the consistent feedback they received in pitching their idea forced them to reconsider how this solution would work in reality. Would users really be motivated to scan their own drugs? Would they have the ability to, considering the low smartphone penetration rates in Indonesia? Still lacking the resources to develop a pilot study with a prototype, the team began exploring other possibilities. At the suggestion of some VC advisors, they reached out to two regional pharmaceutical companies. The team built a relationship with an Indonesian pharmacy chain and modified their vision; pharma ultimately became their customer. The outcome was a mobile application to “patients with chronic disease buy medicines more cheaply and take them more regularly” by providing data analytics to help pharmaceutical manufacturers. This shifted the focus from creating value for marginalized patients who feared for their safety to creating value for large pharmaceutical manufacturers. Obatech did not last long enough to see this vision either. But their brief existence and dramatic shift in aims highlights some important questions centered around value.

We've focused a bit on what it truly means to be disruptive. Disruption suggests radical change in meaning alongside wide diffusion... but this perspective should also reflect on values, sustainability, and impact on the end user. Innovation is an important driver of the economy, but as much research has noted, this does not mean it is necessary or positive (Abrahamson 1991). The types of “value” inherent in a new concept or product need to be unpacked; that is not easy or straightforward, as Graeber has shown (2001), but ethnographic reflexivity can help us get to a more fruitful place. Reflexive thinking needs to

be a part of the innovation process, and this extends to the roles that VC's play in fostering startups as well. VCs would benefit from a broader perspective, that gets them out of their affluent, educated, and mostly white male bubble. They, and their startups need to understand what people—and not just early adopters—value. Otherwise, they are imbuing values into the product without understanding their impact on the end user.

Paths for Practice

There are a few current models that could help shape the way that ethnography could be incorporated into VC practice. As noted, VCs draw heavily upon their networks to identify trends, find startups, and to help their portfolio companies succeed (Hochberg et al 2007). Following from this there seems to be a strong opportunity to incorporate ethnographic research, either as part of this network, or in house.

The in-house model is a potential path where there is already precedence. Many VC funds have Entrepreneurs in Residence (EIR) role, who utilize their expertise to evaluate and perhaps pursue different ideas and assist portfolio companies. Following from this, an Ethnographer in Residence might aim to identify potential trends, identify startups of interest, advise portfolio companies, providing meaningful guidance, and conduct research that is available not just to general partners, but also to the startups they foster.

Design as a discipline has also developed some good working models to bring a design perspective into VC more broadly. Notably, Kleiner Perkins Caufield Byers hired John Maeda, a renowned designer, as a general partner to bring in that perspective. But other VC firms, like Google Ventures (GV) have also built a solid foundation of design into their practices. They use their “sprint” model, doing deep dives with portfolio companies. Certainly there are opportunities building on this to incorporate ethnographic approaches more deeply into VC practice, either in house, or as a consultant within the networks that VC leverage for so much of the work that they do.

FORGING NEW PATHS FOR INNOVATION RESEARCH

Beyond a Realist Ontology

If we are indeed studying something that is “real” for the purposes of innovation, we are also intentionally trying to understand how we can change it and thus acknowledge the world as socially constructed; we are actively constructing reality. This calls into question the ‘realist’ ontology and epistemology so common in conversation around the predominant folk model of ethnography in innovation. The power of ethnographic methods and ethnographic thinking is not about finding new territory to colonize for startups and for VCs. It is in the rich, reflexive, deconstructionist, interpretivist perspective it provides us. In imbuing an ethnographic mindset into the main elements of the startup sphere, the goal is not to create disruption for the sake of a profitable “disruptive innovation” orientation. It is to make innovation more meaningful. To drive value. Ethnographic approaches enable this in several ways: analysis of complexity, anticipation, attunement, advocacy. The tools inherent in an ethnographic methodological approach allow for analysis of complexity in uncharted terrains. The focus on studying socio-cultural contexts and their dynamics enables would-be innovators to anticipate change in social meaning. An interpretivist mindset underlies the

ability to become attuned to a domain, a market, and importantly, an individual human who may be a user. And, finally, being reflexive allows us to understand value and to advocate for those values that make for positive change, not just disruption.

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NOTES

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Applying Theory to Applied Ethnography

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In applied ethnographic praxis, how should we use theory? Exploring how existing theory from a variety of domains has supported and advanced our work, this paper justifies and demonstrates how theory can be used in an accessible and practical manner when framing research and analyzing experience in the field. Two approaches for using theory are outlined, providing guidelines for different ways to apply theory to applied ethnography. Defense of such approaches is provided through both an appeal to the value we have seen it add to ethnography in industry and to a brief return to Hermeneutic ethnography, inspired by the likes of Gadamer and Geertz. The latter serves as a reminder of reasons to be skeptical that as ethnographers we uncover “the real.” Pre-existing theory provides valuable assistance when transforming an insight about the world into an idea with explanatory and predictive potential for our clients. Drawing upon theory allows us to elevate an interesting description of the “real” world into actionable insights with theoretical muscle. And we contend that ethnographers in industry need not incorporate theory in their work in the manner that is typical of academia – the same ‘rules’ and norms do not apply.

Keywords: theory, applied ethnography, de-skilling, hermeneutics, pragmatic, low fidelity, bricolage, project phases

INTRODUCTION

This paper returns to a central question for applied ethnographers, namely, what is the role of theory in applied ethnographic practice? Past EPIC papers have expressed concern over both how to engage with pre-existing theory and how to deliver theory (Cefkin 2010). We are focused here on the former more so than the latter, but in our view it is invaluable to engage with theory (regardless of where it comes from), and do so in a productive manner, to deliver theory. The point of this paper is to justify and show how theory can be used in an accessible and practical manner when framing research and analyzing experience in the field. Our hope is that we will contribute to the ongoing discussion of ethnographic practice in industry, working towards practitioners being better equipped to deliver insights into the world with predictive and pragmatic potential.

Our aim as ethnographers in industry is to provide our clients with insights about the world that are predictive, practical, and powerful. However rich and insightful a good description of the world is, it is insufficient for our clients. They need the description to be translated: how is it relevant to their business, what does it predict about the world and how will they take meaningful and practical steps in light of this insight. In our ethnographic process, pre-existing theory provides valuable assistance when transforming an insight about the world into an idea with explanatory and predictive potential. Drawing upon theory

allows us to elevate an interesting description of the world into actionable insights with theoretical muscle.

It is difficult to find a middle ground between over-prioritizing and under-utilizing theory. This is a middle ground between a deductive and inductive approach to theory. Too often the ethnographer may be left with the sense that their choice is binary: either ethnographic practice is about validating existing theories, often rigidly following that theory as a framework for examining the phenomena, or it is about discovery in the field, trying to enter the field with few potentially contaminating theoretical commitments and allowing theory to develop in light of interaction with the phenomena (e.g. Grounded Theory). We contend that neither of these approaches is conducive to developing insights that are pragmatically valuable for clients. Following a strictly deductive approach is valuable when seeking to confirm, deny, or add nuance to an existing theory. However, by design it can do no more than this unless the ethnographer begins to work inductively. An inductive approach encourages theoretical dismissiveness and often leads to results that lack long-lasting pragmatic value. Moreover, as we shall see it is questionable whether we can ever achieve a purely deductive or inductive approach. We must both accept and seek a middle ground where theory is respected but also put to work in a practical and accessible manner.

This middle ground is justified by a hermeneutic view of ethnography. Hermeneutics analyses and describes how we achieve understanding. For our purposes here, the key point from this position is that any understanding we have can never be exactly identical or correspondent with objective external reality. The knowledge we develop through fieldwork (or any science) will never be complete and final, even if the world and human nature were an unchanging, static phenomenon. As Nafus & Anderson explored at the Ethnographic Praxis in Industry Conference (EPIC) 2006, ethnography has been positioned as a method for revealing “the real,” specifically what real people do and want. This is a brand statement for ethnography that we applied ethnographers are all likely guilty of playing up to at times. While it is useful for explaining to outsiders what we do, it is flawed. Firstly, it is flawed because following hermeneutics we are skeptical that this is in fact what ethnography, or any science, does. Secondly, if ethnography as a methodology reveals the world as it objectively is then there is no need for guiding our clients with careful interpretation. This positivist position negates the value we provide our clients in carefully analyzing data and bringing to bare a familiarity with a breadth of human sciences research that enhances our interpretation. If the data contains a description of objective reality why would it need interpretation? This brand statement, in fact, provides an intellectual foundation for the de-skilling of ethnographic practice that Lombardi (2009) describes. As Lombardi reports, he is under pressure to serve up the research participants’ worlds without a mediating layer of ethnographic interpretation:

[I]nstead of helping clients interpret complex data about complex situations, I am increasingly asked to produce an experience of getting to know consumers and end-users on a pre-analytic level that looks and feels new, but which must [...] dovetail as much as possible with existing ways of conceptualizing those consumers. (Lombardi 2009)

The hermeneutic position is not a novel framework for understanding ethnography. In fact hermeneutic ethnography was described over 30 years ago (Rabinow & Sullivan, 1979) and it was briefly explored at last year’s EPIC (Mendonca, 2015). It is relevant today because it provides a useful position for understanding what it is that we do as ethnographers and what

role theory does and should play in our work. Those trained in positivist qualitative science may hesitate at the thought of employing the pragmatic approach to using theory that we endorse. In our view it is logically justified by hermeneutic ethnography.

Rick Robinson acknowledged in the inaugural EPIC (2005) that, “*Building a definition of what theory is and does for us must be a long arc of conversation and in some senses, it will be a yardstick of disciplinary maturity.*” This is an important issue to continue returning to so that we may further refine the methodologies and approaches of ethnographers in industry. It is not a distant memory that there were accusations of an “*unwarranted empiricist disjunction of ethnography from theory*” (Waquant 2002). Moreover, with the increased adoption of ethnography in market research, R&D, and business strategy, it is useful if we can articulate the value that human sciences can bring to such work.

In this paper we will briefly outline the middle ground for using theory and its hermeneutical justification. We will then provide two approaches for using theory that we have found to be beneficial in applied ethnography: Low Fidelity and Bricolage. Low Fidelity involves employing aspects of a pre-existing theory, paradigm, or discipline without rigidly following or wholesale adopting the theory in research framing, design, and analysis. The second approach, Bricolage, highlights the mixing and matching of theories: combining seemingly unrelated theories from disparate disciplines to make sense of the project’s phenomenon of study. We will discuss how these approaches influenced two case example projects and how they contributed to the results of those projects. We will then discuss how theory can be applied at different stages of a project and outline some practical considerations for applying theory.

A PRAGMATIC AND HERMENEUTIC ETHNOGRAPHY

In his seminal essay “*Towards an interpretive theory of culture,*” Geertz (1973) describes the nature of man as, above all else, varied. In his view it is in understanding that variousness that, “*we shall come to construct a concept of human nature that [...] has both substance and truth.*” His familiar claim is that the individuality and distinctiveness of humans is not considered a legitimate object of study for enlightenment science. Consequently, such science’s explanatory power is muted, their theories sterile. Thick ethnographic description is the solution for Geertz. How does the ethnographer, looking to advance theory, preserve the individual and particular of ethnographic description in the developed theory, when theory is inherently generalized?

Hermeneutics reframes this issue, relieving us of the concern of preserving the individual in theory. It states that we can only understand the whole with reference to the individual. Whole here is the context of the individual, whether that be narrative context, physical context, or theoretical context. Our understanding of a book is the synthesis of our understanding of the individual sentences of the book. Similarly a theory about the nature of humans will be understood only in light of particular aspects of our nature. Interestingly, the argument goes further, stating that we can only understand the individual with reference to a whole. Thus understanding becomes circular in nature.

If we accept this Hermeneutic circle, we accept that we can never arrive at a complete and final truth. We are caught in an infinite cycle of interpretation (although one from which we as applied ethnographers we must extract actionable recommendations). As our interpretation of the individual develops so too will our interpretation of the whole. Equally, as our interpretation of the whole develops so too will our interpretation of the individual.

This Hermeneutic circle is an observation that we must bring a framework of understanding with us to begin to understand anything.

In the words of Heidegger (1962) an “*interpretation is never a pre-suppositionless apprehending of something presented to us.*” We always already have some understanding of our world, which is in fact crucial to developing new understanding. Without such pre-suppositions we could not begin to understand the object. In response to a question about why magnets repel, the physicist, Richard Feynman (2015), observed that, “*you have to be in some framework that allows something to be true. Otherwise you are perpetually asking why.*” He could explain that magnets repel because of an electric force or because of the laws of physics. Without pre-supposing some level of his explanation we will not be satisfied with his explanation and we are left, as he observes, perpetually asking why (“Why are the laws of physics the way they are?” “Why...?”). This again is the idea that a person can never develop an understanding of the world that is complete and wholly identical with the external reality of the person attempting to understand the world. The intellectual challenge we face is to remember this nature of understanding and respond accordingly. To recognize that we always bring with us a framework of understanding into the field and that our experience in the field is shaped at least partially by that framework of understanding. Equally, to recognize that when we set out to understand a theory through ethnographic fieldwork, our understanding of that theory is always influenced by our interpretation of particular experiences in the field.

Accepting a hermeneutic view of ethnography means accepting there can be no pure deductive or inductive approach to incorporating theory in ethnography. Wacquant (2002) denies the possibility of theory (solely) developing in the field, which he describes as the “*fairy tale of ‘grounded theory’.*” In doing so he underplays the potential for the ethnographers’ understanding of a theory to be changed and clarified in its interaction with practice during research. Accusing Wacquant of an overly deductive approach, Duneier (2002) protests that the “*ethnographer who allows theory to dominate data [...] makes a farce out of otherwise careful work.*” We should, however, be careful not to forget that there can be no understanding of ethnographic data without presuppositions, which may be either folk theories or academic ones. Duneier describes his approach as neither “*strictly inductive or deductive: I engage a variety of theoretical/ sociological questions, some of which I brought to the site from the beginning, some of which I discovered through various routes as I worked in the site.*” This, we believe, is a roughly accurate description of ethnographic work.

Hermeneutic ethnographic practice strives to recognize those theories and beliefs that are otherwise unconsciously brought into the field, and that inform and influence our experiences. Such efforts facilitate a greater openness to altering and reframing presuppositions in light of the data. They also enable greater sensitivity to how we come to understand and interpret the data. Furthermore, it is recognized that the practitioner does and must draw their own interpretation of the pre-existing theories that are deductively tested or used as an analytical aid in a research project. If we accept this position we are, in a real sense, liberated from some of the rigidity of academic standards for using theory.

Accepting that our understanding of pre-existing theory is an interpretation of the original author’s intent allows room for felt inconsistencies between what makes the most sense to us and what we read on the page. We should be compelled to return to and re-examine those inconsistencies and to make the best possible interpretation. However, we can accept the presence of inconsistency and need not abandon useful content from the theories.

We can see an ethnographic project as an act of attempting to achieve understanding, where there is and must be a dialogue between the individual and whole, the research participant and the theory. As such, rather than characterizing theory as solely an input or output to the research process, theory is allowed to play an active and interactive role throughout the entire project. The ethnographer may embrace the influence of their understanding of pre-existing theory upon their interpretation of experiences in the field and vice versa. They may bring in theory when relevant and abandon it when it ceases to add value, just as quickly. In the case examples provided in the following we outline what this looks like in practice.

In sum, we believe there are important lessons to learn and be reminded of from authors such as Heidegger (1927) and Gadamer (1976, 1982) who emphasize the interpretive nature of understanding. Hermeneutics is highly valuable to return to when evaluating ethnographic methodology. As a tradition it provides a powerful framework for evaluating those methodological concerns and better understanding what it is that we do as applied ethnographers. It is also in a Hermeneutic perspective that our approaches for using theory are grounded. In the following we explore two such approaches.

TWO APPROACHES FOR HOW TO APPLY THEORY

1. Low Fidelity

The approach we are calling Low Fidelity espouses the virtues of selectively drawing from aspects of the work of a theoretician. For a certain idea or theory to be useful, to provide intellectual value, it is not necessary that the applied ethnographer is acutely aware of all the specifics, nuances and qualifiers that surround that idea or theory. Rather than being subservient to the wider context of a theoretician's (or even an entire discipline's) body of work, useful and interesting ideas are made to work for the ethnographer. If an aspect of an idea or theory helps us to elevate our insights into ideas with explanatory, predictive power then that is an inherently good thing. We feel no need to reject that data analysis if it turns out that the way we drew upon the academic's work is not wholly aligned or even at all consistent with their entire corpus or original intentions. The relevance of theory and the value it adds should be rigorously examined. However, no academic due diligence of then checking that the conclusion drawn by the ethnographer is entirely consistent with the full spectrum and nuance of the ideas of the theoretician is required here.

This approach is grounded in our belief that ethnographic practice, in particular applied ethnography, is fundamentally creative, interpretive and dialectical. We always provide our clients with clarity on how to make a meaningful impact in the world. We may not always provide them with observations that are precisely consistent with the intellectual milieu of the day, because that likely may not be relevant. In a recent study we conducted, examining the role of trucks in North Americans' daily lives, we drew upon Heidegger's perspective on how it is that we humans are related to the world. It became apparent to us during fieldwork that trucks were incredibly valuable tools for their users that afforded them varied opportunities in the world. This prompted us to think about the relationship between humans and the objects that surround them in a deeper way, naturally leading us to consider what Heidegger had to say.

As part of his project of exploring the question of the meaning of Being, Heidegger puts forward a radical account of how we are directed towards other objects (e.g. fearing tigers, believing in science). He wanted to reject traditional philosophical accounts that had characterized this property of intentionality as belonging to mental states. For Heidegger, it is fundamental to our Being, as humans, that we are already with other beings. In his words, “*intentionality belongs to the existence of Dasein* [the Being of humans]” (1982, p.157). What was useful to us was that in building up to this argument Heidegger puts forward an account of two different ways in which we have a relationship with objects.

According to Heidegger there are two modes of engaging with the world. One is a detached and intellectual relationship with objects, consciously reflecting upon them (encountering them as present-at-hand). The other is an involved and practical engagement with objects, using them unthinkingly in our daily projects (encountering them as ready-to-hand). Contrary to popular belief, says Heidegger, the present-at-hand relationship is not the more natural, fundamental, truthful relationship humans have with the world around them. Famously, he takes as evidence of this our ability to pick up and use a tool without having first to consciously reflect upon the properties of the tool and what they afford us.

This gave us a valuable framework to draw inspiration from, when exploring users’ relationship with trucks. We saw that they assessed trucks before making a purchase according to how the truck can facilitate their projects (towing a boat) rather than the truck’s abstract capabilities (towing 1000 kg). Of course, assessing trucks is fundamentally a present-at-hand engagement but what mattered to us was that what the buyers were thinking about mimicked Heidegger’s division. They were clearly considering how they would take up a ready-to-hand relationship with their new trucks. Heidegger inspired a useful perspective for differentiating how users think about their trucks and how manufacturers think about their trucks. It was of no consequence to us that this differentiation was between two different styles of thinking about trucks (having a present-at-hand relationship) rather than between two Heideggerian modes of engagement with the trucks (intellectual reflection and practical interaction). In the end we had partially disregarded Heidegger’s point.

We also saw that the drivers appreciated the value of their trucks much more when they did not have access to the truck or when it broke down. The drivers realized and reflected upon all the meaningful possibilities the trucks had afforded them that had now been taken away from them. This paralleled Heidegger’s description of how when a tool breaks we often switch from practically engaging with the tool to reflectively analyzing the tool and the affordances it no longer gives us. As the drivers switched to present-at-hand reflecting on their broken down trucks, the trucks became more valuable to them because they were more conscious of all the things they could usually do with the truck. One of our research participants described a time she lamented not being able to pick up a discarded piece of furniture because she was in her car rather than her truck. From then on she always chose the truck over the car when she could. Heidegger has nothing to say about the perceived value of tools and how that may change in different modes of engagement with the world but this mattered little to us. A small assertion in his grand exploration of the meaning of Being had inspired us to consider something we may otherwise have overlooked and to develop an interesting insight into users’ relationship with their trucks.

We did not feel obligated to incorporate Heidegger’s entire body of work and its nuances as we applied one aspect of it. We simultaneously had a general understanding of and irreverence towards his full theory on Being. How different would our results have been if

we had ignored Heidegger and theory all together? We are skeptical that we would have been able to deliver the same value for our client in recommending strategies for how the value proposition of trucks should be communicated to users.

2. Bricolage

The second approach we have found ourselves using, which we here call Bricolage, encourages the mixing and matching of theories: combining seemingly unrelated theories from disparate disciplines to make sense of the examined phenomenon. We find it is a perfectly valid and useful exercise in applied ethnography to splice together theories from different or even seemingly incompatible schools of thought and academic disciplines. We treat these potentially disparate sources as additional informants to our study rather than resigning ourselves to the confinement of one theoretical framework over another. We would not rely on our participant-observation with a single research participant we've met in the field to drive all of our insights and recommendations on a phenomenon of study, but rather we would draw out patterns across our research participants – and so too do we try to draw on the varied perspectives of different theories, rather than relying on solely one. We also recognize that different theories are more or less valuable for different tasks of the research project and for interpreting different aspects of the phenomenon to be studied.

In a recent study we conducted into life in long-term care in Northern Europe, North America, and Japan, we used theories from anthropology, economics, and cognitive science to both frame our study and analyze our data. Reflecting upon Actor Network Theory (Latour 2005) and its relevance for our study reminded us of the importance of paying attention to the role of non-human actors in a given setting. In framing our research we therefore decided that we study the full ecology of the long-term care institution. We would follow and examine not only all the people involved in the institution (e.g. residents, relatives, caregivers and administrators) but also patient handling equipment, bathing devices, cutlery, walking sticks, alarms, walkie-talkies and all other devices that regularly cropped up while exploring the institutions. We became fascinated with how all of these “actants” interacted and contributed to life, in the broadest sense, in these elderly care facilities. Actor Network Theory only provided initial inspiration but it was crucial in stimulating our thinking and giving greater depth to our approach.

While in the field and analyzing data we were influenced by Embodied Cognition (for a summary see Gallagher & Zahavi, 2008), the collection of theories that assert that aspects of our body, beyond our brain, play a constitutive or even causal role in our cognitive processing and experience of the world. This meant that we invited our participants to reflect upon their felt bodily experiences throughout their day and how this might perhaps influence their thought and emotion. We made sure to experience for ourselves the physical sensations that residents went through, of being lifted in mechanical devices and sleeping on strange medical mattresses. We also, perhaps controversially, asked some of the caregivers to experience what it was like being transferred between beds, wheelchairs and bathing devices. It was fascinating seeing them develop new perspectives on the experiences of the residents they cared for and realize the impact of the bodily experience upon their residents' psychological wellbeing. We allowed Embodied Cognition to influence how we conducted our research. In doing so we may have ended up with an interpretation of our data that had a slightly different emphasis than we would have reached if we had set the theory aside.

When it came to analyzing our data upon return from the field we also drew on different models of efficiency from economics to help us articulate a trend that we were seeing in long-term care facilities. Technical efficiency is the measure of how much output is delivered from a system with a set amount of input resources. Naturally, more efficient systems deliver more output from the same amount of input. Looking at the long-term care facility we could see that most institutions were focused on maximizing their technical efficiency; trying to move as quickly as possible through all their various and challenging daily tasks with the resources available to them. However, there was a group of institutions that focused instead on maximizing what we observed to be their “Pareto efficiency.” When optimal Pareto efficiency is achieved it is impossible to make any one individual better off without making another worse off. Improving this kind of efficiency means reallocating resources to make individuals better off up until this process detracts from another’s wellbeing. If one resident needs special treatment or extra attention then they should get that up until this detracts from another resident’s or caregiver’s wellbeing. The goal is not to rush through daily tasks but rather to maximize the residents’ wellbeing up until this burdens the caregivers, detracting from their wellbeing (and thus the caregivers’ ability to deliver care to other patients as caringly). Ironically, what we saw was that those institutions that focused on Pareto efficiency managed to deliver greater technical efficiency as well. In brief, the focus on technical efficiency was detracting from the residents’ happiness, especially those with dementia, to the extent that they became more difficult to work with, prolonging care tasks and reducing efficiency.

While ANT, Embodied Cognition, and these two economic models of efficiency have little, if anything, to do and say with one another, they all proved to be hugely useful in our research when combined, and allowed us to deliver impactful and strategic recommendations on the future of long-term care. As long as pragmatic value is delivered for our clients we are happy to pick and mix in the candy store of available theories to help us interpret different aspects of a phenomenon.

Low Fidelity and Bricolage are by no means meant to be the only approaches for applying theory to applied ethnography. Rather, these are meant to launch further thinking about other approaches that prove useful and inspirational for ethnographers in industry. Further, in our experience pre-existing theory can be applied at many stages of the project. It can help to frame the project, to develop the insights in and out of the field, and to develop the recommendations. We will discuss theory’s role at each of these stages in the next section.

WHEN TO APPLY THEORY

1. Theory Before the Field

Theory can be useful in framing a project’s research scope, approach, and methodologies prior to going into the field. A couple of years ago, in a project for an electronics manufacturer, we were asked to explore the future potential of camera devices to improve users’ everyday lives. Prior to going to the field we used pre-existing theories to help us think through our research approach. We learned from philosophy professor Taylor Carman, of Columbia University, about the biological and philosophical differences between a camera and an eye, and about the various interpretations of perception and seeing. We dedicated

time to browsing through a range of theories across disciplines that dealt with these themes. We found the work of anthropologist Christina Grasseni (2007) on “skilled visions” to be particularly relevant and inspiring. Grasseni explores ways of seeing as a skill, how vision is cultural, varied, and something learned through experience and apprenticeship.

Inspired by this theory in particular, we decided to frame our research around the concept of “expert seeing,” and we met with people across various professions – from a race car driver to an astronomer to a golfer – who use their vision in unique ways. We designed our research so that during our participant-observation with each expert, we asked them to demonstrate their “skilled vision” in their line of work, then asked them to apply that skill in a completely different context. We also asked each expert to try to teach us their “skilled vision,” and we had them use a camera to try to translate their human skill into the functions of a machine, abstractly by comparing themselves to a camera and practically by actually taking photographs.

The experimental and interactive methodologies of our fieldwork stemmed directly from applying pre-existing theory to our thinking at the start of the project. Our approach ultimately helped us to think of creative new use cases for advanced camera technology. Oftentimes technology projects ask us to provide insight not into people’s lives today, but into what people’s lives might be like in the future, and this can lead to speculative recommendations, solving for problems that do not exist, and developing new technologies and offerings in a vacuum far removed from the contexts in which they will be used and experienced. Our theory-inspired research approach of exploring vision outside the known contexts of the average device user was helpful in keeping us grounded in real world applications even as we were asked to develop a perspective on the future.

2. Theory During and After the Field

Theory can help lend explanatory power to insights development during and after fieldwork. In a project for an appliances manufacturer, we set out to study what was driving consumers’ increased investments in their laundry rooms. In north Texas and the New York tri-state area, we observed how people did their laundry and talked about their homes, supplemented by interviews with developers, architects, and designers. What we found was an increase in open-plan design. Consumers wanted to take down walls and barriers, increasing flow between spaces, and creating more lines of vision across rooms. Concurrently, we observed an increase in investment in not only laundry spaces but also master bedroom suites and other more “private” spaces like pantries and garages.

While in the field, we could see that as homes were becoming more public and accessible to visitors, people were investing more in their private spaces. But we needed a theory to help explain why the value of these kinds of spaces were linked to one another, and we found it in Erving Goffman’s theory of frontstage and backstage, outlined in *The Presentation of Self in Everyday Life* (1959). Goffman studied how the individual seeks to manage impressions in social interactions, framing these interactions as theatrical encounters. Goffman named the space in which we give our public performances the front region, and the place where we knowingly contradict that performance the back region. He argued that performances in the front region depended on the existence of the back region, since the respite and privacy the latter offered were necessary to the success of the performance in the former.

By using this theory to help interpret our data during and shortly after fieldwork, we could see why private spaces were becoming more important to our research participants. As their frontstage expanded – as they maintained their performance in more parts of the house – they consequently needed to invest more in the backstage, the private places where they could relax and let their guard down: places like master bedroom suites, garages, and crucially, laundry rooms. Why were laundry rooms back region? Due to their association with dirty clothing, and their practical use as a convenient area to store everything from toiletries to cleaning supplies, they were a place where our respondents could give up the performance of a presentable, hospitable space. There was, in fact, a deep psychological value in having a good laundry room. Based on our analysis, we saw potential for an ecology of washing machines that could be credibly located in many back regions: for example one type of washing machine in the bathroom, and another type of washing machine in the garage. Moreover, we predicted that the contemporary movement towards putting washing machines in the kitchens was not going to last; that this fad would die out since kitchens, as “front region” rooms, were not appropriate places for laundry.

3. Theory and Delivering Recommendations

Finally, theory can be invaluable in translating insights from the field into powerful recommendations for clients. Several years ago, a big American museum asked us to help them improve their membership program. The museum had a large number of visitors, and high interest, but struggled to convert visitors to members, particularly at high levels of giving. To identify what would incentivize people to become members, we decided to study the phenomenon of membership and belonging among people who engaged in artistic culture in the area.

Theory actually helped us frame the project from the beginning. Through reading what various theorists – including Durkheim, Lacan, and Butler – wrote about the relationship between the self and larger collectives, we identified different angles through which to study our research participants’ membership in cultural groups. For example, Judith Butler’s theory of performativity (1990) inspired us to look out for rituals around membership in which our participants engaged in order to feel a sense of belonging.

But theory aided us most when developing recommendations for our client. We had learned through our research that people viewed their relationship with the museum as quite transactional. This was evident from the way many people spoke about their memberships (e.g. “it pays for itself”) and was supported by how the museum rewarded members through perks like coupons and apparel. Such a model did not foster generosity, since it encouraged people to think about giving in a calculated way.

By applying Marshall Sahlin’s theory of reciprocity (1972), we were able to identify a better way for our client to engage its members. Heavily inspired by Sahlin, we explained to our client that there were three models of giving: negative reciprocity, balanced reciprocity, and trusted reciprocity. Like Sahlin, we defined negative reciprocity as a model where people give in order to get more in return, balanced reciprocity as a model where people give in order to get the same amount back, and trusted reciprocity (what Sahlin called generalized reciprocity) as a model where people give, trusting that they will get more over time, but without any expectation of immediate payback. We argued that our client was currently engaged in a model of negative reciprocity, and suggested instead that our client try to shift

to a model of trusted reciprocity. This would encourage people to give without expectation of immediate benefits, and instead give as a way to care and invest in the relationship, fostering long-term altruism.

Sahlén's theory of reciprocity not only helped us distill the insights we had found in our research, but also allowed us to give our client a straightforward way to think about membership, and offered them a clear ambition to work towards: creating trusted reciprocity with their members. On the basis of a strong theoretical foundation, we were then able to propose a number of ways to help move members from being benefits recipients to philanthropists. We suggested they develop a model that encouraged increasing care and engagement over time, thus creating the conditions for trusted reciprocity. We also suggested that they offer only benefits that felt closely connected to the museum experience – for example ways to bond with other members, or to learn more about the art – rather than token prizes, since experiential benefits would feel less transactional, and more natural in the relationship.

Applying theory helped us in one other aspect of recommendations. Through our research, we found that a large number of museum visitors were engaging with the art in a fairly “instrumental” way, using it as a talking point to impress dates, for example, or as a backdrop for selfies. Our client's instinct was to be uneasy with this behavior. But with a theoretical understanding of the role of consumption in construction of self using Thorstein Veblen's (1899) theory of conspicuous consumption we argued to our client that there was nothing wrong with people using contemporary art to express who they were, or who they wanted to be. With our encouragement, the museum increasingly embraced these kinds of visitors, for example by helping them display their visits to the museum on social media.

Combining social theory with deep qualitative data made it possible for us to help our client see past what could be dismissed as a mere passing fad threatening to water-down the brand, and instead see the underlying social value of membership for both the museum and its visitors. Applying social science provided our client with a strategic direction for how to think about its visitors and members in a way that moved beyond their originally proposed project assignment of helping set new economic levels for each membership tier.

Certainly, there are various challenges when incorporating theory in applied work to deliver good research design, practice, and ultimately insights and recommendations. The next section delves into some of these practical considerations.

PRACTICAL CONSIDERATIONS FOR INCORPORATING THEORY

When applying theory to applied ethnography, we have experienced three types of challenges: being too focused on theory, not knowing when to let go of theory, and translating theory. To start with the first of these – being too focused on theory – familiarity with pre-existing theory can certainly bias our framing, data collection and analysis. We may find ourselves observing the worlds of our research participants through the lens of a theory we are very familiar with, and which we might think is especially relevant (in essence, thinking deductively). The ethnographer must actively work to assess their own pre-commitments and allow the data to challenge those commitments. We have found taking a ‘beginner's mind’ with us into the field to be helpful in checking biases. A beginner's mind means that we attempt to constantly learn from our research participants and try to set aside any preconceived ideas or notions we might have about the phenomenon at hand. This

requires discipline and self-awareness, and coming from an academic background of anthropological training certainly helps.

We have also found forming interdisciplinary teams involved across all project phases – from framing to final deliverable – to be beneficial in managing the challenge of being too focused on theory and in encouraging a beginner’s mind. Together an interdisciplinary team draws upon a more diverse spectrum of pre-existing theory while also being collectively less committed to, or even indoctrinated by, any one of those theories. The psychologist has no qualms asking the sociologist to reflect upon whether their functionalist analysis is really contributing to the team’s understanding of the data. They also evolve their theoretical application together as they move across different project phases, rejecting, adding, and mixing aspects of the theories as the project progresses. Overall, we find that the earlier we lay out our assumptions, theoretical commitments and ‘idea darlings,’ before and after work in the field, and the more openly we share and reflect over these within our teams, the better we can bracket those commitments. While it may be impossible to be entirely liberated from such biases, if the ethnographer can identify and articulate them then the better he or she will think independently of them.

The second practical consideration is knowing when to let go of theory. In a recent study on kitchen renovations for a kitchens company, we entered the field thinking that Goffman’s (1959) theory of frontstage and backstage would prove exceedingly useful. We conducted this study just after the laundry room study mentioned above had finished, and we believed that if Goffman’s theory was helpful in understanding laundry rooms in the home, then surely it would be helpful as we thought through the changing role of kitchens in the home. However, when we went into the field, we found Goffman’s theory to be essentially useless. The kitchens in the homes of research participants we met were already all so deeply frontstage spaces that the differences between a front and backstage were not relevant for driving actionable insights for our client (we had suspected that the kitchen as a frontstage was still a concept under debate). What was helpful to our client was figuring out what type of frontstage social space the kitchen could be, so we let go of Goffman and began exploring the concept of “casual” social spaces instead. Letting go of theory required a constant toggling between our understanding of a theory and our observations from the field, asking ourselves: is the theory we learned about providing further clarity to what we’re observing in the field, in a way that feels rich and exciting?

Translating theory in a way that resonates with clients is another important practical consideration when applying theory to applied ethnography. Familiarity with pre-existing theory often encourages us to want to give ever more detailed descriptions of a theory, falling into what Kieran Healy (2015) calls “nuance traps,” when what our clients need is clarity and original, compelling ideas. And unlike in academia, applied ethnographic work often does not necessarily require us to cite our sources – so to speak – in a final deliverable to the client. Sometimes a theory is for internal use only – it is helpful for us in setting up the research frame or developing insights. In the trucks study mentioned above, we did not say to our client, “Heidegger’s thinking on equipment, as part of his larger theory on the meaning of Being, or Dasein, is integral to understanding the value proposition of trucks.” An act of translation between dense theory and practical understand is of utmost importance to ensure that insights and recommendations are seamlessly understood across an audience that comes from diverse areas of expertise. In the museum study mentioned above, when we alluded to Sahlin’s theory of reciprocity in our recommendations, we translated Sahlin’s

“generalized reciprocity” to “trusted reciprocity” to make this more relevant and clear to our client. Oftentimes we’ve found our clients to be quite receptive and open to a discussion of theory’s relevance in the insights and recommendations we offer them; the task is to determine early on what the client’s appetite for hearing about applied theory might be, and to always translate heavy jargon and obscure terminology (often times the inaccessible trait that keeps academic theory in its ivory tower) into the plain-talk essence of what that theory is about. This act of translation requires a particular combination of skills – comfortable understanding of a theory, and the ability to communicate with clarity and simplicity.

Entering the research with both a beginner’s mind and relevant theories in the back pocket, working in interdisciplinary teams, being willing to let go of a theory when its not helpful, and translating complex theories into understandable terms are all ways to address practical considerations when applying theory to ethnography in industry. As with the two approaches to applying theory outlined in the earlier section, this is by no means meant to be an exhaustive list of practical considerations, but rather a launching point for further discussion among applied ethnographers.

CONCLUSION

What is next after the “real people period”? [...] Ethnography and ethnographers have so much more to offer our audiences and potential audiences than capturing or finding or discovering “the real.” (Nafus & Anderson 2006)

As a collective of applied ethnographers, have we clarified and communicated what it is that we provide our clients, if it is more than a picture of the real? We have here briefly touched upon hermeneutic concerns as a reminder that we may not be in the business of providing objective ‘real’ pictures of human nature. In our view, what we can provide our clients are pragmatic insights into their end users, grounded in a rigorous examination of human nature as we experience it and elevated to a predictive, actionable level (in part) through interaction with existing theory. And we contend that ethnographers in industry need not incorporate theory in their work in the manner that is typical of academia.

There is a middle ground between deductive and inductive approaches to theory. Here the ethnographer recognizes that they have brought theory with them into the field, intentionally or unintentionally. Here the ethnographer recognizes and responds to the fact that their particular experiences in the field will both shape and be shaped by their view of the whole. That whole can be a theoretical context for interpreting those experiences. Moreover, here the ethnographer recognizes that any pre-existing theory they wish to make use of in their research will require its own interpretation. That interpretation is required is not a license to freely misinterpret the theoretician’s ideas or original intent. There are still good and bad interpretations, which will be reflected in the quality of the insights and recommendations delivered. However, the ethnographer is liberated from rigidly and exhaustively following that theory in all aspects of research design and analysis. It is productive to view pre-existing literature as ancillary informants to the study, whose own contribution must be interpreted and the relevance of the data analyzed. What does this informant add to our picture of the whole?

In light of this view of theory we have described two approaches for incorporating theory in ethnographic practice, Low Fidelity and Bricolage. Low Fidelity involves employing aspects of a theory, paradigm or discipline without rigidly following or wholesale

adopting it in research framing, design and analysis. The second approach, Bricolage, highlights the mixing and matching of theories: combining seemingly unrelated theories from disparate disciplines to make sense of the project's phenomenon. We believe that without having adopted these approaches in the projects discussed we would not have delivered insights with predictive, pragmatic and explanatory power for our clients to the same extent.

There is an overwhelming wealth of ideas and theories describing human nature, experience and behavior. Moreover, the best theory is often rich, complex and nuanced. Given this, how do we make use of theory when we do not have the luxury of time or life-long expertise in a given theory that we might enjoy in academic life? The pragmatic approaches described above are both necessary and logically justified. Our training in social and human sciences, and familiarity with a breadth of relevant theory for understanding human nature, are an incredibly valuable resource for our clients. Everyone can indeed be their own ethnographer – they can go into the world, observe, participate, and come back with findings – but better ethnography will draw upon this resource. Applied ethnographers who are dexterous with theory and open to immersing themselves in potentially relevant theories in much the same way as they immerse themselves in the lived realities of their research participants, while at the same time taking a perhaps un-academic irreverent stance towards the rules, nuances, and finer points of theory in application, will deliver predictive, practical, and powerful insights. And this is one way to distinguish ourselves in the midst of concerns about the commoditization and perhaps de-skilling of our practice.

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How Autoethnography Enables Sensemaking across Organizations

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Building on participatory innovation, and taking a personal and analytical autoethnographic approach we set out to investigate how innovative initiatives emerge in the interaction of multiple stakeholders across different organizations. As researchers, we are interested in understanding the lived experience of the lead author, as an inquiry into how new initiatives across organizations are shaped in the interaction between different stakeholders across field sites and organizational levels. The project evolved as a cross-institutional initiative; bridging health-care and engineering education, and while the lead author was initially involved as design consultant, his engagement later resulted in the initiation of cross-disciplinary collaboration between two different local institutions. This paper is thus an attempt to investigate how emerging organizational initiatives and multi-stakeholder innovation become enabling to recognize and act upon emerging opportunities; through active personal involvement and by the use of an autoethnographic research approach.

The aim of the paper is to address the following research questions: How does the involvement of multiple stakeholders across different field sites and levels enable or constrain the emergence of innovation?

And how can autoethnography, as a method, enable us to navigate within the sensemaking process in the field of participatory innovation? The contribution of the paper is grounded in the analysis of real encounters across multiple field sites, and provides insight into how the themes of trust and power are crucial in understanding how new meaning evolves as a result of local interactions and on-going negotiations between multiple stakeholders.

Our goal is to discuss how innovation can be understood, not only as a process leading to a tangible and commercial outcome, but as a dialogical process of relationships, emerging in the interactions of different stakeholders. With autoethnography we have achieved a deeper level of insight into such process, which challenges traditional notions of innovation and ethnography.

Keywords: Autoethnography, Complex Responsive Processes, Participatory Innovation

INTRODUCTION

Participatory Innovation has in recent years evolved as a cross-disciplinary research field, which sets out to bring together different stakeholders and users in the process of developing new business opportunities that take into account the various interests and intentions. Combining the three research fields of Design Anthropology, Participatory Design and Lead User Innovation (Buur & Matthews 2008), Participatory Innovation has traditionally focused on observing, analyzing, challenging (Boer 2011; Larsen & Bogers 2014) and optimizing (Bogers & Horst 2014) what is going on in the interaction between different stakeholders, toward creating a meaningful outcome. Ethnography has, in this setting, acted as a key component in documenting and reflecting upon these phenomena to investigate

how others innovate. In this concern ethnographic praxis has increasingly grown to become an essential pillar of the innovation process as a way to understand the people involved, as well as their practice. It is our understanding that it has not yet been perceived as means to understand the researcher's own engagement and underlying intentions and assumptions of the innovation process in the on-going involvement with the stakeholders. This paper thus aims to provide an understanding of how autoethnography as a method can be involved for the purpose of shedding light on how innovation emerges between multiple stakeholders, and the implications for the researcher's on-going facilitation of, and involvement in that process. Our argument focuses on analyzing how lived experiences (Chang 2013) can contribute to an understanding of how new initiatives across organizational settings are formed. In light of complexity theory (Stacey 2011), we investigate the local interactions between multiple stakeholders and how collaboration over a longer period of time affect one's ability as practitioner to act in certain situations, and thus enables one to recognize and act upon emerging opportunities.

Contextualizing Emerging Innovation

The paper draws upon personal encounters from a four-year long involvement in a project emerging between multiple stakeholders. The goal has been to develop the practice and mindset of nursing students towards becoming more innovative, and to enable them of staying responsive to the on-going changes of their professional practice. The lead author of this paper took part in expanding the initiative to include the local university, at which he was employed. We make use of qualitative empirical materials, which include email conversations, personal narratives and observations in an effort to explore how ethnographic praxis can take into account the striking moments, which Stacey & Griffin (2005) describe as the notion of gaining new insight and sensemaking of experiences in the on-going daily practice of the research setting. Rather than describing the empirical findings in this paper as traditional ethnographic data, the material is a reflected analysis of the on-going interactions between the different stakeholders involved. In this sense, the analysis becomes an autoethnographic inquiry into the material.

Shaping of Human Relations

As we are dealing with several stakeholders in this research, it has become crucial to understand what it means to collaborate across organizations, how people navigate within that complexity, and how innovation in this respect emerges as a result of that. Within organizational theory there has been an increasing interest toward understanding complex responsive processes. Stacey (2011) essentially describes organizations as processes, where humans relate to each other through ordinary everyday interactions, in which they inevitably need to cope with the complexity and uncertainty of organizational life. Under these terms people continually relate to each other and it is in these interdependent relationships where notions of power and trust are constituted. Through communicative action between people an on-going social shaping takes place, and meaning emerges as interplay between gestures and responses, which cannot be separated in their communicative form (ibid). Rather than understanding organizations as systems, here they are perceived as temporal processes of relations between people. In those local interactions happening between humans we will

inevitably affect each other, which means that the relationships will be interdependent. Larsen (2014) argues that we each create our own understanding of these complex processes and are free to act as we wish, while at the same time being dependent on the relations we have, due to our collaborative effort to build the future. This interdependency both limits and enables us, as we are developing ourselves as well as the situations we are in. Stacey (2011) argues that through our local interactions, such as conversations, with others we are co-creating meaning. He explains that the way conversations take form is a result of a historical development within the community in which the local interactions are taking place. With time, gestures and the responses thereby become a reflection of the history of relations between people within the community.

Emerging Identities

Stacey (2011) describes the human identity as being socially constructed, in the on-going local interactions. These interactions result in the formation of relationships between people, which again influence the individual. This also affects how people perceive themselves in relation to others, due to being driven by self-enhancement, and thus leading to the manifestation of power relations. This could therefore be framing the way people interact with each other and how they lead conversations in respect to turn-taking and their gestures/responses. Buur and Larsen (2010) elaborate on the influence of power relations within organizational communities, by stating that spontaneity basically challenges power relations, as these are primarily nurtured when people speak or act in the way they are expected or not expected to. Trying to push the boundaries that are socially constructed may disturb the social stability of the community, which could eventually lead to confrontation. Such different situations of interaction between people increasingly require one to master the skills of improvisation, which again indicates the complexity of human relations.

Autoethnography – Why, How and What?

Our method approach in this paper is autoethnographic. To understand this method, we must first see it in the light of traditional ethnographic fieldwork. Ethnography as it was originally described within the frames of anthropological research, seeks to describe people and their culture or practice, as well as their understanding of what they do (Wolcott 1999). As such it can be perceived as a methodology with which we, through observations and interactions, seek to understand the distinctive nature of people's social and cultural life, whether it being a rural culture or the practice of an organization. On the other hand, ethnography encompasses a practice of doing fieldwork, which is both related to taking distance from the informants; and at the same time asking questions and re-framing one's own interpretation of the empirical materials.

In recent years, ethnographic research has expanded towards including a more subjective form, which has been coined autoethnography (Chang 2013; Ellis et al. 2014). Ellis et al. describe autoethnography as both a process and a product, as it challenges the way one normally conducts ethnographic research and helps one produce a written autoethnography that highly focuses on the analysis of one's own cultural experience. In a pragmatic sense, researchers who work with autoethnography thus write about moments that have had an impact on their daily experiences, and which have been formed through their involvement in

a specific culture. Following Brinkmann (2012) autoethnographic writing is a method of inquiry into qualitative research, and thus becomes an intrinsic part of the research methodology. However, for it to essentially be framed as autoethnographic research, one needs to work on two different levels. While traditional ethnography aims to detach the author from the final analysis, autoethnography highlights the involvement of the author present in the text and seeks to systematically analyze the author's own experience of being involved in the research context. In this case the lead author had no choice but being involved as a key player in shaping the activities and making decisions, meaning that it would not be possible to do traditional ethnography, and acting as a fly-on-the-wall. In this matter the lead author is here a character in the account and his role is acknowledged. This is different from traditional ethnography, where the researcher does not include himself in the ethnographic account. The outcome of this writing process is therefore a piece that engages others in the personal experiences of the researcher, and helps the researcher himself become more distant from the writing to understand the experiences in a different way. Solomon (2010) argues that an auto-ethnographic approach can show different nuances and new associations due to the greater access to levels of data which then challenges the original way of carrying out ethnographic research, since it questions the researcher's ability to truly encounter or understand the experiences of the informants. In relation to the more objective nature of traditional ethnographic fieldwork, the autoethnographer carries out his research anywhere he re-encounters his material; such as memories, objects and photos (Chang, 2013).

Autoethnography and Its Relation to Multi-Stakeholder Innovation

At EPIC in 2010, Keren Solomon (2010) used autoethnography as a way to change perspective, from a traditional, observant ethnographer, towards an involved researcher taking part in her own research, writing field-notes and analyzing her own practice. In this study she notices how autoethnography enables her as researcher to empathize with the subjects of study, taking on the role of self-inquiry. An inquiry which we in traditional ethnography would apply to those being researched; such as keeping diaries, responding to interviews, inviting the researcher into their practice etc. In the study presented in this paper, we set out to investigate the role of autoethnography from a different perspective. Not as a planned agenda to inquire into the research context and to study our own practice, but as an emerging method of autobiographical reflection on how one's own practice can be analyzed to gain a deeper understanding of innovation emerging in our interaction with various stakeholders. Drawing on Adler (1987), Anderson (2006) distinguishes between two different approaches to conducting research as an Autoethnographer, "opportunistic" and "convert" research. "Opportunistic researchers", are already members of the group, which sets the frame for the research and as such, group membership precedes the research agenda towards researching the group. "Convert researchers" will initially start with an objective agenda and a research context to focus on, but eventually finds themselves being immersed in the research context through their own involvement. The autoethnographic research approach presented in this paper is "opportunistic", as it was not chosen prior to engaging in the research context. As such, the research context and the group being studied were not actually defined as research material, until the first conversations about this paper took place. However, one of the authors has been collecting ongoing samples and continuously reflected

upon the context and the interactions within it. For the past 2-3 years the lead author of this paper has been experimenting with different approaches to autoethnography, namely in relation to his own practice in different entrepreneurial contexts (Oorschot and Gottlieb, 2015; Gottlieb, 2015; Gottlieb, 2016). In this sense, the continuous reflection on own practice in the shaping of relationships and emergence of new initiatives, has been nascent for a longer period of time. Keeping the emergent in mind the author has been attempting to capture “stumble data”, which Brinkmann (2014) defines as instances that we stumble upon in the environment we engage in, and that are not constructed on the basis of theoretical understandings; but that could be defined as data once we ask questions of reasoning. This is essentially a breakdown-oriented research approach, where the researcher attempts to frame everyday life experiences as a mystery, which one needs to resolve through sensemaking. It mainly includes three different steps, going from making the familiar strange, to searching for underlying rules and routines and lastly challenging the taken-for-granted assumptions to understand underlying norms in the context of study. Similar to Brinkmann’s notion of stumble data, Stacey & Griffin (2005) describe the idea of researching with a complex responsive process mindset as a means of using the opportunities emerging in one’s daily practice in the research context, through different conversations and ordinary meetings with people. Stacey et al. use the term “striking moments” to ascribe to situations of which the researcher gains new insight; when one has an experience where new meaning emerges, something which might change one’s own identity, who you are or what you are doing. Buur and Larsen (2010) also refer to this as an intuitive sense of when new meaning emerges. Building on Fonseca (2002) and Gottlieb et al. (2013), new meaning emerging in people’s interactions can be understood as innovation, in the lens of complex responsive processes. Taking this into account, the last couple of years have been an attempt to be aware of and collect such hunches as pieces of autobiographic data. Personal narratives, scribbled notes, photos and email correspondences with key peers. In particular, to get closer to the lived experience of innovation and to that of being an entrepreneur. Also, to build a deeper understanding of how such experiences can become part of understanding how innovation is shaped in the interaction of multiple stakeholders.

RESEARCH METHOD

As previously elaborated, the research has been grounded on an autoethnographic approach focusing on qualitative data that has emerged from experiences during the period of work described. The data has not been collected through a series of planned research activities; rather they are reflections of one of the authors’ personal narratives in his interaction with the different stakeholders. We acknowledge that in this case it is clearly not possible to obtain objective detachment from the case, which presents us with the paradox of detached involvement (Stacey, 2005). The argument of the paper is thus built upon the continuous personal narratives supporting the emergence of burning themes related to innovation. We recognize that this research cannot be separated from the practice relating to the case presented, as the sensemaking process takes into account personal and emotional engagement. In this type of research, Brinkmann (2012) emphasizes the importance of being able to make sense of situations that include a certain level of uncertainty. Through an abductive process, the researcher aims to find reasonable answers to why the situations we experience might turn out differently than expected, and thereby build an assumption that

allows for further exploration. This basically differs from the more traditional approach of deduction, which focuses on building a testable hypothesis from existing theories, and induction, which seeks to build general knowledge on the foundation of a number of cases. The latter would typically be more present in quantitative research. In comparison, abduction is much more centered on exploration of everyday life experiences. The process of analysis of our own lived experience is what we refer to as sensemaking.

We understand sensemaking as an ongoing way of understanding and reflecting upon our continuous interaction with the world. In line with Laura McNamaras “perspective post” (2015) on the EPIC website, we use sense making as a scholarly way to reiterate our lived experience, through reflection and writing.

CONNECTING THE PIECES THROUGH INNOVATIVE ENCOUNTERS

In order to set the scene, the lead author will reflect upon his experiences through first-person accounts. As we as co-authors attempt to collaboratively make sense of this case, we will continuously shift between a third and first person perspective. We will inquire into two different experiences from the case material, reflecting the notions of power and trust to elaborate on how innovation is shaped in the interactions of multiple stakeholders.

The Case – An Overview through Personal Narratives

In 2012, I became involved in a project at a small Danish incubator environment for entrepreneurs. Located in my home town Sonderborg in Denmark, this environment would serve as a co-working space for small startup businesses. At this time, I was (and still is) engaged in a tech-startup. As entrepreneurs, my partners and I involved ourselves in the activities going on in this environment and investigated the opportunities to make use of the space for our own business.

At the same time the incubator was running a project in collaboration with the local nursing school. An ambitious attempt to introduce nurses to innovation practice and design thinking. The project was called ‘Innovation Camp’ and ran for four days. The nursing students would be working with a specific theme, generate and evaluate ideas, build a prototype and finally perform a “sales pitch” concluding the four days. The incubator was looking for externals to assist the nursing students in building a physical prototype of their conceptual ideas. This initial involvement was the beginning of my relationship with the nursing school organizers as well as with the incubator environment. During the next two years, I was hired as external consultant to plan and facilitate workshops as well as lecturing courses in innovation and creativity at the nursing school.

My ongoing engagement with the nursing school and the incubator continued as I started my PhD study. I would be involved in a research project as well as in teaching and supervision of students, but I also found time to nurture my relationship with the nursing school and to spend time on their projects. Although this did not relate to my own research I had a strong feeling that these interactions could contribute to some interesting collaborations and improvement of skills.

In the spring of 2014, I was planning activities for the coming semester. At the university I would be supervising a class of interaction design students in their semester project and was investigating different themes around which we could stage the project. In

collaboration with my fellow supervisor, we discussed working with the theme of welfare technology. Within the same timeframe, I received an email from my contact at the nursing school, asking if I once again would be interested in facilitating their next Innovation Camp. In these ongoing interactions across different field sites I discovered an opportunity, which would eventually bridge the two educational institutions. Still, this epiphany stands to me as emerging immediately while sitting at my office desk. The following outtake is transcribed from the email which I immediately sent to the nursing school upon realizing a potential for cross- organization collaboration.

To [Innovation Camp organizers]

(...) and then I got an idea, while looking across the water at [the incubator environment]. How about combining the camp and the entire concept of generating ideas and building prototypes, with the start of the semester project for our interaction designers? Instead of the current approach where we invite a group of “prototypers” from the university, we will bring in our interaction designers who are all skilled in concepts and prototypes. But who also has a focus on bringing projects further and establishing a relation to those with the relevant knowledge, the nurse students. In this way we could use the camp as a starting point for an entire semester project, resulting in a final concept. (...)

This email initiated the shaping of a new concept of the Innovation Camp initiative, which eventually went beyond my initial thoughts about collaborating across the three institutions; the university, the nursing school and the incubator environment. As researchers we come to reflect on how a gesture as this email can be a stepping-stone for innovative initiatives. With our autoethnographic analysis, we seek to understand how a relationship built on trust and knowledge, shaped through the researcher’s long term involvement across different field sites and on different organizational levels, becomes enabling for initiating new interactions with stakeholders from diverse contexts. From the involved perspective of the researcher, the following narrative investigates how trust is experienced as emerging in the ongoing relationship between the author and the staff from the nurse school. This is important when we later on seek to understand how the conditions for this new initiative, starting with the aforementioned email, came into being.

Building Relations on Trust

We are now back in the fall of 2013 as my involvement as an external lecturer at the nursing school was taking form. In my interactions with the nursing school faculty, they had seemed to recognize my skills of facilitating innovation related activities. Upon my first involvement with the nursing school in 2012 and the incubator environment, I had during the summer been facilitating a workshop with the aim to develop welfare technology concepts for patients suffering from Parkinson’s disease. Following the Parkinson’s workshop which was hosted by [Nurse 1], I received a mail from [Nurse 2], whom I hadn’t previously met:

“Hi [Author]. My colleague [nurse 1] recommended you. (...) I need a lecturer for 30.9.2013, 4 lessons. A person who can contribute to innovation and creative thinking. (...)”

I quickly accepted the offer after a short meeting with [Nurse 2] in which she introduced me to her approach towards involving me. My role would be to wrap up on [Nurse 2]’s

innovation project with the students. I would be supporting the students in converting their ideas into conceptual mock-ups and finally present them to the rest of the class. I was on my own in terms of planning and facilitating the class; the nursing school staff had trust in me. A few students approached me afterwards and said they had found the class inspiring, which was and still stands as a motivating experience. Following this first lecture, I received the following mail from [Nurse 2]:

“Hi again, [Author]. Today, the students gave a beautiful and creative presentation. And every group mentioned (“... as [Author] has taught us” etc.) :) You have really taught them something. Thank you. (...)”

Since this first guest lecture at the nursing school, I have more or less systematically been engaged as an external lecturer in the nursing school program. At other times also in other instances, acting as a judge during presentations of their concepts or facilitating the idea generation phase towards their final bachelor theses. Our understanding of trust as a theme in this case, starts with a reflection about setting the conditions for the approach to collaborate between the two organizations. What we refer to as “an epiphany” becomes one of the striking moments. As we turn to a different theoretical approach, namely complexity theory, we become interested in investigating how the role of trust in the ongoing shaping of relations becomes an important theme in setting the conditions for innovation in the interplay of crossing intentions. With autoethnography, we allow ourselves to inquire into personal experiences which assist us in reiterating how the formation of relations becomes key in establishing trust between multiple stakeholders.

Going back to the experience from my early interactions with the nursing school staff enables me to reflect upon how trust being established between us as collaborators has been key in taking the later steps of establishing the cross-institutional initiative. Revisiting my past experiences from the context, has triggered my own sense of how important these initial interactions with the nursing staff were. These interactions have been key in establishing the trust necessary to initiate larger experimental initiatives. Inherent in my own understanding of trust is also the close relationship emerging between us as collaborators, which has made it interesting to take the steps I took. The possibility to do something interesting is simply a crucial factor for me, as a practitioner. As we as researchers turn to autoethnography as our methodology, we allow ourselves to give meaning to these reflections and thereby identify them as significant in setting the conditions for innovation. Within complexity theory, trust is a theme that helps to understand what goes on in the interactions between us as collaborators. Eventually, we claim that these interactions are in themselves, an essential part of innovating towards the outcome, which became the cross-institutional Innovation Camp initiative.

Power as Interdependent Relations

A recurring theme in organizational theory, is the role of power in the shaping of relations. Traditionally, power in organizations is often perceived as “the possession of some and not of others” (Stacey, 2003). As such, power becomes prevalent in the discussion of what constitutes organization. In the lens of complexity theory, power is, just as well as organization, a social construct in our relationships. Drawing on Elias (1939), Stacey describes power as enabling constraints. Relations “impose constraints on those relating

while at the same time enabling those who relate to do what they could otherwise not have done” (ibid). In this light, power is interdependencies between the ones relating. What awakens our interest as we inquire into the case is how such interdependencies take shape in the micro-interactions of the different stakeholders. With autoethnography, we aim to analyze how power is at play in the interactions which in this case sets the stage for innovation.

This brings us back to the case. In the fall of 2014 the Innovation Camp initiative had been completed. As organizers we had been asked to submit a review of the camp to the head of institute at the university. This was a natural response to an initiative, which played a role in the education of all 3rd semester engineering students on campus. The four-day workshop had also had an impact on many of the teachers. But we had heard rumors suggesting that some of the students found the camp childish and useless, which basically was bothering top management. Revisiting our response to management I find that we directly aimed to address this particular theme. As a response we submitted an overview of how the camp played out and included some initial reflections, conducted with the participating engineering students. The following outtake represents our response to our head of institute:

“Using the methodology from [the authors’ research group] has led to comments such as “I felt like being in kindergarten, clapping hands” which we consider a natural reaction to an approach, which was so different from their daily practice. Methods and professional activities seem to have been perceived as positive. Some students have however stressed that they would like more insight into the different professionally relevant methods; through references, curriculums e.g. This is naturally an issue which can be handled in the follow-up but will also be considered in further development.”

In our response to management we expose this theme and acknowledge the students for their reflection. We attempt to relate it to their daily practice as engineering students. We frame the general reflection from the students as positive and recognize their enthusiasm to obtain more documentation of the used methodology. Lastly, we bridge this insight towards future development of the Innovation Camp initiative. As such, we articulate that we are aiming to continue with this approach in the future. As researcher and autoethnographic narrator, I become interested in how the conditions for this response was enabled. My interest is awoken as I revisit the response to management. It enables me to objectify my own interactions but it also drags me into the personal experience when these interactions took place, the landscape which is only accessible to me, as autoethnographic author (Chang, 2013). This self-inquiry enables me to navigate in the landscape of relationships, to investigate how our previous interactions with management, in regards of the Innovation Camp, played out. Again, the autoethnographic approach becomes a time travel in the conversations. In line with the metaphorical sense of time traveling and the paradox of how changing the past will impact the present, going back in time changes my own understanding of how processes of human relations and our identities took form in the communicative negotiation in those processes.

In light of complex responsive processes, we as researchers take up the theme of power, to investigate how the relationship across different levels in the organization, in this case the university, is highly interdependent between the different participants involved in the

conversations. What awakens our interest as we inquire into the case, is how such interdependencies take shape in the micro interactions of the different stakeholders.

We are now back in the final two weeks before the Innovation Camp workshop is about to unfold. Management had already given us verbal green light for initiating the Innovation Camp and approved of the required budget. However, many issues were still not settled in regards of the how our initiative would affect other colleagues in terms of planned teaching and curriculum. The Innovation Camp would mean that the first four days of the semester for every second year student would be restrained by us. A few days after getting verbal approval from our Head of institute, we received the following message:

“Dear both. Unfortunately, the plan affects many students and staff e.g. [course 1], [course 2] and [course 3] and we cannot simply replace this teaching with a different activity, which (maybe) does not have coherence with the planned activities. (...)

>>A list of criteria which he considered unresolved<<

(...) In general, I think we should wait until next year with this workshop because we simply do not have enough time left for planning these activities.

Best regards

[Head of Institute]”

I recall this response as the final blow to our project. Our manager had pulled the plug and asked us to postpone everything until next year. I did not have a close relation to our Head of institute and did not perceive his message as an invitation to negotiate. But my fellow supervisor who had been employed at the institute for more than 10 years, quickly replied to his mail:

“Dear [Head of institute]

I would like you to stay calm.

Of course we will have time to execute the workshop now - but maybe not in the way you see it. It does not have to be as complicated this year, we can arrange most issues internally and still follow the rules.

>> A detailed response to each point on his list<<

I cannot see any reason for postponing until next year, since the mountains you expect us having to climb, are merely bumps on the road. Most issues are already resolved just by helping each other :). I am so fortunate to have really helpful colleagues, for which I am truly grateful.

I think we should continue, as everything is mostly planned! It would be very unfortunate to quit now, so close to the goal!

What do you think [Head of institute]?

(I hope and cross my fingers for a “Go for it boys!”)

A few hours later, our Head of institute replied, in a brief response:

“Ok, you are free to continue - (...)
Give it a try and evaluate later - a good idea, de fakto.”

Best regards
[Head of Institute]”

Thus, we had the final approval from top management. I was deeply impressed by my fellow supervisor’s way of negotiating with our manager and I recall how I, in a conversation with the other workshop organizers, mentioned her as a person who “crushed problems as if they were oreos”.

These micro interactions become key as I, as autoethnographer, seek to recall how the emerging relationships have been important in supporting the Innovation Camp initiative. “Power” is in this case not something which is in the possession of some and not of others, but a characteristic in the emerging relationship between the participants. I find myself realizing this when recalling my initial thoughts on the negative response from our manager. As I experience my colleague’s reply and the following interaction, I find that my own perception of power within our organization is shaped. And this is reflected in the post-Innovation Camp reflection sent to our manager.

Innovative Outcomes

The Innovation Camp initiative, which was enabled through the ongoing collaboration between the stakeholders has been continued as a built-in element in the study programme across the two involved institutions.

With the nurse students, the Innovation Camp initiative has transitioned from involving the first semester students without experience as nursing practitioners, towards involving late stage students on their 7th semester who at this stage have had a total of 1-year experience from practice in a hospital. In regards to the engineering students, the concept has been tweaked to only involve students from one particular engineering programme per camp.

A breakdown of this construct can be found in Olsen and Petersen (2015). Following the first camp Olsen and Petersen initiated a “project on evaluating the students’ entrepreneurial attitudes in the on-going teaching innovation experiments” (ibid). The lead author is the aforementioned colleague who took the initiative further. They used the insights from the camps to develop an elective course for the nursing students towards developing and implementing welfare technology ideas into their own practice. This elective is run in parallel with the engineering students. In a joint start, the students will collaborate in a 3-day workshop, similar to the initial Innovation Camp initiative. Following the initial ideas from the Innovation Camps, the nurses will contribute with knowledge from practice in a welfare context. The engineering students will have a role as facilitators and participants and will be encouraged to take the ideas from the initiating workshop further as their semester project.

To identify a particular “tangible” innovative outcome of the years of collaboration between the lead author and the other stakeholders, this new formalized construct between the two institutions is key. The active implementation of multi-disciplinary project facilitation embedded in the engineering programme is a whole new way of preparing the students for their future engineering practice. This construct enables both engineering and nurse students to actively engage with and navigate in a context which reflects many of the

encounters they will have as future professionals. We argue that the transition from the initial Innovation Camp construct at the nurse school towards a formalized, parallel course between to different institutions is indeed “an innovation”.

A different perspective to identify innovation could be to zoom in on the individual group outcomes of the executed camps; the innovations produced by the students, the new ideas. The nurse students has in collaboration with the engineering students through the different camps, developed numerous concepts and prototypes solving different practice-oriented problems and meeting the needs of different patient groups. Many of these are innovations in themselves, some even taken towards commercialization. In this concern, innovation emerged on different levels, starting from building the foundation by involving different stakeholders in the creation of new meaning, leading to the development of the two different study programmes, which in the end supports the development of new ideas and products that can innovate nursing practice in Denmark.

One of my favorite examples from the first Innovation Camp, was built by a group of Interaction Design Engineers. Upon collaborating with the nurses in the Innovation Camp, they continued to pursue a project towards developing a wearable device for Multiple Schlerosis (MS) patients, coined TimeMe. Through a semester of iterations this project was developed in close interaction with healthcare relations from the nursing school and patients suffering from MS. The concept is similar to a wristwatch, but introduce a novel way for the wearer to input and receive simple reminders during one’s day. A key user need discovered through their studies. Insight to these studies can be found in Mosleh et al. (2016). As such, this project exemplifies a tangible of outcomes from the collaboration between engineering and nurse students throughout the innovation camps.



Figure 1. Nursing students and engineering students collaborating during Innvation Camp. Figure 2. Conceptual paper mockups of wearable concept, developed by engineering students. Figure 3. MS patient testing functional prototype of wearable concept “TimeMe”.

Looking back, our aim with this paper was to discuss “innovation” from a different perspective, namely “innovation” as the new meaning which emerges in the interactions of stakeholders with crossing intentions, rather than solely being a linear process. We agree, that it only makes sense to discuss “innovation” if there is an outcome of novelty which affects more people than those initially involved. Thus there are numerous ways to perceive and argue for the concept of innovation. We have chosen the lens of complex responsive processes and with the method of autoethnography we have attempted to investigate how

conditions for new meaning emerging between collaborating stakeholders is enabled, through building trust and continuously negotiating relations of power.

DISCUSSION

How Autoethnography Can Be a Tool for Sensemaking in Organizations

Throughout the paper we have aimed at drawing upon instances that highlight how the lead author has been able to make sense of his own experiences in the context of multi-stakeholder collaboration, as a way of presenting how innovation can be understood through the light of an autoethnographic approach. By personally being involved in collaborating across the institutions an extensive access to data has been present (Chang, 2013), both in terms of understanding how the emerging relations of trust continually have evolved as a result of local micro-interactions and how power can play a significant role in enabling or constraining innovative initiatives from developing.

In this light, we set out to explicitly show how the acknowledgement of personal experiences can support us in identifying striking moments (Stacey, 2005). As previously described we have applied autoethnography as a method that helped us gain new perspectives and understandings of complexity theory and innovation as emerging meaning between multiple stakeholders. In this sense, we see potential in using autoethnography as a way of looking back at a lived experience that was not intended to be a research context, but rather enabled the collection of stumble data that later can be used as a foundation for sensemaking. Reflecting on one's own practice is thereby essential to both identifying and understanding the striking moments that have had an impact on the gestures, responses and identity of those involved (ibid). One challenge in using this kind of inquiry into qualitative research can, however, be that the researcher might not be aware of some moments that could have been crucial for understanding the emergence of innovation, due to being too involved in the context himself. This could thus be a theme for further investigation.

Why is Trust Key in Multi-stakeholder Innovation?

Using writing as a reflective inquiry into the research material, we have allowed ourselves to re-iterate how the conditions for engaging in the Innovation Camp initiative were enabled, through an ongoing shaping of relationship across the different institutions. It is in the writing, which we come to find how the notion of trust has evolved between the participants. Thus, we are now better enabled to discuss how this theme had an impact towards setting the conditions for innovation. With Fonseca (2002) we find that the emergence of trust in people's conversations is a requirement for innovation, or new meaning, to emerge. Fonseca builds his argument on how the ongoing negotiation of understanding and misunderstanding in our conversations provokes us as participants in the communicative practice, to search for new ways of being together. Which correspondingly, makes it impossible to stage conditions which will produce innovation. Towards participatory innovation, Buur and Larsen (2010) state that innovative themes emerge and become allowed to emerge in the crossing intentions of participants in an innovation context. We recognize this in our case in the ongoing negotiation which takes place between the participants. In this paper we have chosen to zoom in on such particular interactions,

which makes it challenging to unfold the full spectrum of the intentions of the different participants, which leaves room for further inquiry from this perspective. But we do argue that autoethnography can be understood as a contribution towards understanding participatory innovation from a complex responsive process perspective. Through analyzing the lived experience of the lead author we are coming closer to understanding how trust and power are themes of innovation.

As such this way of understanding innovation has serious impact on fields such as innovation management, where designing specific models of innovation processes based on objective empirical research is the norm. In our analysis of the case, we recognize how innovation between the participants evolves, not as a planned agenda, but as a result of ongoing local interactions and negotiations.

Larsen and Sproedt (2012) points out that trust in organizational life is central to understand innovation in organizations. Lack of trust might constrain the freedom to act and for individuals to explore opportunities. In our case, the autoethnographic account has enabled us to gain a deeper insight into how the notion of trust becomes enabling when innovation emerge between multiple stakeholders. Trust is key to understand how anxiety provoking conversations are or are not taken up (Larsen and Sproedt, 2013). This makes us reflect on how the initial step taken by the lead author (to share the idea about the camp initiative), to which we ascribe trust as enabling, would have been different if there had not been such a close relationship across the different institutions? Would the idea not have emerged at all? Would the lead author have been more keen to avoid such an inquiry, due to anxiety? In this perspective, trust plays a role, both in the process of interacting with others, as well as in being able to act upon innovative initiatives.

What Is the Role of Power in Emerging Relations?

In the case we set out to investigate how the notion of power plays a role when taking innovative initiatives. Power constitutes how we as individuals, become enabled and constrained, at the same time, to act in our interactions with others. Buur and Larsen (2010) points to spontaneity as key to understand how power relations are continuously challenged in our communication. It is by taking spontaneous risks in our gestures and responses in which we might allow for new meaning or “innovation” to emerge.

Change in organizations happens in the negotiations of power (Larsen and Bogers, 2014). Such changes take shape in small incremental steps. In relation to our case, this is what we understand as “micro-interactions” which we explore using autoethnography. Larsen and Bogers (ibid) state that risk-taking and spontaneity in our interactions is critical to whether or not changes in an organization take place. In this sense, relations built on trust allow us to take risks, wherein power is continually negotiated.

In our autoethnographic analysis we have attempted to take these perspectives as we break down the lead author's experience of “a striking moment” and investigate, through personal reflections, how the interplay of different participants has been key in shaping his own perception of power, namely within his own organization.

We find that this emerging conceptualization of power, becomes continuously enabling and constraining for the participants in the Innovation Camp initiative. By analyzing and reflecting on the correspondence between the lead author, colleagues and management we have found that the interdependent relationship between the participants is not static. Power

is not fixed. Quite the contrary, we find that an “act of power” becomes “an invitation” as the university management suggests to stop the emerging initiative. Instead of accepting, the lead author's colleague takes this invitation to elaborate and challenge the manager. And taking part in these interactions shapes the author's own perception of power within the organization.

CONCLUDING REMARKS

The paper set out to investigate how a personal and analytical autoethnographic research approach can provide an understanding of how innovative initiatives emerge as a result of ongoing collaboration across organizations. In this matter, we acknowledged the role personal experiences play in giving access to data that might not otherwise have been evident, and the fact that the research context was opportunistic.

Findings show that social constructs, such as power and trust, can influence the potential of instigating innovative acts in collaboration with others. Stumble data opened lines of inquiry into identifying those, and thus helped us recognize their importance as well as influences in the emerging relationships between stakeholders. We argue that innovation evolves in our constant search for meaning in our ways of relating to other people, and that we continually negotiate the conditions through which we collaborate; this in the end indicates that innovation cannot be predicted, rather it becomes a result of those negotiations, provocations and gestures as well as responses between people. Autoethnography has in this light helped instigate a sensemaking process for us to essentially understand how these influences on a longer term affects the potential for innovation.

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PAPER SESSION 4

Ethnography / Emerging Consumers

Curators: NIMMI RANGASWAMY, Xerox Research Centre Bangalore & LAURA SCHEIBER, Columbia University and Pontifícia Universidade Católica de Minas Gerais

For several decades 'Emerging' has been a staple prefix applied to such entities as markets, nations, democracies, cultures, and business opportunities. The term has been used to label virtually anything about "less developed" others deemed new to the world of market-led consumption, especially by corporate actors looking for new markets and consumers worldwide. This session explores theoretical and practical issues involved with doing industry ethnography within the 'Global South'.

BoP (Base-of-the-Pyramid) was a powerful predecessor and marketing mantra that the late C. K. Prahalad made compelling by going beyond development ideology to characterise all 'segments' as active agents for at least for some kind of consumption. But, following BOP's demise as both a discourse and research program, what lessons can we, as ethnographers, learn from the way it tried to account for this contested category of consumers who are supposedly emerging—yet towards what? If BoP had had more of 'our' input might it have fared better, or simply imploded later?

What Is a Sustainable Innovation? Cultural and Contextual Discoveries in the Social Ecology of Cooking in an African Slum

WILLIAM SCHINDHELM GEORG

Bridgeable

PETER HAYWARD JONES

OCAD University

This paper investigates how a close understanding of human activity can inform the design of culturally and contextually sustainable innovations for subsistence markets. Building on existing literature related to poverty alleviation initiatives and an ethnographic field study, this project attempted to understand the cultural and contextual challenges to the substitution of unhealthy and unsustainable biomass as cooking fuels by cleaner and competitive cooking alternatives in Kitintale, an urban slum in Kampala, Uganda. We share new research findings and experience from a recent ethnographic study that reveals the incompatibility of modern innovation theory with the realities of the deeply knitted everyday practices in the social ecology of slum life. As the findings of this project suggest, broad claims that disruptive innovation can shift existing practices, change demand and displace market leaders through the creation of new value networks might not fully apply in a context where the existence of cultural patterns have shaped the evolution of indigenous solutions over generations, and reactivity to daily circumstances is high.

THE LOCALIZED FACE OF POVERTY AND PRACTICES

More than one third of the world population—about 2.6 billion people—used traditional biomass as a source of energy for cooking in 2010 (IEA, 2012). In Sub-Saharan Africa, where about 79% of the population relies on this type of fuel, the most prevalent indigenous cooking fuel is charcoal, which in recent decades has proliferated as the main alternative to firewood as cooking fuel (IEA, 2012). Both have significant destructive consequences, including illegal deforestation and widespread health problems suffered from cooks and their families from the persistent use of charcoal in indoor cooking.

Numerous commercial and not-for-profit organizations advocate the substitution of cleaner cooking fuels, stoves and practices in these cultures as their focal innovation objective, supported by more affordable and accessible cooking systems that promise positive health and financial impacts to low-income households currently using charcoal in their everyday lives. In 2010, Hillary Clinton launched the Global Alliance for Clean Cookstoves in an attempt to create a global market for “clean and efficient household cooking solutions” that could “save lives, improve livelihoods, empower women and protect the environment.”

No doubts the Alliance has achieved several accomplishments, the most important one in these authors’ opinion being the increased awareness of the problem. However, the resolution of this challenge has not yet converged on a ready or simple solution. Improved cooking systems, regardless of their lower cost and potentially better accessibility, have not significantly replaced traditional stoves and biofuels in subsistence settlements where they are made available.

This project attempted to understand the contextual and cultural challenges to the substitution of unhealthy and unsustainable biomass as cooking fuels by cleaner and competitive cooking fuel alternatives in Kitintale, an urban slum in Kampala, Uganda.

UGANDA: URBANIZATION AND THE BIRTH OF SLUMS

In pre-colonial times, societies in Uganda were organized around several tribal kingdoms. At that time, the Kibuga—moving capital of the Buganda kingdom - was structured based on rural modes of administration, and agriculture was a fundamental part of the urban fabric. As the ultimate centre of population, governance, and source of decisions, the Kibuga is considered a physical manifestation of the hierarchical, centralized system it sustained, as well as a cultural transmitter (Hull, 1976). The Kibuga remained the predominant social structure until 1894, when the British Crown announced a protectorate over Uganda, taking over the administration of the country. The city of Kampala became the headquarters of colonial administration, and started to develop next to the Kibuga, the indigenous capital. It wasn't until 1912 that Kampala saw its first modern planning scheme, forming the basis for what is today's central Kampala. Due to concerns over the transmission of tropical diseases, the plan for the city imposed order and social controls, transferring Africans to the outskirts of the city or to the Kibuga, thus planting the seeds of racial segregation (Gutschow, 2009). Several other planning interventions took place until in 1945, British authorities commissioned German architect and city planner Ernst May to create a plan for Kampala. His concept of a garden city emphasized the organic topography of the region, yet is also included large settlements for low- and middle-income Africans and Asians, setting aside entire neighborhoods for Europeans, and further reinforcing segregation (Gutschow, 2009).

Notably throughout this process, urban planners in the region protested that Africans seemed to resist permanent settlements and noticed that, when they did stay in the city, they could only afford crude mud huts with metal roofs (Gutschow, 2009), which closely resemble the simple round wattle-and-daub grass-thatched huts in which rural Ugandans still reside in modern days. Based on this perception, May's plans encompassed features that attempted to acculturate natives into European social norms, 'inducing the African laborer to become more stable, and to cease wandering back to his village after a few months' (Gutschow, 2009).

It is interesting to emphasize that Kampala essentially evolved as a modern center next to the traditional Kibuga. While the city was designed and built based on modern urban principles, the Kibuga was based on the traditional rural systems and this difference created a set of development tensions (Mugema, 2013). Under these circumstances, in 1968 nine villages surrounding Kampala became officially part of the city, marking the amalgamation of the traditional and the modern city (Musinguzi, 2013).

After a period of economic downturn, conflicts, and civil strife between the 70s and 80s, the restructuring of the national economy led to population shifts in Kampala, which reflected in changes in urban land uses. Most town settlements at that moment occurred without planning, were not recognized by urban authorities and therefore, declared illegal. Today, as existing urban plans for the main cities expired, most of the urbanization taking place in the country can be characterized as informal, organic or haphazard (Mukwaya, Sengendo, & Lwasa, 2010). As a result, housing in the capital is considered far from

satisfactory or substandard—about 80% of households in Kampala lack toilets. Rental accommodations account for 65% of households, even in informal settlements. In these areas, where 80% of households are in the low-income group, incomes are generally low, intermittent and uncertain, and small informal home-based enterprises have become an important element of livelihoods, predominantly contributing to household earnings (Mukiibi, 2012).

The Research Setting

The fieldwork described in this paper took place in Kitintale, a community in Kampala characterized by extreme poverty. The research was done in a period over three months between November 2014 and February 2015 and encompassed field observations, as well as in depth interviews and delicious meals with Kitintale's residents.

Even though there are no official estimates, rough calculations indicate that Kitintale encompasses about 4,000 households. Household size ranges from one person to entire 13 people families, but at an average household size of 3.6 people, one can claim that Kitintale is home to approximately 14,400 people.

Kampala has consistent water supply throughout the year, but even though the distribution network covers more than 70% of the city, access in poor communities is remarkably lower. Typically, Kitintale residents rely on free water from public springs, buy water from prepaid standpipes installed by the National Water and Sewerage Corporation or buy from the small minority with private connections, who make a profit by selling it. Regardless of the source of the water, it is a widespread habit in the community to boil it before drinking, which is done at home, in the same stove that's used for cooking the household meals.

When it comes to cooking, 87% of Kitintale households rely on charcoal as the main cooking fuel. Of all charcoal users in the community, eight out of ten are buying the fuel on a daily basis and nine out of ten do it from a supplier that's less than ten minutes walking distance from home, a sign of the pervasive availability of the fuel in the area. Charcoal is brought to Kampala and Kitintale by truck drivers who buy large volumes of sacks from the rural producers as far as several hundred kilometres away from the city. The fuel is then sold to the urban population by a huge network of retailers. Typically slum dwellers with very limited working capital who operate from small shops close to, or at home—retailers dismantle the bags, sort the charcoal chunks by size (large and small) and sometimes by quality (hard and soft) before selling it to the final users in used tins, the common unit of measure for the fuel. Because the price of a tin can't be adjusted by a single retailer without a general price adjustment in the area, to cope with the remarkably high competition, some retailers adopt retention strategies such as quality differentiation, giving away crushed charcoal at every purchase, as well as leveraging personal relationships with customers. The women, being responsible for all household-related activities like cooking, fetching water and buying food and fuel, tend to be fairly aware of charcoal quality differences. Kerosene, an alternative cooking fuel in Kampala's slums, is only available at gas stations along main roads.

It is important to highlight, at this point, that the charcoal system is complex, dynamic and many of its variables are highly context dependent. This project attempted to map the

contextual dynamics that might affect adoption and usage of charcoal and other cooking systems in Kitintale.

LIFE IN CONTEXTS OF POVERTY

Defining poverty in general terms can be controversial, especially when the definition is based on culturally insensitive quantitative indicators, such as household income. As a response, some authors attempted to portray poverty contexts qualitatively, rendering the living circumstances of poor people in frameworks that support their particular objectives.

Amartya Sen, for instance, described poverty as a set of interconnected “unfreedoms” in capability and opportunity, dimensionalizing it in terms of economic, physical, psychological and knowledge deprivations (Nakata & Weidner, 2012). Caroline Moser, on the other hand, focused her description on what the poor have, rather than what they do not have, categorizing their fundamental resources into an asset vulnerability framework comprised of labor, productive assets, human capital, household relations and social capital to assess urban poverty reduction strategies (Moser, 1998).

Others define poverty contexts as *loci* for transactions, eventually unfolding the main characteristics that could affect new product adoption. Prahalad, for instance, defined poverty contexts as markets characterized by illiterate consumers, poor in health and of meager resources, as well as inaccessible geographically and by the media, and therefore inexperienced with consumption (Moser, 1998). Viswanathan, in contrast, takes a more structured approach, proposing themes that characterize the marketplace experience and classifying them into three different groups: marketplace context, interactional environment and exchange elements (Viswanathan et al., 2012).

A common attitude inherent to most definitions of poverty is the universality through which they depict a segment of society. As the authors of this paper suggest, generalizing the economic or social boundaries that define poverty and imposing them into different communities is not the most effective approach when attempting to understand the adoption of innovation that potentially shift deeply engrained in everyday practices in the social ecology of slum life. This paper attempts to explore how local behavior patterns and cultural references might affect the adoption of different cooking systems in Kitintale, thus offering two new lenses that can inform the development of innovations for slum residents.

COPING WITH DAILY CIRCUMSTANCES

Kitintale residents are faced with an everyday reality: managing the basic, necessary resources to address their physiological, psychological and social needs. An interesting set of insights emerges from the analysis of the daily decisions related to the management of resources. These decisions hint into specific behavior patterns used by Kitintale residents to adapt to daily circumstances and, as the examination of the stories below suggest, we found informants displayed four broad categories of behaviors. Although the stories presented below are drawn from actual narratives, the participants’ names were changed to protect their privacy.

Behavior Pattern 1: Avoidance

Sarah is a homemaker in an 8 people household. She lives with her grandmother, her two nieces, school-age kids and a newborn. Her oldest child, a nine-year-old daughter, helps her with some household tasks, as well as taking care of some of her younger siblings, while Sarah caters to her newborn baby.

Sarah is currently unemployed and gets her money mainly from her grandmother, who sells crafts in the neighborhood and sometimes in the city. Sometimes, friends also send her mobile money gifts, which she either uses to invest in her grandmother's business or to buy treats for her kids. She wants to start a business, but she worries about how she would take care of her kids in case she started working. She would rather have them around. For Sarah, becoming a charcoal vendor would be a good alternative, as she can run the business from home while taking care of her children, but as of the day of my visit, Sarah lacked the money to start her business.

About a year before my visit, Sarah received a TivaWater filter from the eponymous organization. The 60-liter filter has been given to Sarah's family for free, but has never been used. Instead, she prefers buying tap water from her neighbor and boiling it before drinking. However confusing this may sound, her reasoning is valid. When TivaWater gave her the filter, they also provided instructions on how to setup the equipment: before using it, Sarah would have to fully load the filter with water and discharge the entire volume without consuming it. For her, that would mean carrying three 20-liter water containers – or simply put, 60 kilograms of wastewater—from the nearby water well. But she doesn't feel that she has the physical energy to perform that setup and prefers boiling water for drinking instead. To do that, she uses her charcoal stove.

Sarah buys charcoal every day, from her neighbor, a lady she knows and trusts. In Kampala, charcoal is sold by retailers in used paint tin units, each of which costing between 1,000 and 2,000 shillings, depending on the season. The price of a tin is generally the same in the entire area, but most retailers deform their tins so that they will fit a smaller amount of charcoal. Sarah likes her supplier because her tins are in fairly good shape. The proximity to her house is also convenient: she can buy charcoal while still keeping an eye on the kids at home. For the same reason, when she has to take care of her baby, she may also send one of the older children with money to buy charcoal for her.

To avoid the stress of lighting up the charcoal stove several times per day, she says, she lights it up once a day, in the morning, and she cooks throughout the day. The truth is, this way, her stove is also always ready to prepare food for the kids whenever they're hungry. Sometimes the kids are hungry and cry. At that stage, she can't risk going through the whole procedure of lighting the charcoal stove as it takes a long time. In fact, Sarah's built her daily routines entirely based on her kids, and all she does, now that she doesn't have a job, is to cater to the children's needs. And when she's not cooking for her children, she uses the lit stove to boil drinking water.

At the core of Sarah's choices is the fact that all transactions, financial and non-financial in nature, involve physical, mental, emotional and opportunity costs—or bio-costs (Dubberly, Maupin, Pangaro, 2009). If the perceived value obtained from a transaction is lower than the anticipated bio-cost consumed to perform that exchange, the transaction will be either avoided or achieved on the basis of a different resource.

Behavior Pattern 2: Optimization

Hannah considers herself unemployed after she stopped working as a cook at a restaurant. Nevertheless, she is currently self-employed as a tailor, as well as the leader of a women's group she founded in the community to help women learn manners and duties. She lives with her daughter, a curious child who's currently in primary school. When she's at home, she likes helping her mother with daily house routines. She is particularly excited to go out by herself to buy basic household needs, such as food and cooking fuel.

Hannah has used all types of cooking fuels in the past. She remembers the time when an entrepreneur offered her a new, alternative cookstove that used a greasy fuel. She was convinced by him to buy a kit, which had the stove and one batch of fuel. After consuming all the fuel provided in the first package, she never found the seller again, a fact that she resents, specially because she also bought a kit for her family that lives in the village, who like her, don't have the fuel to use the improved stove anymore.

Now that she's unemployed, she resorted back to charcoal, her second most affordable option. Wood, the most affordable alternative, is not an option as she cooks inside and doesn't have proper ventilation to manage the smoke it produces. Besides, after using charcoal for years professionally, she considers herself very experienced in correctly measuring the amount of charcoal she needs for each meal. She normally buys charcoal for more than a day and then puts it in a bin in the kitchen, because she doesn't want to buy fuel every day. Besides, when she buys larger amounts she also gets extra charcoal chunks from the vendor, which is also her friend.

She lights her stove once a day and cooks enough food for lunch and dinner. To keep her food warm until dinner time, she stores it in thermal bags she learned to make by observing someone else making it. Sometimes when her daughter is at school, however, she prefers eating outside with her friends rather than cooking. If she could choose, her fuel of preference would be gas, because it is fast and the cylinder can last for a long time. Yet, apart from being expensive, she also thinks that cooking the food fast takes away its flavor. And she can't afford to ruin her reputation as a good cook. Even though Hannah doesn't work as a cook anymore, her reputation is well established in the community. She has mastered the recipe for her signature pilaf rice, known in the area and frequently asked for when Hannah walks around the area.

Hannah's household is connected to the electric grid and she usually buys prepaid electricity credits between the first and the fifth days of every month, because when she does that, the power utility company gives her extra power units.

Hannah is disciplined with her money and keeps it spread across four different "wallets". She has a bank account to keep her money safe from herself, as she believes that cash in hand is a temptation to spend. Her mobile money account is used to keep some of her money, which she uses to pay for electricity and water. Hannah has tap water at home, but because she knows that she may experience water outages frequently, she also has a prepaid water credit token, which gives her access to the ubiquitous standpipes installed in slums by the National Water and Sewerage Corporation to expand access to clean water for its residents. She also uses cash for her daily expenses with food and charcoal.

Unlike avoiders, optimizers accept to spend certain resources, but do so with a conscious effort to optimize their allocation, within the boundaries of their control. In some circumstances, the optimization can come as a response to a necessity to save. A recurring case observed in Kitintale is related to homemakers living on fixed budgets who don't have enough money to buy a certain type food—usually those requiring a long cooking time, such

as beans—and the needed amount of fuel to cook it, forcing them to accommodate the amount of food and fuel to be purchased within the set budget.

In other occasions, optimization comes as a more proactive, deliberate decision to save financial resources in general or in its various forms, like Hannah's four distinctive "wallets", which help her allocate her money more efficiently and plan future expenditures, but most importantly, works as a strong barrier to impulse spending.

Behavior Pattern 3: Hedging

Curiously for Hannah, certain "wallets" also perform the role of reserves: for her, the water token is an emergency water reserve and her cash reserve is considered a reserve of charcoal and food. In certain circumstances, Kitintale residents go beyond saving resources and make investments to reduce their vulnerability to adverse, unforeseeable future incidents.

Vulnerability is a function of an individual's exposure, sensitivity and capacity to adapt to unfavorable events. Yet, moving to a better area, getting a better paying job or improving physical and mental health come at a cost and people in Kitintale are rarely able to change their exposure or sensitivity to living circumstances instantly. Their only possibility to reduce vulnerability is by increasing their adaptive capacity. To do so, common approaches include the accumulation of capital.

Most of the research informants stressed the fact that their money has to be kept in circulation, reducing their capacity to accumulate financial resources. Yet, as Viswanathan et al. noticed, marketplace relationships and interactions can yield social capital reserves, which can be traded in the informal economy (Viswanathan et al., 2012) and result in a range of benefits that emerge from the collaboration, trust, reciprocity and knowledge flowing within social networks. In fact, the investment in social capital is such a central aspect of Kitintale life that the conversion of private activities into social activities has also been observed. Take for example Hannah, who would not prioritize cooking only for herself, meeting friends for meals instead. She also voluntarily started a women's support group to teach them how to cook, among other activities.

Behavior Pattern 4: Growth

Michael is a charcoal seller, a construction contractor and above all, a resourceful inventor. He lives at his own house with his wife and his kids, all still young.

As a charcoal vendor, his household's main source of cooking energy is charcoal, but sometimes they also use wood in an improvised three stone stove. As an inventor, Michael is proud of his recent creation, a fuel-efficient anthill stove, which he built as an experiment, based on knowledge he acquired while rearing chicken, another of the family's businesses. He found out through a TV program that anthills are very efficient in retaining the heat and so he had the idea to experiment with it and create a stove that could keep his chicken warm throughout the night. From that invention, he then created a stove, which is capable of burning both, wood and charcoal. He lends his anthill stove and his regular stove to neighbors whenever they ask for it, as he believes his neighbors are the most important people in your life... it is very important to be in good terms with them.

Michael's house is connected to the electric grid, mostly as a result of his own efforts to bring an electric pole to his front yard. He paid a significant amount of money in that

investment, but according to him it paid back, as every new user that connects through his pole pays him an installation fee. He likes being involved in community projects and walks extra miles to bring development to his neighbors.

As an entrepreneur, Michael very well aware of how to leverage social connections. His connections with truck drivers and charcoal producers were crucial in helping him start and operate his charcoal business. He also leverages his network to find construction businesses in Kampala and even abroad. And whatever income he makes, he prefers keeping in circulation, what he believes, is a better way to grow as compared to keeping savings in a bank. He dreams of becoming a farmer and he has attempted to grow vegetables in a nearby swamp, which turned out to be an unproductive venture. Unsuccessful attempts do not intimidate Michael, who sees taking risks and eventually failing as an opportunity to learn and evolve. He finds it particularly important to keep accounts of all his expenses and revenues and believes that everyone should live within the limits that their current conditions allow. For Michael, his businesses are just learning steps in his personal evolutionary path and being stuck in one of them would not let him evolve.

If we want to consider Michael's attitude towards evolution, his philosophy towards life can be summarized by the passage below, inspired by a quotation from the informant himself:

"To me gas is a luxury. People end up buying cars and yet they're still renting... they're doing things the wrong way. It is supposed to be a step at a time, a step at a time until you get there. You use what you can afford... it's like a stage to get you to some place."

Even though one may argue that Michael has the financial resources to use improved cooking systems in his household, his decision to never used them lies on a belief that he hasn't reached that evolutionary stage in his life, preferring to take one step at a time. Furthermore, he believes that investing in his children's education is also a way to achieve evolution, as can be seen from the passage below.

"My children are too young and I have to educate them, so they will know that they once used firewood and charcoal. And because I'm able to use what I can at each time and educate them, when they grow and there's an even better cooking fuel, because they're educated, they can afford it and maybe they'll bring it to me."

As Carole Dweck (Dweck, 2006) notes:

"When parents help their children construct growth-minded ideals, they are giving them something they can strive for. They are also giving their children growing room, room to grow into full human beings who will make their contribution to society in a way that excites them."

By actively adopting experimentation as a way to approach personal evolution, overcoming failure in a constructive way and introducing this mindset to his kids, Michael can be considered someone who embraces what Dweck calls the growth-mindset.

Stuck in the Present?

When attempting to describe the behaviors of the poor, social scientists typically characterize them as either calculated adaptations to prevailing circumstances, or as emanations from a “unique culture of poverty” that is rife with deviant values (Bertrand, Mullainathan, & Shafir, 2004). In the first case, the economically disadvantaged are seen as rational decision-makers and planners, taking coherent steps to pursue their future goals, while the proponents of the second perspective emphasize the psychological and attitudinal weaknesses that lead to imperfect decisions (Bertrand, Mullainathan, & Shafir, 2004).

Backing the latter view, some authors defend that in poverty contexts, the management of assets and activities pursued are often opportunistic reactions to variable circumstances rather than planned strategies (Rakodi, 1999), implying the need for a paternalistic approach to poverty alleviation. Yet, while the foundational circumstances that support this viewpoint are aligned with particular individual and social dynamics observed in Kitintale, the product adoption and usage schemes embraced by Kitintale residents can't be qualified as purely planned or purely reactive. In fact, neither of these predominant viewpoints on poverty and its alleviation make sense given our observations of localized cooking and social practices in the “village” setting of Kitintale's slum. There may be a central originating observation from Bertrand (2004) that suggests that inter-generational poor people are highly adaptive, but the supposition of deviance or misplaced values seems completely false in this African slum. Kitintale residents are only a generation or less removed from rural villages, and they have replicated and reproduced many practices from their village life. In comparison to their remaining rural relatives, they may experience their lot as well off. If we judge their lifestyles and preferences by Western consumer values, there would be considerable differences. However, conventional consumer values are unlikely to be drivers or considerations in the strong family-centred lives of the Kitintale residents.

The four proposed behavior patterns shouldn't be seen as the starting point for the segmentation of a target consumer-base, as observations suggest that informants engaged in a combination of all four behavior patterns over time, depending on specific motivations and circumstances.

As seen from the stories shared above, the daily decisions that facilitate or deter product adoption and use follow a combination of behaviors, some triggered by daily circumstances and others more oriented towards the future. A comparison of the four proposed behavior patterns uncovers an interesting difference between the first two behavior patterns (i.e. avoidance and optimization) and the two latter ones (i.e. hedging and growth): the timeframe based on which decisions are made. While avoidance and optimization are mostly based on trade-offs between the immediate costs and returns of an exchange, the more informants moved towards hedging and growth, the longer the expected time to see a return on their resource investments. This is an important finding, as it challenges a common underlying assumption of generalized descriptions of the lives of the poor: the fact that they live in the present, for the present.

THE WEIGHT FROM THE PAST

The push from the present and the pull from the future are not the only elements impacting the adoption and usage of foreign improved cooking systems in Kitintale. Drawing on the

origins and evolution of Kampala's informal settlements, together with evidence from the field, one can conclude that urban dwellers have strong ties to the land and their villages. Rural roots are so powerful that, in a predominantly catholic country, it is not unusual for city dwellers to travel back to their villages over Christmas bringing with them all the fruits of the largesse created over a year to celebrate with their families over just a few days, a cycle that repeats itself yearly and to most urban Ugandans.

Broad statements about the ubiquity and pace of urbanization across Uganda are shifting the industry away from a relevant fact: in some informal urban settlements, even though individuals and families belong to a growing urban community, they still perform a rural lifestyle. Migration to the city, in this case, is not symbolic of social mobility, but an indication of the necessity to find a livelihood that provides a largesse to be shared back with families in the villages. Most of Kitintale's household practices bridge their current urban locality with their traditional roots in the village. Despite the general differences in livelihoods, in several aspects the lifestyle in Kampala's slums is curiously similar to that of rural areas. Outside the core business district and planned residential neighborhoods, Kampala can be considered a rural city, with many of its settlements resembling rural villages and mostly occupied by rural-urban migrants, with urban agriculture playing an important role as a source of food and income (Otiso, 2006). The maintenance of certain symbols, such as traditional Ugandan food and cooking processes, are fundamental in preserving and strengthening their traditional rural origins as a colonized and evolving society.

This is not to say, for instance, that more modern, cleaner cooking fuels are not acceptable by low-income urban Ugandans. The endorsement and use of foreign cooking systems tends to be associated with foreign modes of food consumption, introduced by colonizers and immigrants – using kerosene to rapidly boil water for tea is a persistent practice in Kitintale. Traditional Ugandan food, conversely, is expected to be fresh and cooked over long periods of time to allow for the full spectrum of flavors to develop. This is an important aspect, as serving food is a regulator of social exchanges, and a way to create reserves of social capital and thus, a social activity in the area. Traditionally, food was an indispensable sign of reverence, used to please the Gods (Otiso, 2006) and in a context of extreme material scarcity, offering freshly cooked food is not only a culturally and socially relevant sign of honor and appreciation to visitors, but an expectation.

When it comes to the introduction of new cooking fuels, while users can go up and down the fuel ladder according to daily circumstances, charcoal is still a very strong attractor in the fuel system. As an economic entity charcoal means security for vendors. Unlike food, the physical properties of the fuel allow for very long storage times with virtually no maintenance costs, thus reducing cost and losses to retailers. It also means security for users, as its pervasive availability in the area is seen as a guarantee of supply, despite sporadic shortages.

But beyond its economic properties, which endorse its material transmission and appropriation, charcoal is also a form of objectified cultural capital, symbolically appropriable. In an oral society where history, culture and norms are passed on via stories, music and rituals, and traditional socialization processes are based on early gender role definition in order to prepare children for successful family lives, the symbolic appropriation of charcoal by the parents exert a strong educational effect on children. As Bourdieu noticed, “a growth in the quantity of cultural capital accumulated in the objectified state increases the educative effect automatically exerted by the environment” (Bourdieu, 1986).

In Uganda, the cooking fire also has a deeper meaning. Ugandan social life usually revolves around the community and the family, the latter extending to grandparents, uncles and aunts, orphans, etc. This extended family also plays an important role in educating and socializing children through stories told at evening firesides while people sit around it and chat as they wait for the meal to cook, a tradition that traces back to the rural villages of Uganda. Thus, even though most informants complain about the long cooking times associated with charcoal, the introduction of new cooking systems that advertise reduced cooking time as a value proposition might miss the mark completely. A more nuanced exploration shows that the stress users typically associate with cooking actually stems from the process of setting up and lighting the charcoal stove. Once consistent heat is available, users seem to be less concerned about time and willing to wait for the food to be ready, with quality. When expressing their opinions about cooking alternatives faster than charcoal, a common perception is that the food cooked on a gas stove, for instance, does not taste as good as food cooked over long periods of time in the charcoal stove.

DISCUSSION

The impetus to help the poor comes from well intentioned individuals and organizations. Yet, the models based on which these agents have been trying to address poverty are filled with often imprecise images of the poor, perpetuating a widespread assumption that these people are consistently helpless and dependent on external support. The introduction of culturally and contextually insensitive innovations in existing marketplaces might not only be as fruitless as its very inexistence, but can also undermine the credibility of initiatives that legitimately attempt to provide better cooking alternatives to underserved consumers.

Logically, a desire to change is a strong leverage to the adoption of innovation. But however strong this motivation may be, adoption in poverty contexts goes far beyond availability and affordability, and perhaps we ought to reconsider the market-driven view of “adoption” but instead consider their uptake of cooking resources as a fit to cultural practices. The commonly stated “build it, and they will come” approach fails to take into account cultural nuances and contextual drivers that may dramatically affect product uptake. Even though internal surveys show that four out of five people in Kitintale have something to complain about charcoal, cultural and contextual anchors remain in place, perhaps even into the next generation, and will prevent them from completely switching to a different cooking system.

From a behavioral point of view, the four observed patterns are useful for defining product and service experiences as they shed light on the motivations behind resource management decisions. They can uncover some aspects related to what users desire to achieve, thus informing the design of new offerings. While, for instance, most products originally developed to address needs at the “bottom of the pyramid” are based on the assumption that low-income consumers only buy in small quantities, this generalization not always applies. As seen in Kitintale, some users prefer to buy larger quantities and stock resources for a variety of reasons, be it motivated by an unwillingness to walk to the vendor every day (avoidance), by an expectation to get a better deal (optimization) or by a desire to accumulate resources to protect them from unforeseen events (hedging). Successful products should incorporate a broad understanding of purchasing and usage decisions, as

well as their implications in order to offer the features that can help users manage resources effectively, in their own terms.

From a cultural point of view, it is critical to acknowledge that in certain contexts, some tasks have added layers of meaning that go beyond pure functionality. The act of cooking in Kitintale represents a way to preserve their ancestral origins in a colonized society and the substitution of existing indigenous cooking systems might attempt to unintentionally replace existing, culturally relevant social dynamics, further reducing its acceptance in the community. On the other hand, investigating the usage of existing offerings in traditional or modern rituals can provide relevant information about expected entry-points for new products and services.

In Ugandan cities, the first order of the day is usually to have a cup of tea and most users would agree that faster cooking systems are ideal for preparing their morning tea, boiling drinking water, or even to prepare side dishes and sauces that traditionally don't require long cooking times. These practices are potential entry-points for faster cooking systems as they closely appeal to existing users' expectations, promising them a satisfying first impression with a much lower adoption barrier.

Clean Cooking Systems as Disruptive Innovation?

Some authors define disruptive innovation as “a successfully exploited product, service or business model that significantly transforms the demand and needs of an existing market and disrupts its former key players” (Lettice and Thomond, 2002), with great emphasis on its potential to impact both users and existing players. Other practitioners emphasize the force that disruptive innovation exerts to change social practices, the way we live, work and learn through the deconstruction of existing conceptual frameworks (Brown, 2003). The well-known Christensen (1997) model of disruption in technological marketplaces does not fit or apply to culturally-rich practices that evolved over many years of rural and now urban living situations. Charcoal may well be a resource, but it represents more than a commodified technology that can be replaced by newer, better, or faster cooking systems as exemplified in the disruption concept. Kitintale may support a robust emerging market for clean cookstoves if the system is thoughtfully integrated, but we should not expect a Christensen-like replacement of technology. Uganda's “emerging consumers” are not driven by efficiencies or consumer values, but of cultural and local practices that are enacted with meaning and an anticipatory foresight matching fuel and food within the micro-scheduling of a family's social activities.

As the findings of this project suggest, broad claims that disruptive innovation can shift existing practices, change demand and displace market leaders through the creation of new value networks might not fully apply in a context where the existence of cultural patterns have shaped the evolution of indigenous solutions over generations, and reactivity to daily circumstances is high. Even though cooking fuels and cookstoves in Kitintale seem to be signifiers of evolution and upward mobility, the association of cookstoves and social status doesn't seem to be strong enough to determine the choice of a new cooking system.

When designing solutions to a complex problem such as household air pollution in poverty contexts, success boils down to understanding users' cultures and contexts. No product should attempt to eradicate economic poverty by introducing cultural poverty. As designers, we have to be able to learn about people in context to prevent cultural-contextual

sensitivity gaps from translating into not only business, but also environmental and social outcome breakdowns.

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NOTES

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Everyday Life in Tamil Nadu, India and Its Cost to “Free Basics”

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This paper explores how the ‘Free Basics’ initiative in India got transformed into a national debate on ‘net neutrality’ principle and finally led to it being banned in India. Further, this paper will also use ethnographic data to analyse how this ‘controversial’ initiative was debated, the claims it made and the actual ground level reality in the state of Tamil Nadu.

Keywords: Adoption, Consumer, Freebasics, Internet, Net Neutrality, Technology

INTRODUCTION

This paper explores how a pro-poor techno-social initiative ‘Internet.org’/‘Free Basics’, introduced by Facebook, in the emerging market India,¹ was also in a way a strategic scaling initiative, which failed to gain inroads into the Indian market due to a national level debate, spearheaded by the Indian middle class activists on the initiative’s violation of the ‘net neutrality’ principle.² While surveying the initiative’s failure from both Facebook’s and the activists’ perspectives, this paper also showcases the disjuncture between the claims made and the actual ground level realities from the perspective of the poor, to whom this was meant in the first place. The insights from the bottom of the economic pyramid are gained through ethnography, a methodology best suited to study the everyday life practices of this population and its complex interactions with technologies.

What would happen to India if Facebook just disappeared tomorrow?

Before we answer this question, let’s consider a few facts: Over 75% of India is not connected to the Internet³ and approximately 90% of India⁴ is not connected to two of the world’s most used social media – Facebook and WhatsApp.⁵

Yet, India has the second largest Facebook user base (with over 100 million users) in the entire world⁶ closely following the United States of America (USA). Also, India has one of largest user base for WhatsApp as well and approximately 10% of WhatsApp users are from the subcontinent.⁷

So, to answer the earlier question, while it is certainly true that India’s share of users on Facebook or WhatsApp is significant, Facebook or WhatsApp’s impact on India as a whole doesn’t really matter much, as over 90% of India’s population is not on either of these media.⁸

Conversely the question of what would happen to Facebook if it lost the Indian user base arises. These statistics spell out a different story when we consider them from Facebook’s standpoint. While at first glance it might certainly seem that the current user base of over 100 million users is a staggering number and certainly matters to Facebook, what can

be easily missed is the promise of much larger user base that the Indian market holds for Facebook.

While over 80% of India was not connected to the internet in 2013, this number reduced to 75% in 2015.⁹ This growth rate of approximately 5% in two years coincided with a parallel growth rate of 3% in the Indian user base on Facebook between 2012 and 2014. This growth rate achieves significance since it catapulted India from having the third largest Facebook user base following USA and Brazil in 2012 to the second largest (outranking Brazil)¹⁰ by 2014.

Though the respective growth rates showcases a promising user base of digitally connected Indians both for the state as well as for Facebook, these statistics in a way also showcase a hidden threat to Facebook's growth as a company in India. At the current growth rate of digitally connected Indians, Facebook can only target a potential 15% of India (as only less than 25% use the internet and 10% are already on Facebook) as its probable user base. However, this means that Facebook is still missing the potential 75% of the non internet users (or approximately 90% of non Facebook users). So, while the 5% growth rate showcases a promising user base of digitally connected Indians from a government and demographic standpoint, at this growth rate, it might be another 10 to 15 years to even get 50% of this non internet users online. Further, getting them online does not necessarily mean that they would sign up for Facebook, so this poses an even graver threat and at the current level of market competition, this could spell ruin for Facebook.

Challenging this further is that approximately 69%¹¹ of India's population lives in rural areas and approximately 22%¹² of the population falls below poverty line. So, while the urban population might soon become digitally connected through diffusion of internet and digital devices, the major challenge rests with the untapped rural and India's poor, which results in a potential loss of at least 600 million people.

While these challenges might seem daunting from Facebook's standpoint, this spells an opportunity for a disruptive innovation¹³ strategically. Just relying on the spread of the internet naturally or with the bare minimum state development schemes might be too slow for any company looking to scale quickly. So, if most of India's rural and poor population can be brought online and if their first experience of the internet is through Facebook, this strategically achieves both blitz scaling¹⁴ as well as a potentially loyal first generation Facebook user base. Further, this gesture also showcases Facebook as a socially conscious business, which strives for digital equality by helping the disadvantaged people (this includes rural, poor and the women in these groups)¹⁵ access information that was denied to them earlier. So, with all the corporate goodness and social responsibility rhetoric of being pro-disadvantaged/poor, this was precisely the beginning of the techno-social initiative of Freebasics in India.

However, getting in touch with the wider rural and poor market in India and pushing them online can once again be challenging to blitz scaling. So, this has to go through partners who know the Indian market well and have also established their foothold with the target groups. This is where the Telecom companies play a significant role, due to the penetration of mobile phones amongst the rural and the poor.

Mobile devices gain significance for internet companies, since a growing number of internet users all around the world access the internet through their mobile devices, specifically phones¹⁶ and India is no different. Infact, the growth rate of mobile phone subscribers (addition of 110 million subscribers in 2014 and 2015 alone) in India¹⁷ is

comparatively faster than the growth of the internet users, since India now has over one billion mobile subscribers.¹⁸ In the same time period that witnessed a 5% growth rate of the internet users in India, there seemed to be a parallel increase (from 12% to 17%) in the number of smart phone users¹⁹ as well and in fact, this rate of increase in the user base of both the Internet and smartphone market in India also seem connected to the parallel growth of social media users. The increase in the mobile (smartphone) subscriber base and the simultaneous growth of mobile based social media platforms like WhatsApp in India appear to be correlated, since within a short period of time WhatsApp had accumulated over 70 million users²⁰ in India alone. Further, it is also projected that by 2017, India would have the highest number of Facebook user base on mobile phones.²¹

Feature phones, as compared to smart phones, still dominate the mobile phone market in India, especially amongst the rural and the poor. Hence, the growth of the internet users also nest with the feature phone subscribers and the only way to connect to them is through major telecom companies which intensely compete in acquiring more subscribers and providing its current ones with additional features for the purpose of retention. Hence, the role of telecom companies assumes significance in this context.

However, the telecom regulation in India is under the control of the state. The state development plans associated with digital aspects and its associated subsidies gain importance for both telecom and social media companies. In the same time period, parallel to these developments was the launch of a new initiative Digital India²² by the Government of India. This coincided with the rise and participation of the national level leaders on Facebook and Twitter²³ and acted as a step towards recognizing India as a growing market of Internet users and an expanding user base for social networks.

With all the right factors in place, this seemed like the best scenario to execute the Internet.org's Free Basics²⁴ programme initiated by Facebook. However, soon after its launch, it met with unforeseen roadblocks, not from any of its stake holders or even the rural/poor people for who it was intended in the first place, but from the urban middle class internet activists who disputed Freebasics as being against a Free internet and net neutrality. The situation reeks of irony, since it was only the urban middle class who were striking against the free internet for the rural and the poor as being against the ideal of Free internet/net neutrality. The target group wasn't even asked for its opinion nor was even informed completely about the situation. The programme faced a complete ban from the Telecom regulatory authority in early 2016. Though unsuccessful in its plan to implement the programme in India, it still stands as an example of the promise that this emerging market holds for social media companies.²⁵

However, even if implemented, the question of whether it would have succeeded in its rhetoric as being pro-disadvantaged surfaces. This question leads to a significant issue on how strategies sometimes completely fail to consider the socio-cultural issues that arise in such groups with respect to technology.

This paper seeks to showcase that this debate and opposition to Freebasics has a bit of a history albeit a short one and wasn't something that got sparked all of sudden. It will summarize the events leading to the banning of Freebasics from India.

Further, by taking into consideration certain ethnographic facts arising out of a fifteen month ethnography (conducted almost in the same time period) in a fast transitioning peri-urban area in Tamil Nadu South India, it will also show how the people to whom it was really intended did not even know, nor did they care for the programme or the debate. It will

show the difference between a rhetorical strategy and the ground level realities with respect to using technologies. The irony of the situation is also reflected in the fieldsite itself, which belongs to a state known for its freebies. Even in such a state that has traction with freebies, the pro-disadvantaged rhetoric of the programme could have failed as it led to the rupturing of its socio-cultural fabric.

A SHORT HISTORY OF FREEBASICS AND ITS ROCKY INDIAN SOJOURN

In August 2013, Mark Zuckerberg, announced an ambitious project titled the 'Internet.org', which was intended to help the disadvantaged (poor) have access to information and the same opportunities that the rest of the world have, thereby also reducing digital inequality and in a way striving for social equality by reduction of poverty in the long run.

However, this initiative wasn't entirely new. It closely followed the direction of the already launched Facebook Zero²⁶ (in May 2010), but just that this time the initiative was of a much larger scale. With over 73% of the world's phone market being a feature phone market,²⁷ Facebook Zero was an initiative that was aimed at the world's non-Facebook users (specifically in the emerging economies) who were using a feature phone with no specific data plan. The idea was to partner with mobile networks and offer a stripped down version of Facebook (text only with no visuals) free of charge to these subscribers and in case they opt to download the visuals, then they would incur the data charges as tariffed by the mobile operators. Partnering with around 50 operators in over 45 countries, Facebook reached out to the potential consumer base in these countries. However, the list of countries not only included the emerging economies in Asia, Africa and Latin America but also a few wealthy nations such as Austria, United Kingdom and other European countries.

Carriers such as Videocon and Reliance (the latter would also go on to partner with Facebook Free Basics later on) were partnering with Facebook for its Facebook Zero programme in India.

While critics noted Facebook's scaling strategies in Africa,²⁸ not much was made of this in India. A critique of Facebook's strategy included how for several first time users, Facebook became the first experience of the internet and sometimes even became synonymous to the internet and was in all actuality a marketing ploy, whereby the hope was that people would get hooked onto it and actually subscribe to a full scale internet data pack with the internet service provider.

In 2012, Facebook held its initial public offering (IPO) and was valued at a historic all time high for any newly listed public company at \$104 billion at \$38/- per share and in Oct 2012, Zuckerberg announced that Facebook had now surpassed its first one billion user base.

Ten months later, in August 2013, Zuckerberg announced Internet.org with an idea to bring free internet to the world's poor by once again partnering with mobile network providers all around the world and while it was only Facebook (text version) previously, this time around, a lot more partners were invited to become a part of this initiative. It was stressed that the intent was to not just try and make Facebook accessible to the billions, but to make the internet itself more affordable. In other words, Internet.org was to become the gateway to the internet for the disadvantaged.

The Beginning of Net Neutrality in India

In 2006, TRAI (Telecom Regulatory Authority of India) tried its hand at formulating rules regarding net neutrality by inviting comments from both the stakeholders and the industry itself.²⁹ However, nothing concrete materialized from this attempt.

Six years later in 2012, the initial spark of net neutrality and differential pricing debates was opened by telecom provider Airtel³⁰ with suggestions on taxing Youtube and revenue sharing with companies such as Google and Facebook to thwart network costs incurred by the telecom companies. Closely following this, in 2013 and 2014, telecom operators raised concerns about VoIP based services such as Skype and WhatsApp.

This was also the time that TRAI first started keenly observing pricing strategies of companies like Airtel for platforms such as Facebook and WhatsApp and explored if a preferential treatment was meted out to only a couple of services as against the rest.³¹ By late 2014, Airtel started charging the consumers at differential rates for Skype or WhatsApp, which allowed voice based services over the internet. Though, this was largely seen as a violation to the net neutrality issue, not much could be done since there were no strict rules on net neutrality and all the earlier attempts to have one had failed.

However, a large volley of public criticism was levelled against Airtel for such a provocative action. Though activists and organizations in India were vigilant about net neutrality issues, the public outcry on social media over Airtel's differential pricing was the one that garnered visibility and attention from mainstream media as well. This was to become even more in the next six months.

Telecom Partnerships and the Heat of Net Neutrality

Though Google was experimenting with Project Loon and Facebook welcomed partnership with its rival, in Oct 2014, Facebook announced that it was eager to partner with the mobile network operators in India for its Internet.org as only they could get the internet to the poor population with their already established network user base. Facebook's old partner Reliance from Facebook Zero and Airtel (also a partner in Internet.org in Ghana) showed interest. In February 2015, Facebook announced its partnership with Reliance communication in bringing the internet to the one billion 'unconnected' people in India and formally launched the Internet.org in India.

At the same time, Airtel announced an initiative largely on the same lines of Internet.org and called it Airtel Zero. The idea was that certain Apps and services could be accessed free of charge by the Airtel consumers and Airtel suggested that the cost of access would be borne by the app makers and service providers. This time there was an even bigger public backlash, mostly over social media, criticizing Airtel's direct violation of the net neutrality principle. Since, the chances of Airtel promoting a bigger brand which partnered with Airtel was much higher than Airtel promoting brands that have not partnered with it or other smaller brands which might not be able to pay for such partnerships and given that this is in direct violation to net neutrality, the public criticism was aggressive this time and was larger in scale as well. This led to Airtel subsequently stopping this service.

Airtel's announcement of the Airtel Zero was just after the announcement of the internet.org, however, the public backlash for Airtel Zero and its stoppage of services was

building up and was soon directed towards internet.org as well. Soon after the public backlash on the Airtel Zero initiative, the Indian startup companies, which had signed a deal with internet.org, withdrew fearing an even larger backlash that might affect both their brand names and their business subsequently.

The Birth of Protesting Free Basics

In April 2015, Facebook rolled out internet.org through Reliance communication in states such as Tamil Nadu, Maharashtra, Andhra Pradesh, Gujarat, Kerala and Telangana.³² Though the service was not rebranded as Freebasics yet, it called the services as free basic services. Very soon websites such as netneutrality.in and savetheinternet.in set up specifically to raise awareness about the net neutrality issues gained popularity, while groups like the AIB (All India Bakchod – a controversial standup comedy group), pitched in and ensured that the mainstream media caught onto the debate³³ by creating a few Youtube videos on the net neutrality issues.³⁴

The mainstream media, which caught onto the debate, included well known English television news channels such as NDTV and Times Now and print media such as The Hindu, Times of India and others who carried opinion pieces debating net neutrality. Only few south Indian regional language television channels and vernacular press debated this issue following their north Indian counterparts. However, most debates around this occurred either in English or Hindi, leaving out a majority of India, which spoke neither of these languages.

Facebook took these reactions from the activists and the growing complaints from the social media world (ironically their activism was on/through Facebook) seriously and provided a transparent guidelines document in May 2015, which gave a detailed implementation guideline about the Internet.org initiative. This was immediately followed by a strategic public relations outreach from Facebook with advertisements (both offline and online), which made claims about how this initiative could help deliver the Indian poor out of poverty by providing them free internet and access to information, and opportunities that were only available to the more affluent.

The Role of the State

In July 2015, the Indian Prime Minister, Narendra Modi announced the Digital India campaign, which aimed at making the government services available to all citizens of India, through betterment of the internet technology and increasing informational connectivity. Announcing nine pillars of digital India plan,³⁵ he made certain that all of this was also meant for the rural and urban poor and was aimed at increasing their awareness to the wider world through which development in India could take shape.

A couple of months later, he visited the Silicon Valley to meet with the heads of the technology giants. During this visit, Facebook agreed to provide Wi-Fi hotspots in rural Indian villages, while other companies such as Google, Microsoft and Oracle promised to pitch in with internet connectivity as well.

However, what stood out the camaraderie between Modi and Zuckerberg, be it the former's participation in the Town hall meeting or him hugging the latter or the latter's

enthusiasm by changing his profile picture on Facebook to support Modi's Digital India initiative. Somehow, this came to symbolise an indirect government support of the internet.org initiative, which irked the activists in India even further.

Politics of Free Basics and its Death in India

It was around the same time, that the Internet.org programme in India came to be called as Freebasics. However, Freebasics was the app through which subscribers could access the internet that Facebook promised. It was supposed to align to the slower connections in areas where connectivity was sparse by providing some basic Internet connectivity. This was crucial since, Facebook for its part made it very clear that the Freebasics package was only designed to provide access to the websites that sign up with it. However, this was stated as a way to get people on the internet and it said people will start paying for the services if they wanted a quicker and wider internet service. Internet.org's official website reports that atleast 50% go onto subscribe to the fuller version after the first 30 days. Also, if the user/subscriber wanted to access other sites, they would incur additional costs levied by the network provider. In short, Freebasics meant that only the basics would be free and those basics depended on who signed up for the initiative. Also, this would only be available to Reliance communication subscribers, which was the fourth largest network provider in India.³⁶

Neither this rebranding nor the clarification helped and the debates in India did not subside and took an even aggressive turn that led to TRAI inviting comments on net neutrality and Freebasics from the public. Once again, both the net neutrality activists and Facebook as a company took to spreading awareness, so while the former took to social media (like Facebook/Youtube and Twitter) and wrote online and on print media, the latter spent money marketing and advertising the initiative as a social initiative across media platforms.

In Nov 2015, Freebasics launched all across India providing access to Wikipedia, Bing search, BBC News and a host of local news services.³⁷ Freebasics also invited several other developers and companies to join them in providing internet access to the poor. This was also the time, when Google, which was initially a part of the Freebasics platform in Zambia, withdrew from it, creating even higher degrees of scepticism about this platform in India and very shortly in Jan 2016, TRAI accused Facebook of misleading the public through its marketing of the Save Freebasics campaign in India and its response to TRAI's consultative paper on net neutrality and Freebasics. Facebook was urging its users to send in an email (also created an auto email form) to TRAI suggesting that the regulatory authority support its Freebasics program. This controversial system created an even greater furore and culminated in Freebasics being banned from India in February 2016, stating its violation of the net neutrality principle and under the "Prohibition of Discriminatory tariffs for Data Services Regulations 2016" notification.³⁸

DIFFERENTIAL UNDERSTANDING AND DOES IT REALLY MATTER TO THE POOR? – KEY PERSPECTIVES/PLAYERS

This entire episode showcases how the techno-social initiative was viewed differently by Facebook and by net neutrality activists. While this may at the outset seem like just two camps opposed to each other, within each of these camps there were several key players which included the self proclaimed public intellectuals, advocates of free market, development and net neutrality and various Non-governmental organizations. Despite the players being diverse, their critiques were similar enough to group them together under these two opposing camps.

While zero rating and regulation of market competition was the primary concern of the net neutrality activists, Facebook simply saw its initiative as a social and developmental enterprise that stood for digital equality and said it always welcomed every player in the market to partner with the platform.

The activists stressed that Freebasics should allow access to the entire internet rather than a few sites and their stance on if not full access then no access was the irritant to the Freebasics camp, which kept stressing that users could access other sites if they opted for a paid service like any other service in the market, which in a way is not any different from the market structure of paying for the internet. Since complete free connectivity might not be possible due to resource constraints and incurrence of losses,³⁹ this camp argued that at least some connectivity still brought people online and was much better than no connectivity.

While both camps with the help of the mainstream media argued from their own angles, what needs to be truly understood was whether this initiative really mattered to the poor.

Though Freebasics supporters asked a pertinent question of wasn't some connectivity better than no connectivity, their questions are silenced through several others that surface with respect to their pro-disadvantaged rhetoric. Will some connectivity allow the poor to escape the clutches of poverty? If they were anyway going to make use of the internet and pay for a full service, in what way does it really help the poor? In a way though, doesn't this idea of some connectivity (part information/slow connections) in itself reassert digital inequality rather than reduce it?

Even more crucial are questions on whether the poor really got a chance to speak about net neutrality, was it explained to them in their own local language or would it have really mattered to them even if introduced. To understand this, it is vital to recognize the role of internet, mobile devices and social media in the everyday lives of people⁴⁰ and how it fits into their socio-cultural fabric, since only then can an understanding of the process of both diffusion and penetration of such technologies in the lives of people emerge. Ethnography becomes one of the most suited methodologies to understand such socio-cultural complications.

Grounding the Debate: Freebasics from the Lens of Everyday Life

A fifteen-month ethnography was conducted in 2013 and 2014 in a peri-urban area (pseudonym – Panchagrami) right next to the city of Chennai, in Tamil Nadu, South India to understand the impact of social media and digital technologies in the lives of people. This was a place where over 200,000 people commute every single day to work in a special

economic zone specifically catering to the IT services. This entire set up is situated right in the midst of a few traditional Indian villages with their own population of around 30,000 (nearly 48% long term rural residents and 52% newly settled residents, across all socio-economic classes). The ethnography involved collecting data through participant observation, interviews (over 100 formal and innumerable informal), questionnaires and schedules intending to understand the digital media landscape (five in total). The ethnography was conducted both offline and online for a total of fifteen months.

Chennai, Tamil Nadu assumes immense importance in this debate since it was one of the first areas where the free basic services through Internet.org was rolled out before its expansion across India in Nov 2015. With Panchagrami being right next to Chennai and having a significant proportion of rural and lower socio-economic classes, exploring its residents' thought processes on Freebasics helps understand the impact of the app or the debate surrounding it. The following sections strive to explore the topic from the perspective of the poor in Panchagrami by systematically engaging with the rhetoric as expressed by Freebasics and should not be taken as an argument either for Free Basics or for net neutrality.

One of the most misunderstood ideas is that the rural and poorer populations cannot access the internet if not for schemes such as Freebasics. With competitive data packs available at affordable prices, this is increasingly becoming a false ideology when applied to the rural population. However, when it comes to the really poor below poverty line who find it difficult to access even three square meals a day, access to a cheap used phone in itself is a huge challenge (and a luxury in a way) and the question of why and how would they access the internet does arise. Further, given their priorities and their levels of literacy, the question of whether such programmes are even relevant to them also surface.

The next section details some direct and indirect claims as offered by Freebasics and strives to see if they hold true for the target group that this programme is aimed at.

Claim: Digital Equality might bring social equality

Ground level reality: Digital Equality is not social equality

One of the key statements that seem to recur in most communication concerning Freebasics is that bringing the disadvantaged online would usher in digital equality and thereby reduce poverty and create social equality. However, by studying the different socio-economic groups at Panchagrami, which is under transition from an agricultural economy to a knowledge economy, insights into key issues regarding social media and social inequality can be gained.

What became very clear is that digital equality does not necessarily mean social equality. At one level there is clearly a growing equality of access, since a smartphone can give you the same communication tools as the rich or the privileged have and this is exactly the argument that Facebook makes in support of the Freebasics. However, when one delves deeper, the truth that stands out is that online equality does not mean offline equality. This is illustrated in Panchagrami, where one may actually prefer to remove one's driver from his/her social media account than feel that you are in some sense 'friending' a servant.

For example: Ravikrishna, an IT executive and his wife Sindhu, a homemaker, felt uncomfortable friending their driver, Ganesh, a 22 year old, on Facebook, since they didn't

want him to see their personal interactions on it. For them Facebook was much more personal. They felt that such friending would actually undermine authority and promote a sense of informality. Ravikrishna said that this wasn't wrong in anyway, since even bosses don't friend their subordinates at work. Though, he quotes hierarchy as a factor, in this case, it was more pronounced since it was between classes. This wasn't true of Ravikrishna or his wife Sindhu alone, as many agreed to this notion during interviews.

Further, equality is a cultural issue and cannot be just equated to class alone. In India the idea of equality is more complicated and has a very long history when combined with issues of caste.

Sundararajan, a 57-year-old upper middle class, upper caste businessman, who wanted to let out one of his apartments for rent to a vegetarian from the same socio-economic background, enlisted the help of his neighbours who were more or less from the same background to help him by advertising on their online social networks, since he wasn't a member of any. Very soon, he found a suitable tenant for his apartment. Sundararajan quipped that he wasn't really surprised by the response, since he knew that his neighbours mostly socialized within the same socio-economic background offline and he had simply assumed that they would maintain the same networks online as well. This was true, since very soon, a census of the Facebook profiles of the upper caste Hindus revealed that on an average, 58% of their friends and contacts were from their own communities and even the others were mostly those who they knew offline. In other words an unconscious Network Homophily existed and this continued from their offline practices.

Both offline and online equality in a sense influence each other and are complexly interwoven. So, while web companies may see technology or access to the internet as a panacea for all social evils, they often don't consider the wider complexities or see how social issues like caste and class influence digital equality.

Claim: Women can now access information

Ground Level reality: Women have severe family restrictions in accessing information

Another important claim was that the Freebasics would help women access information. This could only be true for those in the lower socio-economic classes as women belonging to upper socio-economic classes, already access the internet and social media sites. However, in the lower middle classes and lower socio-economic classes, caste issues and strict social surveillance of young unmarried women often makes it difficult for them to access even phones, let alone use the internet or social media. There is a prevalent social notion that access to phones might endanger a woman's chastity.⁴¹ Unmarried young women with school education have the highest potential to access the internet of all the people, but are cut off from tools to gain such access. Once married they may gain the right to own a phone, yet access to the internet might still be guarded by their in-laws.

For example: Rajah is a 22 year old studying Computer Science. He is always signed into Facebook through his smart phone, however, when it comes to his sister who studies in the same college as he does, Rajah exerts a control on her and doesn't allow her to access social media of any kind. His reason for keeping out his sister from the 'clutches' of social media is related to the discourses on ideal Tamil women.

Such normative discourses on ideal Tamil women and the associated perception of social media and the internet as a masculine space⁴² dangerous for women, occur often. Strict surveillance over boundaries of time and space of access make everything else dangerous and masculine and prompts a hyper-masculine response from the male members of these families.

Claim: Access to information is through the internet

Ground level reality: News is through offline social networks

Access to news/information through the internet is the most important claim of the Free Basics scheme. However, for the poor in Panchagrami, access to information and news is through entirely different channels. While news pertaining to people's everyday needs is often passed through word of mouth, access to news for men is often through the "corner tea shop culture" that has long existed in Tamil Nadu, where people meet to drink tea, read newspapers, and partake in informal debates about daily news. Listening to such debates forms an important learning culture for the illiterate poor men in Panchagrami. Further, people still rely on Panchayat offices (local village council offices) to pass on policy news that affects them. Aural learning assumes more importance than textual learning for this group and access to information is stippled due to issues of illiteracy.

Take the case of Sukumar, a 23 year old, first generation graduate from lower socio-economic background, who works for a medical transcription company at Panchagrami and owns a cheap smart phone and is on Facebook. However, most of his friends are only the young from his area who have had some sort of exposure to education (though being school dropouts). His profile, as that of many others in his socio-economic group, has an age restriction with respect to who they friend. This is not borne out of a conscious choice, but is often driven by issues such as illiteracy, which keeps the middle aged and the elderly away from social media. Even communication with his parents has to happen over voice rather than even text messages. This is in direct contrast to the age range seen in the friends' lists of the middle and higher socio-economic classes.

On an average, a lower socio-economic household in Panchagrami might possess one, or a maximum of two used feature phones, whose primary purpose is voice communication. This limited use of mobile technology is not only due to more advanced communication tools being inaccessible, but also due to the illiteracy of users. There were several cases where even a text message had to be read by someone other than the phone's owner (especially when the owner was a woman). Although literacy amongst the younger generations is on the rise (with people often staying in school until at least the 5th grade), literacy still needs to improve for people to be able to send text messages, let alone use the internet.

In a way TamilNadu is the state that pioneered the practice of providing freebies to the poor during elections.⁴³ Freebies ranged from television sets to cooking gas to blenders to grinding machines to even cycles and laptops for school going children. The current ruling government and its opposition parties compete with each other to announce freebies to ensure that they attract votes from the poor. The poor here are pretty cognizant of the freebies offered through the state as opposed to a private enterprise. This also speaks to the

information network that the poor maintain, where election offerings and state schemes are well known through their networks rather than offerings of a private enterprise.

The words of Pandi, a 26 year old, Plumber, from the lower socio-economic class directly speaks to this *“What is Free Basics? I am ready for anything Free... (after knowing its from Facebook)... Isn't Facebook already free? So what is extra in Free Basics? Can't our government offer it as a part of the election campaign?”*

The idea that such a scheme might help atleast in combating boredom does arise. People here normally combat boredom by listening to songs from films and watching television (freely provided by the government). Film songs are typically bought cheaply from phone recharge booths by an individual and then shared with others. Since the latest and the best songs are bought and shared this way, people do not need to access the internet to enjoy their favoured forms of entertainment. Even if they did, the Free Basics package does not provide them with a site to download such songs.

Another question that arises is in the choice of the telecom provider, namely, Reliance Communications. Competitors such as Airtel, Aircel, and Vodafone occupy the biggest share of telecom services used by people here, hence, offering the Free Basics package on Reliance won't necessarily reach the poor, as they don't even use this provider.

What also needs to be stated is that the situation right from the start reeked with irony. The activists who were against Facebook's Freebasics used Facebook and other social media sites to communicate to the public. If the internet and Facebook hadn't reached the rural and the poor in the first place, who were these activists communicating with? Infact, the answer to this question leads to another irony. The net neutrality activists were largely the middle and upper middle classes and were communicating to their own classes specifically in the urban areas. Further, even the debates in the mainstream media, which took place in English (followed by Hindi as well) didn't even reach the target group in this area. This was true of the Freebasics camp as well and their communication was steeped with challenges too. Also, though Freebasics was first introduced in most south Indian states, most debates around it happened in mainstream media only when the national level televisions of north India got involved in the issue.

Further, even the thrust by the activists for a full internet access through the Freebasics app is itself an irony, since the question of 'wouldn't making a proprietary app as the gateway to the internet in itself lead to a market monopoly' does arise.

While the middle class activists saw the rural and the poor as the 'other' that needs to be saved from such unethical internet practices, the Freebasics camp for its part saw these activists as the 'other' from whom the poor need to be saved.

However, in reality, atleast for the lower socio-economic classes and the rural population at Panchagrami, both the Freebasics as well as the internet activists were 'others' who didn't really matter in their everyday lives.

In conclusion, the Free Basics scheme might have an affect on India's telecom policies, but its intended benefits for the really poor warrant further study, since currently it does not seem to make a difference to their lives, at least for people in Panchagrami. Probably, Facebook's re-entry through low cost Wi-Fi in rural areas might be the much-awaited magic.⁴⁴

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NOTES

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28. <http://qz.com/5180/facebooks-plan-to-find-its-next-billion-users-convince-them-the-internet-and-facebook-are-the-same/>
29. <http://timesofindia.indiatimes.com/tech/tech-news/What-is-net-neutrality-and-why-it-is-important/articleshow/29083935.cms>
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32. <https://www.facebook.com/zuck/posts/10102033678947881>
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37. <https://www.facebook.com/photo.php?fbid=10102490971619701&set=a.529237706231.2034669.4&type=3>
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Market Creation through Community Engagement: Combining Ethnographic and Business Thinking to Bridge Life-Changing Technologies to Emerging Economies

CRAIG CISERO

Frog

ROBERTA TASSI

Frog

Emerging technologies such as drones, sensors, mesh networks and IoT have significant potential to bring new life-changing services and benefits to places where infrastructure and ICT access is still limited. Nevertheless, many companies have already failed in the attempt to bring new solutions to the underserved population in emerging markets due to gaps in understanding capability and lack of systemic approach.

ICT interventions are often market creation scenarios that require completely new behaviors for adoption (Simanis et al., 2010). The creation of these behaviors, from introduction, to sense-making and usage, can benefit from deep ethnographic analysis not only to assess people's capability (Sen, 1985), met and unmet user needs (Martin et al., 2006) and product requirements, but also to frame the best service design strategy including critical elements such as distribution channels, business model and maintenance processes. The tools and methods that purely belong to ethnographic research (Beyer, Holtzblatt, 1998) need to embrace the business and strategy dimension, combining the two approaches to outline a successful implementation path.

ICT interventions are also systemic, grounded in a multiplicity of existing roles and group dynamics that participate to the implementation and delivery of the new product or service (Kirsch, Bildner, Walker, 2016). Therefore, in informal economies, targeting significant behavior and system changes requires a strong iterative work with the local communities, as primary partner in defining and adopting the final solution (Simanis et al., 2008). The engagement of the community becomes central, turning the whole design and strategy process into a continuous dialogue between the experts and the local residents.

The purpose of this paper is to describe a combined design ethnography and business strategy approach towards a more efficient design of emerging technology interventions in informal economies. The "For us by us" model—built upon the BoP 2.0 framework (Simanis et al., 2008) and tailored ethnographic and co-creation techniques (Sanders, Stappers, 2007)—is a chance for practitioners and organisations who are investigating potential technology-based interventions to quickly evaluate, prioritize and develop products and services that add value to people's lives, and have an increased probability of successful adoption.

INTRODUCTION

Technology is only as powerful as it is accessible. (Hector Ruiz, 2008)

The idea for the *For us by us* model presented in this paper was formed while working on a specific IoT-based solution as part of the Fire Sensors for Safer Urban Communities project promoted by the American Red Cross in collaboration with the South African Red Cross Society, the Kenyan Red Cross Society and the communities of Khayelitsha (Cape Town) and Mukuru (Nairobi)¹.



Figure 1. Community members of Mukuru (Nairobi) during the Fire Sensors for Safer Urban Communities project (December 2015). Photo by Juozas Cernius, American Red Cross.

The rapidly increasing populations in informal settlements in Sub-Saharan Africa has led to urban structures prone to sudden and destructive fires, caused by cooking with open flames indoors, burning trash, overextending faulty wires or trying to heat the shacks. Due to the density of those settlements, fires spread quickly and often cause large-scale physical and human damage that increase poverty in those communities. The humanitarian organization identified the opportunity to address the challenge through the use of sensors and hypothesized: what if our organization could distribute cheap fire sensors to slum residents to help decreasing the incidence and tragic consequences of fire episodes? In developing an approach to piloting the technology, they established a partnership with a start-up² in South Africa working on networked fire sensors for such a context, and also partnered with a smart sensor producer in the US to develop an alternative product.

The fire sensors were specifically designed for the informal settlements to detect heat instead of smoke, and to be networked together to alert other community members of a potential fire that could spread. The hypothesis came along with another significant challenge: how can we implement and distribute this fire safety solution at large scale?

The humanitarian organisation was interested in a self-funding mechanism that could cover costs and scale the intervention to make a broader impact without relying on continuing donations. This required the development of a clear marketing strategy to introduce the new product in that context that would create new demand and a self-sustaining business model.

The concept of cheap fire sensors installed inside every shack seemed to be a promising solution based on an initial investigation with the local residents where the issue of fire was

identified as a top concern for the community, and it was hypothesized that an early alert system could enable the community to locate and handle fires in their initial stage (similarly to the functioning of regular smoke detectors in formal houses). However, the idea of distributing those sensors was significantly challenged by the residents' mental models about fire prevention and response, as well as by community dynamics and overall expenditure habits. Mental models of dealing with fire have never included the use of a physical siren, and the interaction of a networked system of sensors had very little precedence in the minds of users. Introducing an alert system would have required residents to take responsibility and ownership of the solution, understand how the detectors work (e.g. place them in the right position inside the shack) and maintain them over time (e.g. avoid using the sensors' batteries for other devices). The density of population in the informal settlements can quickly turn a single fire into a community-wide disaster, and thus fire prevention has a significant social dynamic in discussions and action (e.g. in some communities the resident/s who start the fire are persecuted). Different population groups may play different roles in the fire journey (children vs adults, women vs men, house tenants vs landlord, rescuers vs thieves, temporary vs permanent dwellers), and their interests in saving (or not saving) their house and belongings vary. Since residents were not accustomed to the idea of spending money to reduce the risk of fire, the plausibility of creating new space in the consumer's budget would need to be researched. These, among other challenges, were the starting point for our exploration, and led to the consolidation of the approach that we want to propose and discuss in this paper: a combined ethnographic thinking and business strategy process designed around community engagement as a way to make a tech-based innovation available and impactful in slum economies.

The paper explores the topic of emerging technologies for emerging consumers by describing:

1. The opportunity
2. The challenges
3. The *For us by us* model
4. The Fire Club case study

EMERGING TECHNOLOGIES FOR EMERGING CONSUMERS: THE OPPORTUNITY

In Africa sometimes you can leapfrog and go to the latest in innovation and technology at the same time. (GSMA)³

Emerging technology has the potential to address a variety of challenges and nearly endless practical applications⁴, playing a powerful role in enhancing quality of life and supporting future development in a context where infrastructure is at the bare minimum.

We have already seen how, in a few years, the proliferation of mobile networks has transformed communications in sub-Saharan Africa, allowing Africans to skip the landline stage of development and jump right to the digital age. Mobile devices opened huge opportunities to reach the underserved world population with new services, filling significant gaps in healthcare, education and financial systems. M-Pesa, in Kenya, has given many unbanked people increased financial access, and enabled transactions that were previously impossible - such as sending money from the centre of Nairobi to a relative living further away in the rural areas. The transaction value handled by mobile money solutions in the

continent is predicted to top \$160 billion by 2016, significantly more than the value handled in Europe and North America⁵.

A wide range of tech initiatives, such as M-Kopa Solar Energy in Kenya⁶, Zipline's drone delivery of blood in Rwanda⁷ and Vodaphone's implementation of M2M security services in South Africa⁸ show how emerging technology is revolutionising every sector, opening up new opportunities for emerging consumers to access life-changing services and encouraging practitioners to re-examine old models.

This is just the beginning of a clear growth potential, often identified as the second wave of *digital revolution* in SSA and associated with the rise of IoT to provide vital services. However, technology is just a single component when it comes to implementing and delivering IoT based solutions. There is a whole level of logistics channels, supply chain and customer service that needs to be created which must overcome the infrastructure barriers that are still part of the context and can determine the success or failure of those initiatives.

Market-driven approaches towards alleviating poverty have shown promise in previous theoretical frameworks such as Prahalad's Base of the Pyramid, which posited that re-designing business models for the specific demographic conditions of the world's poor (low price point, high volume approach with redesigned products) can reduce poverty and provide a commercially attractive opportunity for the company. Although BoP business models have struggled to maintain commercial success anticipated by early scholars often due to difficulty in creating effective channels to market and keeping operational expenses under control (Simanis, 2012), the aforementioned advancements in mobile money, connectivity, and infrastructure provide ways to overcome some of the issues that affected previous success. At the same time, using increasingly advanced technology comes with new challenges, which were not prevalent in previous market driven approaches to development focused on micro-portioning consumer goods like laundry detergent through traditional channels that people were already familiar with (e.g. informal grocery stores).

This paper builds on past challenges of BoP approaches by applying the fundamental principles in the context of a more connected and tech-friendly developing economy.

EMERGING TECHNOLOGIES FOR EMERGING CONSUMERS: THE CHALLENGES

The main challenge is to give voice to the low-income population, keeping their perspective from fieldwork investigation until the definition of final strategies. (Luciana Aguiar)⁹

Reaching emerging consumers with technology services raises complex business and design challenges around (1) consumer mental models, (2) dynamic cost structures, (3) distribution channels, and (4) the need of applying an iterative product development process.

1. *Companies struggle defining the clear value proposition for new technology that resonate with the needs, behaviors and mental models of emerging consumers.*

Mental models are defined as a user's beliefs about a system such as a new computer, or a risk reduction service such as an insurance policy. The beliefs that make up a mental model are heavily influenced by a user's conceptualization of themselves and the environment that surrounds them. In complex operating environments such as urban slums, common assumptions are fundamentally challenged.

2. ***ICT interventions require dynamic cost structures that change over time to account for ongoing network costs, data and maintenance.*** Innovative business models that shift from a one-time transaction to a relational approach that extracts customer value over time can create opportunities for sustainability (Porter, Heppelman 2015). However, exploring this kind of business model innovation in complex operating environments such as urban slums must address difficult questions around volatile cash flows of residents and irregularities in their budgeting process.¹⁰
3. ***The failure to establish effective distribution channels for products in the local context has historically been a weak point in previous BoP approaches*** (Chikweche, Fletcher, 2011). Ecosystems through which channels must pass are de-stabilized by factors such as poor infrastructure and suffer from a lack of collaboration and competition. The instability of these channels (Anderson, Markides, Kupp, 2010) increases the operational expenses of the BoP enterprise, and damages commercial sustainability. Deep ethnographic analysis should be applied to the wider ecosystem as it helps develop a deep understanding of the key players, operational environment and other factors that shape it (Kirsch, Bildner, Walker, 2016), and how they may come together to form an effective channel to market.
4. ***Innovation cycles targeting BoP markets require an iterative and inclusive process that generally involve a high level of uncertainty in defining the investment profile, partnership structure, user needs and value proposition*** (Chevrollier, De Vogel, 2013). Stage-gate product development processes at the base of the pyramid share a similar narrative that deep user empathy and co-creation informed the product and service definition, but failed in the market place. Current academic literature expresses that there is space to examine the blurring and iterativeness of product design and delivery cycles (Viswanathan, Sridharan, 2012) to simultaneously ensure relevance and affordability of the solution for the target users while addressing dependencies and business needs across the operating reality. Our literature review also revealed that the detailed investigation of distribution management issues is underexposed (Reiner, Gold, Hahn, 2015) and organisations struggle to grow a new business model within the existing business (Reficco, Gutiérrez, 2016).

Our hypothesis, introduced in the next section, is that existing innovation frameworks (Halme, Kourula, 2015) could be evolved by better weaving together business and ethnographic thinking across the iterative development cycles to increase the chances that the emerging business will reach the desired outcomes and that the emerging business will cooperate alongside the legacy business.

THE “FOR US BY US” PRODUCT-SERVICE SYSTEM DEVELOPMENT CYCLE: COMBINING DESIGN ETHNOGRAPHIC AND STRATEGIC THINKING TO DRIVE TECH INNOVATION IN EMERGING ECONOMIES

For us by us. (Lumka)¹¹

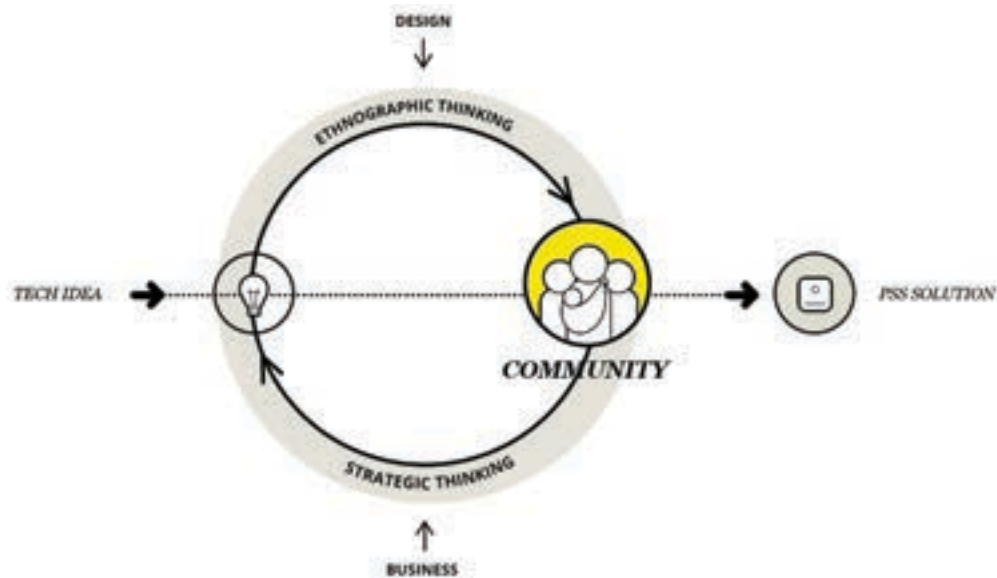


Figure 2. *For us by us* high-level framework, by Roberta Tassi.

The goal of the *For us by us* model is to provide a framework for the development of ICT interventions that allows to quickly move from a tech-based opportunity –identified by either international or local businesses and individuals- to a complete Product-Service System solution ready for a scalable and sustainable implementation.

Given the mix of expertise demanded by challenges listed in the previous chapter, development of ICT interventions benefit from a collaborative approach between ethnography and business strategy. Specific ethnographic and strategic thinking tools need to guide the activity of service and business modelling, in a continuous dialogue with the individuals and the groups that will be the final recipients of the solution (Darrouzet, Wild, Wilkinson, 2010; Halme, Kourula, 2015; Powell, 2015). We introduce the *For us by us* innovation cycle as a paradigm for applying this type of approach towards ICT product design within operationally complex environments such as urban slums. The model suggests:

1. **The creation of a dedicated ethnographic/strategic thinking toolkit for emerging economies to support the simultaneous definition of value proposition, service system and business model.** New technology has always required the analysis and envisioning of new behaviors for market creation through ethnography (Grundin, 1990). Design thinking and human-centered design methodologies (Krippendorff, 1989; Brown 2008) have already demonstrated value in addressing innovation challenges in poor environments. From the first HCD toolkit for social impact

projects published by IDEO (2009), to frog's Collective Action Toolkit (2012, 2016) and the most recent mAgri Design toolkit (2016), the idea of applying user-centered design and design ethnography techniques to tackle systemic challenges in critical contexts has been widely explored. In the *For us by us* model, the ethnographic thinking toolkit is enriched with business strategy tools to support a continuous iteration between research and service or business design decisions. The combined toolkit stretches ethnographic methods to better assess business aspects, and vice versa, shifts techniques inspired by traditional consumer research to assess community interactions, motivations and behaviors.

2. ***The adoption of community engagement to enable a constant virtuous exchange between the organization and the communities themselves, that participate to the definition of the final solution.*** The inclusive dimension is considered a key opportunity to solve all the previously stated BoP challenges and lead to relevant and affordable innovation (Chevrollier, De Vogel, 2013). Community engagement helps consolidate a meaningful and sustainable systemic solution, while raising awareness and readiness to embrace it (Hart, Milstein, 2006). The community is empowered to actively contribute to the product-service development cycle across every stage, by setting up dedicated activities in the environment where those communities live, and continuously generating insights that are immediately elaborated into proposals to be played back to the community. The *For us by us* model defines three ideal steps for community engagement, together with a set of exercises and rules to effectively move from initial exploration to the co-created solution.

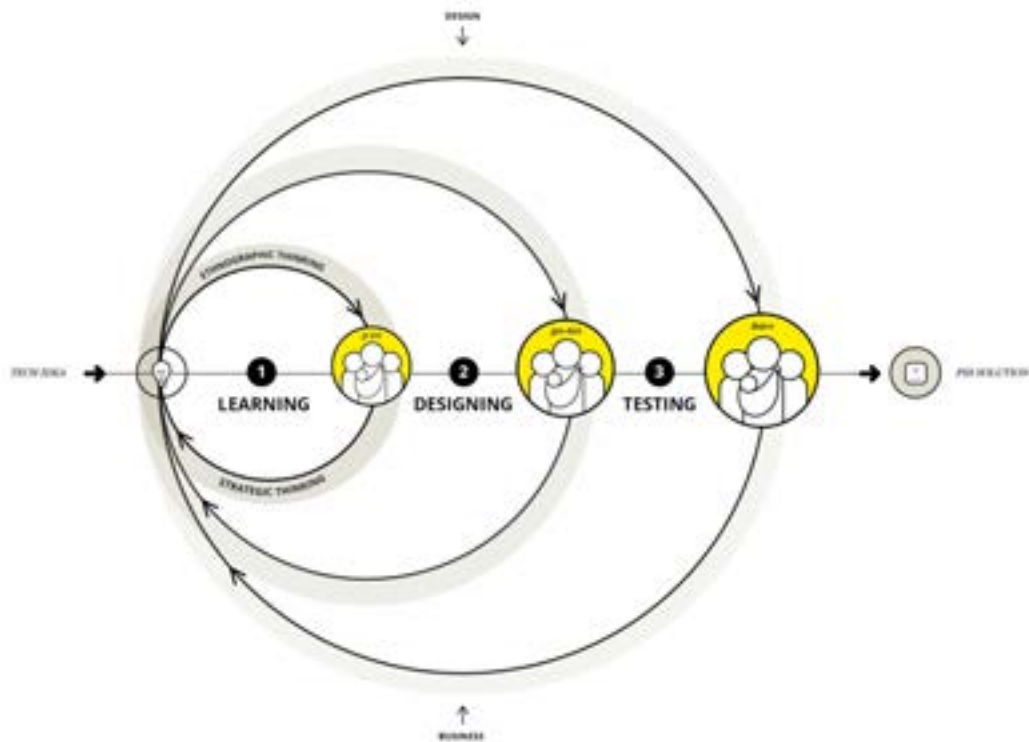


Figure 3. *For us by us* product-service system development cycle, by Roberta Tassi.

This fully integrated in-field approach can quickly move from (1) learning from the community, informing business decisions by disclosing mental models and behaviours, to (2) designing with the community, ideating around aspects such as value proposition, distribution strategies and service delivery, and ultimately (3) testing with the community, simulating key service components and validating the final business model.

Learning with the Community

The learning phase aims to develop an in-depth understanding of the emerging consumers and create a set of design principles and high-level strategic scenarios for the product service system that are then taken into the Design phase as the frame of reference for the rest of the project. This section will discuss the goals and core components of the learning phase, followed by examples of practical application during the Fire Sensors for Safer Urban Communities Project.

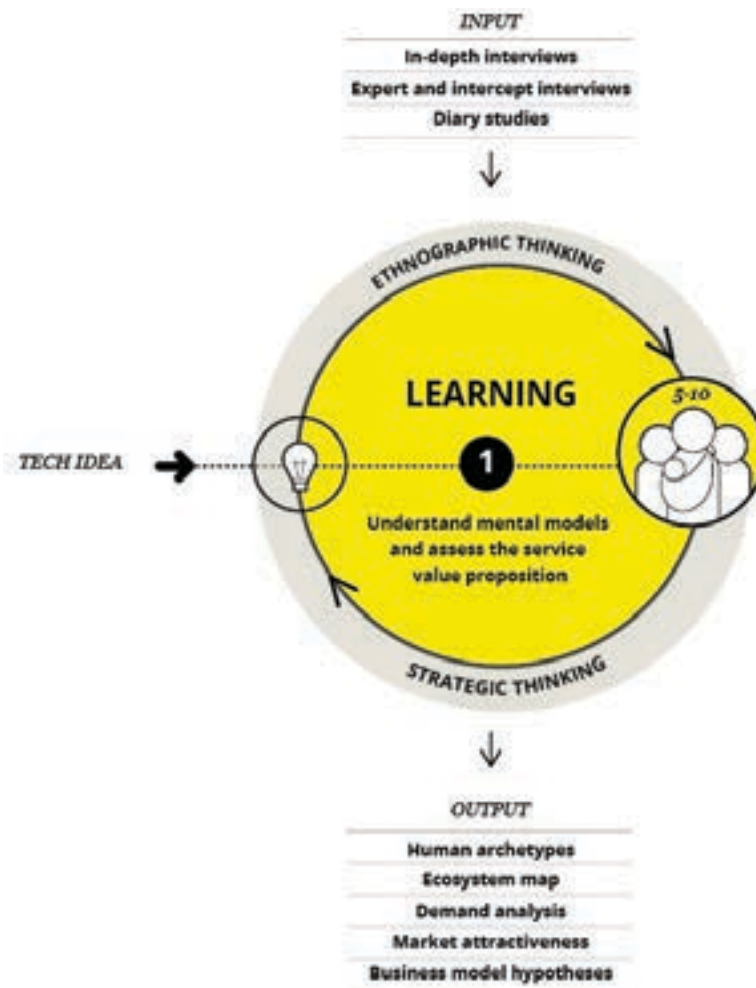


Figure 4. Learning with the community: objective, input and output – *For us by us* product-service system development cycle, by Roberta Tassi.

The complexity of introducing tech services to emerging consumers demands a deep ecosystem analysis to establish the foundation for the service model (Kacou, 2010; Kirsch, Bildner, Walker, 2016). The goal of the learning phase, therefore, is to understand the emerging consumers' mental models and behaviours, to define user priorities, estimate potential market demand, and hypothesize business model structure. The learning phase requires to zoom out of the context that surrounds the initial idea to find answers to the most uncomfortable questions - such as: "Do the fire sensor really matters to slum residents?". A mix of contextual observation methods including **(1) individual in-depth interviews and risk perception games, (2) diary studies, (3) expert and intercept interviews** are combined with ecosystem mapping and market analysis, allowing the team to come up with the desired answers.

1. In this phase it's important to reach out to single individuals to have extensive **in-depth interviews** that cover all the relevant habits, mindsets and behaviors in depth (Blomberg et al., 1993). The interview is structured as a 2-hour conversation, complemented with interactive shadowing before and after (Agar, 1996), and supported by dedicated hands-on games or activities. The interviews should target residents (inside and outside the communities that have been selected to be part of the development process) and other relevant actors that could participate to the product-service manufacturing, distribution and delivery (inside and outside the environment where the communities live). The conversations must zoom out to focus on the wider problem area that inspires the technology in order to explore the hypothetical value proposition. In the case of the fire sensors, this meant positioning the conversation with potential consumers around personal and property risk overall rather than focusing on fire immediately. Using physical exercises like the **risk perception game** allowed to gain deeper insights on the extent to which fire is a concern, and explore how potential users currently think of prevention, in order to carefully understand potential demand. The risk perception game is built as a card sorting exercise, where the participant is asked to go through a set of cards representing specific risks (e.g. violence, robbery, flooding, fire, etc.) and position the ones they feel more scared of or affected by next to them, and the ones they feel not relevant further away. When the mapping is complete, the researcher can discuss each card positioning, exploring motivations, beliefs and mental models in depth. This game (and other similar card sorting or mapping exercises that could be designed according to the specific research purpose) help the participants reflecting on their behavior while discussing, and starting conversations about sensitive topics (e.g. sexual assault and crimes of passion as potential risks).

Risk perception game: example of an ethnographic/strategic insight –

If I pour a glass of water, and it smells, I know that it is foul, but I still drink it, because I am thirsty. (James)¹²

Life in informal settlements is surrounded by risks everyday: especially theft and violence, which create significantly more pressure on a daily basis than other problems. Individual attention is thus concentrated on the short-term rather than proactively seeking real long-term solutions. We found that, considering the mindset and the low probability of fire affecting your life (18% in the next ten years, Cape Town Fire Dept data 2010-2015), buying a very cheap fire sensor as a private good in that context is like purchasing an unaffordable luxury: something you wouldn't consider doing. The hypothesis of a business-to-individual consumer model through existing retail channels was ruled out. On a product strategy level, the fire sensor device would need to be enhanced to provide value on day 1, and needed to provide a more significant reduction of risk beyond just detection.



Figure 5-6. Conducting home visits, in-depth interview and risk perception game in Cape Town (October 2015). Photo by Roberta Tassi.

2. In the learning phase, it's also important to analyze the broader market ecosystem, developing empathy with all market players to estimate their potential participation in an eventual business model. **Expert and intercept interviews** are good techniques to get to know the broader spectrum of players, inside and outside the informal settlement, while optimizing the time spent in the field.

Intercept interviews: example of an ethnographic/strategic insight –

Fires often start as arsons, for many reasons. One could be that the tenants are not paying the rent, and fire is the easiest way for the landlord to make them run away, rebuild the shacks and find replacements. (KK Security Employee)¹³

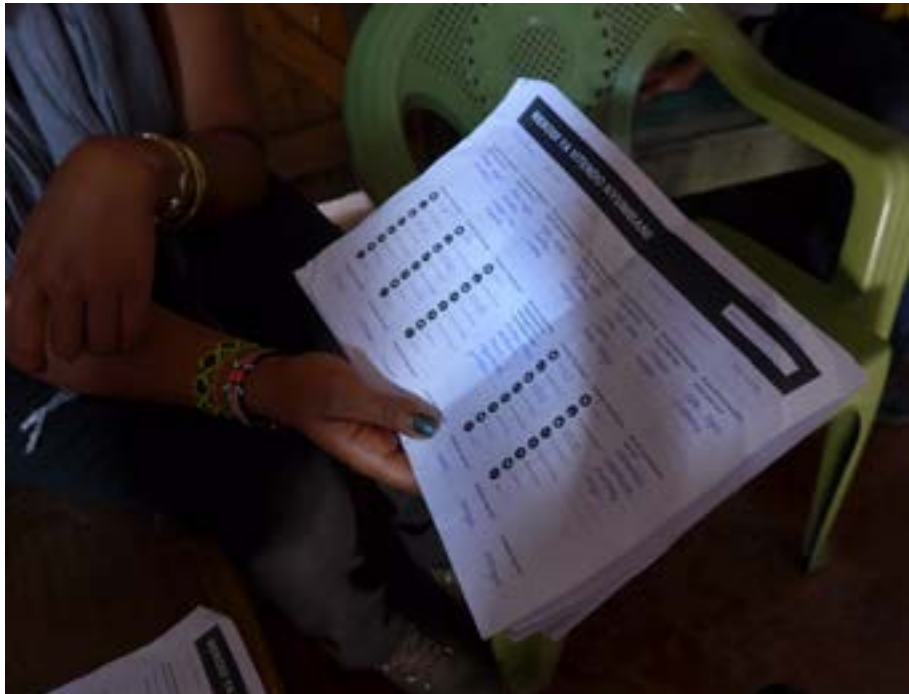
One of the assumptions was that landlords could be a good channel for the implementation of the fire sensor system, being interested in protecting their properties (similarly to how Sanergy¹⁴ implemented their sanitation service). Several stories collected through intercepts in the slum or experts from the fire brigade, disaster management department and micro-insurance providers revealed that the variability of landlord reliability made them a poor channel for a sustainable business model. Installing a sensor in the house should be backed by a conscious act of taking responsibility against the problem in order to increase probability of sustaining the technology and proper response activity.

3. Install the technology (even if just a prototype) and run observational studies, like a small **diary study**, to understand how people perceive and react to the product in their everyday life. This can reveal crucial insights, that shape requirements at a product and system level.

Diary study: example of an ethnographic/strategic insight –

My device has never worked; I would like to get a new sensor!
(Community member, Mukuru)

Through the pilot installation and diary studies, we understood that regardless all the effort put in explaining the concept of the fire sensors through community demonstrations, individual training sessions and collaborative workshops, a lot of participants were still having troubles understanding the device and how it was supposed to work. The aspect of education (around fire safety and the sensor) emerged as a key aspect to be considered in shaping the service model and business plan. We needed to start thinking of local specialists that could answer questions at anytime and be fully responsible for the system maintenance, and how this could be economically sustained.



Figures 7-8. Sensor installation and 1-week diary study discussion in Nairobi (November 2015). Photos by Juozas Cernius, American Red Cross, and Roberta Tassi.

The outcome of the learning phase is a strategic positioning document that captures dynamics of needs while putting them into the frame of an economic utility analysis: from human archetypes and behavioural mapping, to an estimated size of the potential demand and market attractiveness in different business scenarios. Weaving the insights into these scenarios helped make the connection between the words of the community, and the practical decisions needed from a management perspective.

Designing with the Community

Designing with the community focuses on generating ideas and evaluating alternatives alongside local community members by iteratively building on the previous phase in order to give form to the service system and business model. Aspects of the system that can be co-designed at this stage include: manufacturing and distribution strategy, value proposition, consumer awareness, education and training, installation and maintenance of the solutions. This section will begin with a description of the core activities of the design phase and then describe the ethnographic and strategic tools used and the outcomes of the application on the fire sensors project.

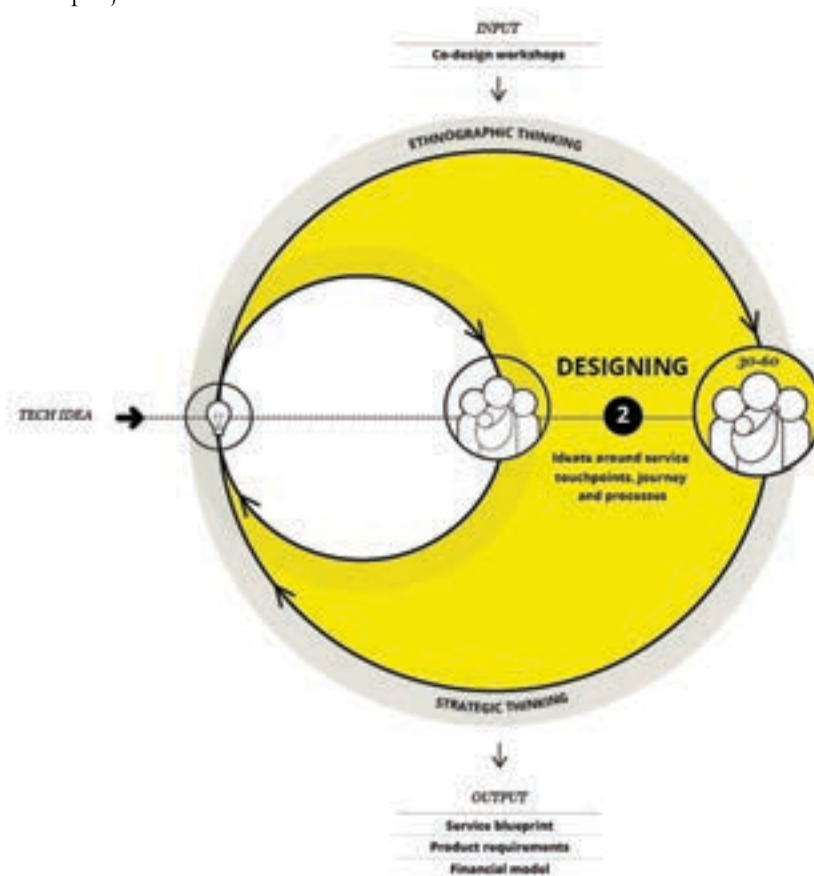


Figure 9. Designing with the community: objective, input and output – *For us by us* product-service system development cycle, by Roberta Tassi. Illustration © EPIC2016, used with permission.

The community workshops are the central activity of the designing phase, and apply a various set of co-design activities to arrive at the ideal service model and specific attribute values for key marketing decisions, such as value proposition, distribution strategies, service delivery, and pricing. These workshops are designed to embrace the of environmental complications such as low-literacy and social biases. These workshops have the ambition to sort all the service and marketing elements below and above the line of visibility, helping the community members evaluate alternatives, make decisions and shape the ideal system from their point of view. The design of the community workshops can be tailored to the specific project purpose and set-up, however, we recommend considering the **(1) product future advertising** exercise and the **(2) experience journey mapping** as key assets to help community members discuss and develop their own solutions.

1. The **product future advertising** –inspired by the tomorrow’s headlines¹⁵ and service poster tools¹⁶– is an insightful way to understand the value the community recognizes in a product/service idea, and how they would talk and describe it to their peers. By making the workshop participants work in teams, you can ask them to come up with a name for that product/service, draw an image that would represent and advertise its core value, create a catchy statement and a final call to action (which can include the desired price/service mix). The easy building blocks and instructions allow them to quickly discuss and draw together, until the advertising poster is complete. The exercise is aimed at help community members explain the key benefits the solution would bring to their life (if any), and so assess the value proposition of the designed product-service system.

Product future advertising: example of an ethnographic/strategic insight –

You should get a sensor for you, because I’ve already got mine!
(Community member, Khayelitsha)

Besides the weak interest in buying a sensor expressed by single individuals during the in-depth interviews (due to the short-term planning explained in the learning by the community section), the future advertising exercise started to provide insights on how the system was positively perceived at the community scale and could be adopted as an infrastructure for the safety in the neighbor. In the advertising posters, many of the drawings were showing people coming together to fight the fire or the sensor as an angel protecting the community, and the messages were often referring to the idea of a common choice, a sense of pride of becoming advocates for a better quality of life in their neighbor, pointing to the community leader as the main ambassador. The idea of a business-to-community gained credibility as a solid opportunity, proposing the fire sensors as a safety solution that each member of the village could contribute towards, because of a shared intent of taking action against of the problem of fire.



Figure 10. Product Future Advertising exercise during the community workshop in Cape Town (November 2015). Photo by Roberta Tassi © EPIC2016, used with permission.

2. **From aspirations to solutions:** after the future advertising exercise, the co-design workshops move in a detailed **experience journey mapping** exercise to support focused conversations around technical aspects such as distribution, purchase, installation, use and maintenance of the solution. The key journey steps can be displayed on a linear temporal axis, and detailed hypothesis can be evaluated to define what works better. As facilitators, you can use either drawings or texts on small cards, and encourage participants to either pick their favorites for each phase or come up with their own ideas (if not represented by any of the original hypothesis). It is important to structure the activities so that the community members are able to see and analyze every single aspect at-a-time, to slowly compose the big picture, and finally look at the service system and offering as a whole, and have conversations around it.

Experience journey mapping: example of an ethnographic/strategic insight –

We don't want to rely on external engineers to come and fix the sensors, the technician should be in the community. (Community member, Khayelitsha)

When it came to discuss the way in which the distribution, installation and maintenance process should work, the communities expressed a strong preference for managing as much as they could with their own network and resources. This led to the idea of creating a community fire warden – an individual who could work with a local micropreneur to raise awareness about the fire safety solution, educate the community around fire prevention, distribute and maintain the sensors, as well

as coordinate the response in case of fire outbreaks. Those conversations became the foundation for the Fire Club franchising idea as service and business model.



Figure 11. Experience Journey Mapping exercise during the community workshop in Cape Town (November 2015). Photo by Roberta Tassi © EPIC2016, used with permission.

A powerful opportunity for community workshops is to build each session on the outcomes of the previous one, adding or removing hypothesis and iterating on the same service components several times, until the moment in which all the elements are validated from a consumer and business perspective (through continuous adjustment of the model based on user input). The results of the designing phase can be formalized in a service blueprint and a first draft financial model, to be used for validation in the Testing phase.

Testing with the community

The testing phase aims to validate design decisions taken in the Design phase, strengthen weak points in the business model, and refine the overall service system design. This is accomplished through on-site service prototyping activities with community members and meetings with local experts and potential partners. These activities are planned to simulate specific aspects of the service distribution and delivery, gather feedback, monitor reactions and refine details.

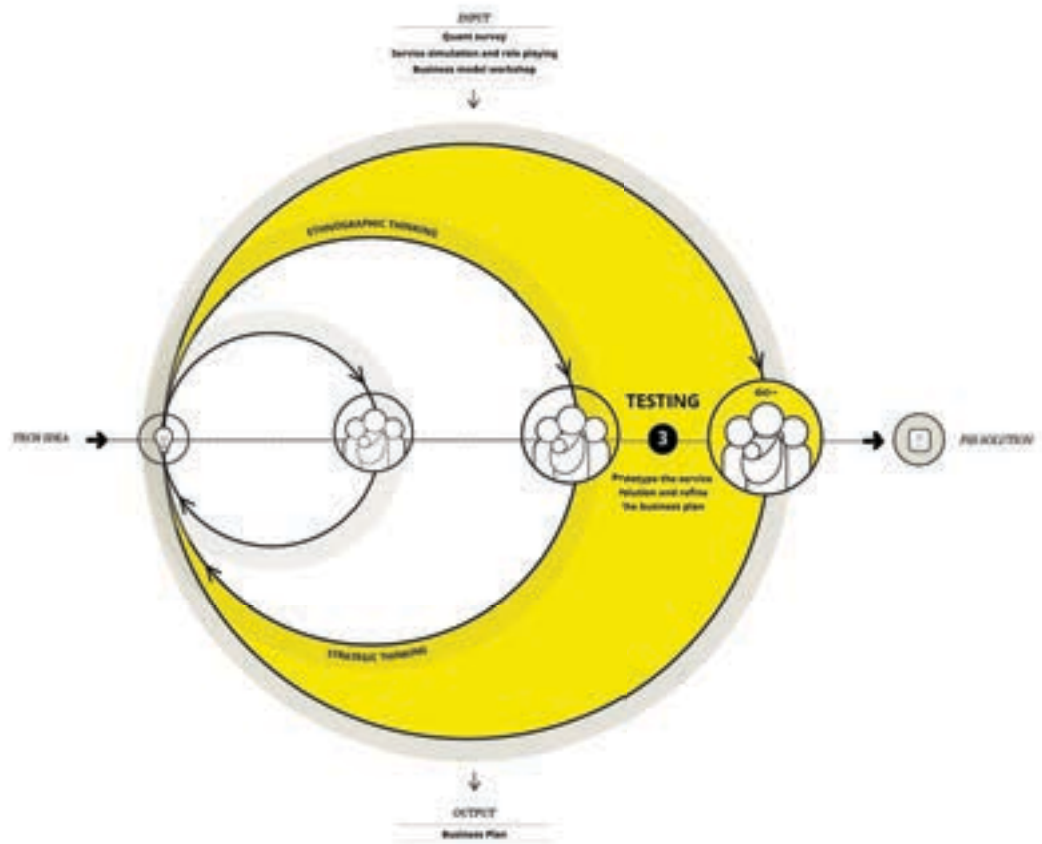


Figure 12. Testing with the community: objective, input and output – based on the *For us by us* product-service system development cycle, by Roberta Tassi.

The testing phase is the natural step bridging the design of the solution and its following implementation, by applying **(1) expert validation sessions** to verify the interest of specific local players to participate to the business model (starting conversations that could potentially end in contractual agreements), **(2) service prototyping** and **role playing exercises** to test and refine the designed system (setting the ground for the real distribution and implementation of the solution), **(3) quantitative assessments** to verify detailed decisions related to offering bundles and pricing.

1. The **expert validation sessions** are structured interviews with experts that gauge participants' willingness to engage from a business perspective. The interview-format allows to introduce the product-service system idea and ask specific questions about feasibility, value proposition and partnership model.

Expert validation: example of an ethnographic/strategic insight example –

We already have a micro-insurance offering for fire incidents, the sensor would allow us to feel more in control, and reduce risks together with the rise of awareness and education. We would be interested in seeing a proposal in the next few weeks. (Insurance Company)

We previously hypothesized that a franchising model could alleviate some of the operating expenses associated with our service delivery (Chikweche, Fletcher, 2011), and the expert validation session allowed us to verify the interest of local community members and institutions as hypothesized in the franchise model. The interest of insurance companies in integrating the sensor with their property micro-insurance offerings for the informal settlements was an important confirmation in structuring the features of the service bundle. The insurance companies were able to validate our business model assumptions around the frequency of property insurance payouts due to fire, and the insurance premium built into the subscription price.

2. The **service prototyping and role playing** exercises allow to validate and refine the product-service system in the field, by having the community members simulating different scenarios of distribution, installation or usage according to hypotheses to be verified. These types of simulations need to be designed in detail, by identifying a group of people from the communities who are willing to participate and preparing an organized set-up in terms of stimulus, location and tasks. The simulation should be structured as a role playing game, in which each participant has their own role and follows a plot that prototypes the specific events, actions and interactions that would theoretically take place in the future service scenario. A good practice is to demonstrate the whole simulation one time before starting, then having the community play it out in a controlled environment, and finally a full simulation in the real context (when possible), involving other residents or actors that have not been previously informed.

Service prototyping: example of an ethnographic/strategic insight example –

After a few seconds, the role of the sensors is over.
(Eve, Kenyan Red Cross Society)

In the context of fire sensor project, we needed to validate the whole fire response scenario based on the usage of the fire sensors installed inside the shacks. We involved 30 members from the community and simulated a fire outbreak and community response in the settlement of Mukuru (Nairobi). Trying and experiencing the specific dynamics that were designed by us and the community immediately highlighted the strengths of the solution and confirmed the weaknesses to solve. In particular, it was clear that a few seconds after the alarm started ringing nobody could hear the sensors anymore: the detection role was already over, and the critical point was how to organize and handle in the best way the community fire response in the chaos of the moment. The need of a strong leader in the role of the community fire warden was clear, and became one of the key skills necessary in the franchised service model.



Figure 13-14. Fire safety service simulation in Nairobi (December 2015): community members first studying the scenario and their role, and then acting out the response journey. Photos by Juozas Cernius, American Red Cross.

3. **Quantitative surveys** can be used at this stage to fine tune the service proposition and business model, covering detailed variables that are still open - such as: “when thinking of integrating a fire insurance with the sensor subscription, do the households value a full coverage of total assets with a higher price point, or partial

coverage of total assets with a lower price point? Do these potential coverage packages align with what is economically feasible in the current financial models?”

Quantitative survey: example of an ethnographic/strategic insight example –

Sensors + education would be the best bundle for Cape Town, while Nairobi prefers sensors + response + insurance. (Craig, frog)

We ran a survey to fine-tune the micro-insurance aspect of the service and understand the ideal insurance coverage offering in the two different settlements we were working with. In Cape Town, residents preferred a higher price point for a larger coverage whereas Nairobi residents preferred a lower overall price with a smaller insurance coverage, which reflected research hypotheses around the higher price elasticity of Kenyan consumers. As a result, we identified the ideal offering in each location, and could refine key business modeling decisions.

The final outcomes of the testing phase are the finalised service model and business plan. Thanks to the tight feedback loops and continuous iteration, the entire cycle can be effectively covered in a short amount of time, moving quickly from having an innovative idea for a tech innovation that can be applied in a slum economy to an optimized solution in terms of service offering and business sustainability. In the example of the fire sensors project the whole journey from idea to business plan was covered in three months, working with two geographies in parallel.



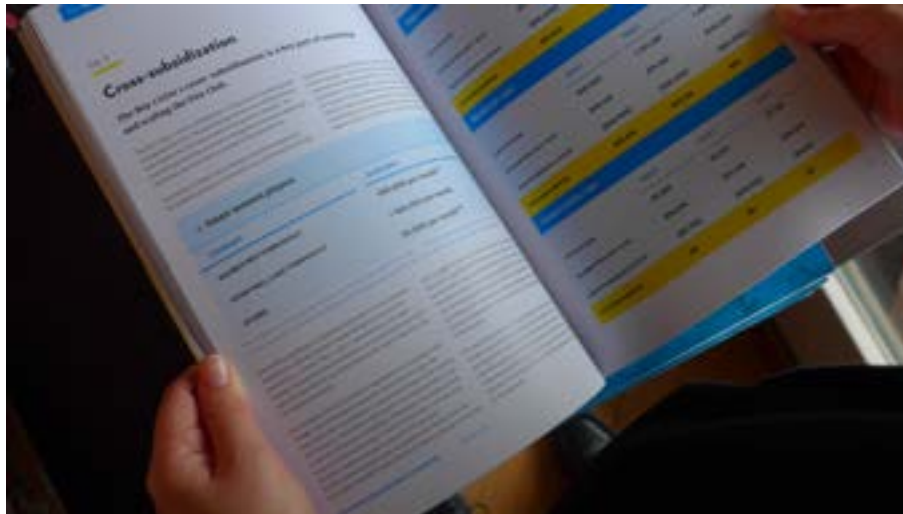


Figure 15-16-17. *Fire club* business plan, cover and content samples, design by frog. Photos by Roberta Tassi.

Since the engagement and participation of the community is a key enabler to this type of approach, we recommend leveraging connections with existing groups or organisations who are already actively working with the communities in the targeted urban or rural areas, as an important facilitator in creating the relationship, helping to establish trust and streamline planning of all the activities. In the empirical applications of the approach during the Fire Sensors for Safer Urban Communities project, all the aspects of community engagement wouldn't have been possible without the contribution of the local Red Cross teams to activate the connections, by selecting the most committed community leaders (based on their everyday experience working in those areas) and partnering with them to plan all the in-field activities and mobilize the community members. Creating an effective collaboration that could produce the desired outcomes across the entire development cycle also required

to follow some rules, collected in the next paragraph, that we would like to offer as an important legacy to whoever decides to pick and apply the *For us by us* model.

Rules for an Effective Community Engagement

Engagement for systemic change requires that the system that is to be changed can be present from the beginning of the process. (Chris Corrigan, 2015)

Community engagement is a delicate process (Murphy 2012), that requires a strong motivation and honest respect of existing groups, hierarchies and dynamics, to establish a mutual trust. Community engagement can be affected by less predictable events, such as political instability, the election of a new community leader, or an increased level of crimes. While these variables are impossible to control, other elements should be carefully handled to establish a good relationship with the partnering communities:

- **Identify a shared purpose.** A shared vision and purpose is what will make the iterative process feasible, by inviting all the active members of the system to co-own the vision and share the responsibility for translating that vision into meaningful change. Purpose also creates energy, and is an important motivation for the communities to join the sessions, spread the word and proactively contribute. Joining forces to fight the fire problem is an example of a strong purpose.
- **Listen deeply.** Being a patient listener, an active observer and a skilled interpreter are essential skills to work with the communities (Aguiar, 2015). It has been well documented how listening deeply is critical for applied ethnography (Sanders, 2004). We found it helpful to involve students from the same settlements with whom we were working, as a way to have help while teaching them user-centered design skills.
- **Become transparent.** All the activities aimed at engaging community members require the definition of clear rules upfront so that in the moment of the co-design or co-creation session, the facilitators simply need to provide the set of structured instructions and let participants play, in a comfortable and natural way. Designing the moments of community engagement in advance helps define the exercises, timing, materials and roles, so that the local research partners (e.g. students) can moderate the session entirely in the local language, and then debrief with the organizers in a second moment.
- **Build a relationship.** Showing passion for the shared vision and deep respect (for example, by participating to the life of the community beyond project-related events, or not forcing intimacy) will help slowly build trust and develop a good relationship. The more complex and exposed the activities are to organize, the stronger the relationship needs to be. The fire simulation that we set up at the end of the program was the result of three months of working shoulder to shoulder with some of the community members. That same relationship, gradually built over time, will also have a positive effect on local market creation (Anderson, Markides, Kupp 2010).
- **Make it joyful.** Coming together to discuss urgent issues that affect everybody's life in the informal settlement is an important opportunity to share concerns, wishes, and needs, as well as a chance to spend a nice day together and create a positive

feeling of participation. Therefore, it is important that the activities include moments of fun: dancing together, playing, and friendly competition with each other, which can help stimulate the group when faced with fatigue, as well as foster the necessary energy during creative debates.

- **Develop feedback loops.** There is nothing worse than feeling as if collective efforts are going astray. At every iteration with the community, therefore, it is important to show that the content and structure are built upon previous sessions. If, for example, participants have been asked to draw a potential logo for the service, then during the next session the participants should be shown several alternatives that reflect their initial input. If they have been asked to define their ideal journey, then they should engage in an experience simulation that allows them to directly test it.
- **Leave something behind.** Besides all the investment, energy and time, there's the risk that the designed service system will never be implemented. This doesn't mean the process was useless: the journey of community engagement is a learning process, for both the organization and the communities. All the activities raise awareness about the specific problem, challenge or need, and distribute information that will stay within the community. During the fire sensors workshops, the community members learned how to better prevent fire outbreaks and what to do to extinguish them, save their belongings and protect their kids. The groundwork had been set for a potential multiplicative learning approach as some of them promised to start training peers using the same approach in order to increase their fire prevention awareness. As an organization, it is possible to also deliver training certificates along the journey that legitimize what the community members are doing and learning, which could potentially help them find jobs (e.g. a training certificate on fire response).

Finally, it's important to highlight that community engagement is both a process and an outcome (Palmer-Wackerly et al., 2014) and so it produces results and ideas that are emergent and co-owned by the community, and therefore sustainable over time. When the local leaders are truly engaged, the shared purpose is strong and there is a tight feedback loop system in place, community members will more likely behave as active participants, perceive the benefits of what they are building and learning along the process, and become future consumers of the designed solutions. Signs of a healthy community engagement emerge when, for example, the organization asks the local leaders to mobilize a certain number of community members for a workshop and ends up hosting more than twice the expected amount of participants, or when the organization starts receiving requests from other communities to join the program.



Figure 18-19. Community members in Khayelitsha playing a sensors-enabled response scenario and discussing the learnings in teams. Photos by Roberta Tassi.

INTRODUCING FIRE CLUB

The combined ethnographic/strategic thinking approach applied to the fire sensors initiative allowed the team to define a go-to-market strategy in three months, outlining a solution where the IoT product becomes the vehicle for a broader service, called Fire Club, aimed at empowering communities to take responsibility and action against fire (early learnings published by American Red Cross: <http://www.tecb4resilience.org/early-learning.html>).

The final offering model and cost structure, elaborated by working with the communities of Mukuru (Nairobi) and Khayelitsha (Cape Town), combines the fire sensor technology with a set of services that span from fire prevention, detection, response and

rebuilding as a single offering. A micropreneur at the city-level sells, distributes and maintains the service. Communities, groups of 50-100 neighbours, can subscribe to the service in the same way that a group of people subscribe to a group savings plan with a microfinance solution.

The service mix itself covers four key stages of the *fire cycle* that affects residents in the informal settlements: prevention, detection, response and reconstruction. **Prevention** services are provided for the subscribing community by training fire wardens in the community who can take responsibility for leading community fire safety and response. **Detection** of the fire is covered by the installation of the sensors in the homes of the subscribing community that will alert the members via siren and text message of potential threats. **Fire response** is targeted by providing residents tools to fight the fire when it is detected. These tools vary depend on the location. **Reconstruction** services include a microinsurance pay-out in the case community assets are destroyed in a fire that could not be managed by the community. This part of the offering is provided in partnership with a microinsurance company who worked with the team to estimate pricing and pay-out during the design process.

The service is funded by two revenue sources: the community subscription fee (roughly equal to \$1/month per resident), and also a global cause marketing campaign on behalf of the sponsoring humanitarian organization. The prior revenue source helps cover costs over time while the latter provides growth capital to start the business in new locations. Partnerships were vetted and recommended based upon initial discussions with the partnering organisation.

Ultimately, the resultant business model balances community needs, financial sustainability and growth of the business over time. The business plan has now been used to develop pilot activities in the selected communities, set up a new pilot of the Fire Club service model in Johannesburg, and is being considered for replication in Asia.

CONCLUSIONS

The *For us by us* product-service development cycle, based on two decades of user-centred design projects (<http://www.frogdesign.com/about/history.html>) and ten years of experience working with innovation in emerging context (<http://www.frogdesign.com/platforms/frogimpact.html>) has been shared with this paper so that more professionals and practitioners could adopt it in the future, to have ethnography and business design effectively work together, and make BOP and IoT a more sustainable match in the future, ultimately ensuring that tech-based innovation reaches the underserved population worldwide.

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Roberta Tassi is a fellow at frog, service designer and design ethnographer with extensive field research experience in rural and urban areas across Africa and Asia, and co-founder of the temporary frog office in Nairobi (2015). Author of the *mAgri Design Toolkit: user-centred design for mobile agriculture* for GSMA (2015). Lecturer and adjunct professor at the University Politecnico of Milan. Roberta.tassi@frogdesign.com

NOTES

Acknowledgments – Among all the experts who contributed to this paper we would like to mention Abi Weaver (Director of Policy, Partnerships and Innovation at American Red Cross Society) for her work of connecting businesses, humanitarian organizations and local communities to bring innovation in the informal economies and Fabio Sergio (frog Vice-President), for his advocacy on applying human-centred design to solve complex societal challenges. Also, the entire project would not have been possible without the Kenya Red Cross and South African Red Cross Societies, and their hard work and diligence in orchestrating the complexity of the pilot in the respective locations.

1. In 2015 American Red Cross started a set of initiatives named Tech4Resilience to support ownership of emerging technology at community-level, to improve how people prepare, react and recover from life's difficulties. <http://www.tech4resilience.org/fire-sensors.html>
2. Lumkani has developed an early-warning system to reduce the damage and destruction caused by the spread of slum fires in urban informal settlements. Tech awards 2015 laureate. <http://lumkani.com/>
3. The association of mobile operators, GSMA, see the future of M2M in the developing world (<http://africanbusinessmagazine.com/sectors/infrastructure/will-africa-take-lead-internet-things>) and has extensively studied and financed potential applications and development strategies (<http://www.gsma.com/mobilefordevelopment/>).
4. IBM Center for Applied Insights has been researching applications of IoT and other technology in Africa starting from 2014, and set up a lab in Nairobi to develop dedicated solutions (<https://ibmcai.com/2015/09/22/emerging-technology-in-africa-internet-of-things-cognitive-systems-and-more/>).
5. Sub-Saharan Africa has been the fastest growing region over the last five years, in terms of both unique subscribers and connections, as documented by GSMA in the report “Mobile Economy – Sub-Saharan Africa 2014” (http://www.gsamobileeconomyafrica.com/GSMA_ME_SubSaharanAfrica_Web_Singles.pdf).
6. Thanks to a pay-as-you-go model enabled by mobile phones, m-Kopa Solar provides rent-to-own solar energy products that help provide cheap solar power to rural homes (<http://www.m-kopa.com/>).
7. In Rwanda, Zipline has started to deliver blood products for hospitals and health centers in the rural areas thanks to Zip - a small robot airplane designed to carry vaccines, medicine, and blood (<http://flyzipline.com/product/>).
8. <http://www.vodafone.com/business/why-africa-is-feeling-the-power-of-iot-2016-03-07#ref3>
9. Luciana Aguiar is Private Sector Partnerships Manager at the United Nations Development Program expert in BoP, social innovation and ethnography.
10. FSD Kenya in partnership with Bankable Frontier Associates and Digital Divide Data undertook a Financial Diaries study between 2012 and 2013 to explore cash flows of low-income households in Kenya (<http://fsdkenya.org/financial-diaries/>).
11. Lumka is a Community Leader in one of the segments of Khayelitsha, the biggest informal settlement in Cape Town and one of the biggest worldwide (3-4 million inhabitants). Lumka is 30 years-old, move to Cape Town from Southern Cape to look for better opportunities. She is really active in fighting for the rights of the township population and as played a key role in mobilizing her neighbors during the Fire Sensors for Safer Urban Communities project.

12. James is a resident of the informal settlement of Mukuru (Nairobi), he has started a couple of businesses and found his way to be successful in that environment. He is not thinking of moving out of the slum.

13. KK Security provides home security services in East Africa. Even if they don't provide services to slum residents, they were thinking of solutions for their clients living in the residential areas next to the informal settlements.

14. Sanergy's proposition is to build healthier communities by making hygienic sanitation affordable and accessible. Sanergy's model is based on the distribution of sanitation facilities (distributed through a franchise of service operators that targets landlords) and regular waste collection (service front-line).

15. The tomorrow headlines are fictional articles published on magazines or journals that allows to imagine what kind of impact the service will have on the society (IDEO Method Cards, 2002).

16. The service Poster is a simulation of a future promotional advertising of the service (Bill Moggridge, Designing Interactions, 2006).

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Papers 4 – Emerging Consumers

Mapping the Field of Social Businesses in Belo Horizonte, Brazil

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Social businesses are organizations aimed at addressing social problems through business and marketing strategies. Of particular concern are issues connected to poverty, social inclusion among emerging consumers and sustainable development (Travagline, Bandini, Mancinione, 2009; Márquez et al. 2010). However, due to its hybrid nature that pulls from different sectors, the notion of social businesses is generating significant debate among scholars and practitioners regarding its purpose, approaches, and identity. In an effort to shine a light on how the concept of social business is developing and playing out in a particular city in South America, this study examines the ecosystem of social businesses in Belo Horizonte, Brazil. Using qualitative methods, the study offers an in-depth look at the central actors, how they conceptualize social businesses, and the discourse around approaches they use to overcome these social issues. The findings reveal that social business actors are particularly concerned about impact and participatory action that ensures enterprises work with and not for marginalized populations. Of particular relevance to the EPIC audience, the paper adds insight into how inclusive practices, grounded traditionally in Brazil's third sector and solidarity economy movements, shape the conceptualization and operationalization of social enterprises, which aim to instigate new product and consumption patterns and inclusive capitalist trends. Being the first study in Brazil to examine how social business is framed within a specific urban context, the findings reveal new insights and old views on topics such as poverty, development, emerging consumers and emancipatory ways of overcoming problems caused by socioeconomic dynamics.

INTRODUCTION: THE BRAZILIAN ECONOMIC CONTEXT

Brazil is a country that historically has had high rates of poverty and extreme socioeconomic inequality. However, thanks in part to progressive public policies that took place from 2003-2010 and a boom in Brazil's economy, over 30 million Brazilians were lifted out of poverty, and the country refers to this new socioeconomic group as "the new middle class" or *nova classe média* (Souza, 2011). Defined as those whose monthly household income falls within three to five minimum wages, this new class certainly falls under the category of emerging consumer, since they just make it above the poverty line but have demonstrated an impressive growth in consumer spending. Despite their potential to spend more on consumer goods and benefits, Brazil's *nova classe média* still faces a number of troubling social problems, including, economic inequality, poverty-risk and social exclusion. For example, despite the fact that many citizens within this *nova classe média* bracket graduate from high schools and/or universities, they have joined the "super-exploited" working class who, out of financial need, must have at least two jobs in more than one location and whose work

days exceed 10 hours or more per day. (Souza, 2009; Yacoub, 2011). Further, many have long commutes and work in conditions that are less than desirable. Take, for example, the city where this study takes place, Belo Horizonte. Due to record car sales over the last 20 years with little city planning, rush hour is often bumper-to-bumper traffic, and four-hour commutes to and from work are not uncommon among those living in the periphery of the city. While in theory the *nova classe média* no longer live in poverty, one must question whether economic advancement is an adequate benchmark for measuring development. What about quality of life factors? Further, many have access to consumer goods that traditionally have been marketed toward the middle and upper class. However, access to these consumer goods through monthly payment plans has led to massive debt problems among the *nova classe média*. In an effort to address the aforementioned social issues, social businesses have become a hot topic, as they aim to encourage socially inclusive business models that not only augment buying power among financially vulnerable groups, but also aim to empower by addressing quality of life issues and encouraging them to take on the role of market co-producers and associates, among other approaches. Such a perspective frames emerging consumers in a development discourse, since the focus is on poverty alleviation and paths to social inclusion through appropriate business and marketing techniques. The development approach addresses, among other issues, boundary maintenance and social exclusion from mainstream lifestyles, as well as contributing to emancipatory economic and political theory. Social enterprise *could* help contribute to a more holistic notion of development, beyond economic factors, in which dignity and respect for all is incorporated into the fold (Chanlat (1999). But like any new emerging hybrid, it is necessary to better understand its role, ideas and actors.

What Is a Social Business?

Social businesses, broadly defined, are organizations aimed at addressing social problems through sustainable business and marketing strategies (Comini 2001). They encompass innovative organizational business models, grounded in economic *and* socio-environmental values, which aim to address new societal demands (with emphasis on those living in socially vulnerable conditions, referred to in this paper as the *nova classe média*). This type of activity (or business) is associated with a whole slew of names such as social businesses, social entrepreneurship, social enterprise and inclusive businesses. They permit societies to break away from, or at least minimize, social discrepancies that afflict a significant portion of the world population living in peripheral regions (Santos et al., 2010). The organization and approach of this type of entrepreneurship are situated somewhere between the private and third sectors (Abramovay, 2003; Bastos, 2013; Comini, Barki, & Aguiar, 2012; Fischer, 2007; Fischer & Comini, 2012; Tiscoski, Rosolen, & Comini, 2013).

Social business is an evolving field in the early stages of identity formation. If you were to ask a handful of scholars and practitioners to define the concept, you'd receive a myriad of definitions. While some scholars believe a social business is any kind of formal undertaking that has social impact regardless of sector, others believe that the term should be limited to organizations in the third sector and cooperatives (Nyssens & Kerlin, 2005; Kerlin, 2006). Márquez, Reficco and Berger (2009) clarify that the term social business fosters social inclusion by conceptualizing those from the lower-class bracket as not just consumers, but also producers, suppliers and distributors. This perspective differs from

Prahalad's (2002) early BOP (Base of the pyramid) work (which has shaped social business discussions), in which the poor were seen as only potential consumers. Comini & Teodósio (2012) argue that what distinguishes social businesses from other businesses is that they generate employment and income for groups with low to no mobility within the job market. Income generation can happen by either fostering profitable entrepreneurial opportunities among this population, or establishing relationships with corporate organizations that open up opportunities to vulnerable populations to take on the role of producers, suppliers and distributors of products and services.

One reason for definitional confusion is that social businesses are considered a hybrid organization (Haigh & Hoffman, 2012) that spans the private, public and third sector. They pull from both traditional business approaches grounded in capitalist principles, as well as from civil society organizations and the solidarity economy movement that focus on democratic and social justice principles. As will be discussed throughout the paper, this new hybrid format plays a role in shaping the business environment, including production and consumer patterns.

Another reason for definitional confusion is that the field has evolved in unique ways across the globe, focusing on distinct aspects in different regions. Western Europe, for example, serves as a model in terms of its governance of social businesses (Kerlin, 2006). Specifically, they tend to embrace a multi-stakeholder approach, spanning across sectors and grounded in a democratic management style geared toward building community. Contrary, the social business sphere in the United States is more revenue-driven (Kerlin, 2006). Comini points out that in the United States the term social business often refers to a project or segment of a business geared toward social good that is "inserted" into a traditional business. It also is used in the United States to describe non-profit organizations that partake in market strategies by selling goods and services.

Research on social businesses has predominately come from Western Europe and the United States (Defourny & Nyssens, 2012), but what about developing nations where the socioeconomic and political context is vastly different? In Latin America, for example, social enterprises evolve in countries with long political histories marked by corruption, clientelism, paternalism and assistencism, all inevitably feeding into extreme social inequality and high rates of poverty. Studying the social dynamics of those in the social enterprise ecosystem in developing countries can offer an important lens regarding the possibilities and risks of combating poverty through social enterprise (Abramovay, 2003; Comini & Teodósio, 2012; Fischer, 2007).

Of equal importance in understanding how Brazil's specific context shapes social enterprise, it is necessary to understand the influence of prior efforts to address social problems via the third sector and the solidarity economy movement. The Brazilian third sector has historically been viewed in opposition to the state and the for-profit sector. The strong anti-state perspective in Brazil reflects the fact that many third sector groups that began in the 1960s were against the military government. They also historically have aimed to overcome inequalities caused by practices and processes within the private sector. While there is still a strong liberal stance within the third sector in Brazil, perspectives toward working with the state in solving social problems have shifted since the end of the military rule in the late 1980s. Also, a trend in which non-profits partner with for-profits to foster sustainable initiatives has evolved over the last 20 years. The outcome is an interesting mash-up of the three sectors. Brazil has seen an impressive growth of non-profit

organizations. Today there are over 338,000 registered non-profit organizations in Brazil. Some researchers (Caldeira & Holston, 1999; Jacobi, 2006; Landim & Thompson, 1997) suggest that this increase in activity among civic society has made an important contribution to the democratization of Brazil because of their focus on social inclusion, human rights issues and civic engagement. The influence of civil society organizations has spilled over to the social business arena.

The solidarity economy movement also plays an important role in shaping Brazil's evolving social enterprise arena. Solidarity economics, which aims to promote a more democratic version of capitalism, developed in Latin America in the 1980s due to a number of key social factors (Ethan, 2016). First, massive national debt and structural adjustments programs exacerbated already existing economic expulsion among the poor, who were forced to create innovative and locally-based approaches to meet basic needs. At the same time, a movement across class borders evolved, which critically questioned the traditional market economy and explored new ways of providing services and products, as well as income generation. Cooperatives flourished along with other collective initiatives (some formal but many informal) that were grounded in principles of autonomy, and participatory local self-management. A global movement among supporters of solidarity economics started to take shape after an international meeting in 1998 in Porto Alegre, Brazil, where the Latin American Solidarity Economy Network was created. The movement enjoyed an even larger global following at the first World Social Forum in 2001. Organizations, communities, and social movements that make up solidarity economics focus on processes that support democratic and just revenues that meet the needs of underprivileged populations. At the heart of the solidarity economy movement "is supporting 'chains of solidarity production' through relationships that are mutually beneficial and enhance collective viability" (Ethan, 2016).

The core values among these third sector and solidarity economic movements can be found in social enterprises in Brazil, specifically its emphasis on participatory action (Comini, 2011; Teodósio, 2011; Santos et al. 2010) in which actors across sectors work *with* marginalized populations, and not *for* them. The emphasis on participatory action is reflected in the discourse around this evolving field, as the term inclusive business is preferred over social business in Latin America (Yunus, 2008). According to Santos et al. (2010) inclusive businesses embody a strategic position geared toward development and poverty alleviation and have become increasingly prominent in strategic action by both the public and private sector. They argue that Brazil has much potential for experimentation in which new forms of social interaction and coordination between various stakeholders, including those at the local level, can emerge, and that ultimately entail collective action from the ground up.

This new evolving phenomenon of social enterprise intersects in numerous ways with the aforementioned fields, which have thought deeply about issues of poverty and inequality alleviation. That said, social businesses have carved out their own unique forms, organizations and approaches. While solidarity economics often entailed informal agreements among producers with the aim of collective benefits, social businesses tend to have more formal structures and governance, even though the aim for social good is the same as solidarity economy efforts (Bastos, 2013). One might say they are new models that offer social value and commercial revenue through a unified strategy (Battilana et al., 2012). In light of Brazil's long history of extreme economic inequality and high rates of poverty, many social enterprises center around addressing these issues. In fact, some scholars argue

that poverty and economic inequality alleviation are defining features of social businesses. Yet, some argue that enterprises that address other social issues, such as gender inequality, should be included in the mix. This debate was a recurring theme at gatherings among the research participants in our study (to be discussed in more detail), which reflects the social forces that influence how social enterprises are evolving in Belo Horizonte.

How Do Social Businesses Intersect with Emerging Consumers?

Of particular concern to social businesses is addressing social problems that impact emerging consumers by using market strategies and approaches (Comini, 2011). Those in the field engage in hot debates on poverty, social inequality and participatory and emancipatory approaches to overcome social problems that have the biggest impact on emerging consumers. Depending on how one frames and “makes sense” of the aforementioned issues, inevitably impacts social business goals, approaches and practices. Some pull heavily from the third sector and solidarity economy that play particular attention to participatory approaches and citizenship issues (Borzaga, Depedri & Galera, 2012; Defourny & Nyssens, 2012). Others focus on a more traditional revenue-driven business model for income generation for the poor. Because “social business” is still a relatively new field and is in the process of carving out its purpose and identity, there are numerous and sometimes contradictory perspectives. In this qualitative study spanning a year of data collection that includes interviews, participant observation and archival research, we set out to understand how the concept of social business is framed within the city of Belo Horizonte, Brazil. We identify the central social business actors who are actively involved in pushing the field forward, analyze how social business is conceptualized among the main actors, as well as debates and challenges on whether social enterprises truly can help combat poverty and inequality.

METHODOLOGY

The purpose of this study is to understand the field of social businesses in the capital of Minas Gerais, Brazil, by observing how key players in this field frame, debate and problematize social businesses in the context of Belo Horizonte. Belo Horizonte is located in the country’s lucrative and politically influential Southeast region. Historically the State of Minas Gerais has been an important economic force due to the mining of gold and gemstones, as well as coffee manufacturing. Today 85% of Belo Horizonte’s GDP comes from the service sector. It also has an emerging technology scene. The third most populous metropolitan region in Brazil, the greater Belo Horizonte area is made up of 34 municipalities and has a total population of just over 5,000,000 inhabitants.

Qualitative research by nature is an interpretative-holistic approach and therefore lends itself to research that focuses on subjective data, such as the values, attitudes, motivations and perceptions of research participants (Gil, 1999; Lakatos & Marconi, 1993; Minayo, 1995). To gather data, the primary researcher relied on individual life history interviews with the central actors in the social enterprise scene, as well as hundreds of hours of participant observation of key events and meetings in which the actors were involved.

In order to identify the central actors within the social enterprise domain in Belo Horizonte, and consequently potential research participants, we relied primarily on word of

mouth, or the “snowball” method (Coleman 1958). The principle researcher of this project has been actively involved in the social business sphere in Belo Horizonte for a number of years, so she began her search for research participants by creating a list of personal contacts, who she had observed as being actively involved in events and meetings explicitly aimed at advancing the field of social enterprise, such as Belo Horizonte’s Social Entrepreneurship Meetup group. She also utilized mailing lists generated during such events to expand her search of potential key players in the social enterprise sphere. She then conducted life history interviews with this initial handful of individuals, and asked at the end of the interviews for names of individuals that the interviewee identified as central actors in the social business arena. A clear convergence of individuals emerged, as participants consistently referred to the same individuals as key players. She also kept a list of names of individuals mentioned during the interviews, who the interviewees described as central players in the social entrepreneurial space in Belo Horizonte. Again a clear pattern emerged among a core cohort of people considered central in the social enterprise field. In the end, the study revolved around 10 primary individuals that had been cross-referenced among the aforementioned outreach efforts. (All were considered practitioners, except two academics). By cross-referencing the data sources, we observed that the research participants in the study were part of a tight and closed network of actors who considered themselves, and/or others within this network, central actors in the social enterprise space in Belo Horizonte. A risk in using the snowball method among participants who make up a closed network of individuals is that other key players in the social enterprise world might exist, but because they are not part of this particular network of actors and therefore not referenced by research participants, they are not included in the study. Despite this limitation, we felt that the 10 individuals who ultimately participated in this study were representative of central social business actors in Belo Horizonte because they were identified and featured as important social business players in newspaper articles, and Web pages. That said it is important to be transparent about the limitations of a self-described and self-normalizing selection process.

The kinds of social enterprises in which the research participants are involved vary. For example, one of the participants created an organization that serves as a social business accelerator for *favela* residents who have entrepreneurial aspirations. The program provides economic, social and human capital aimed at turning individual entrepreneurial dreams into reality and that benefit the entire community. Another research participant supports rural tourism by promoting locally-owned micro-businesses that offer lodging, leisure activities, and dining options in rural areas. Inversely, another participant owns a fair-trade boutique food shop in Belo Horizonte that sells items produced by local farmers. Her aim is to support local agricultural producers by connecting them to urban consumers. She augments their profits by cutting out the middle-man, and she also hopes to encourage conscientious consumerism by including a brief description of where the products come from. Another research participant is part of a non-profit organization led by designers who promote social inclusion by focusing on special needs children in schools. Three of the participants in the study orchestrate events aimed as fostering collaborations among social start-ups and social enterprise initiatives. As demonstrated, the research participants vary vastly in the ways they engage in social business approaches and organizations.

In addition to interviews, the primary researcher also attended key events and meetings aimed at advancing social enterprise in Belo Horizonte. During these meetings, she took careful notes and photos in order to capture the central participants in these events, themes

and debates, interactions among participants, and the meeting setup. This table offers a snapshot of the events she attended in 2015.

2015 Social enterprise events in Belo Horizonte ethnographic data collection sites

Event	Description	Website
Café Social	Organized by Global Shappers, the Café brings together individuals connected to social entrepreneurship, for debates and networking. Em 2015 there were 3 meetings.	https://www.facebook.com/media/set/?set=a.1594553910777255.1073741836.1418264488406199&type=3
Baanko Challenge	This event aims to foster social enterprises, and at the same time, offer workshops, lectures, mentorship and networking.	https://www.facebook.com/media/set/?set=a.976603355735219.1073741846.712175318844692&type=3 https://www.facebook.com/media/set/?set=a.739007499494807.1073741834.712175318844692&type=3
Emprederisso	An academic event on creative social and economic entrepreneurship, orchestrated by Publicity students at Centro Universitário UNA.	https://www.facebook.com/events/498116603677163/
Redefinindo o conceito de sucesso nos negócios: Empresas B*	Executed no IBMEC e promoted by the group, Global Shapers, this was a discussion on <i>Sistema B</i> , facilitated by Tomás de Lara, co-leader of <i>Sistema B Brasil (movimento de Empresas B)</i> .	http://www.dzai.com.br/ibmec/blog/ibmec?tv_pos_id=182831 https://www.facebook.com/events/1500810696903709/
Empreendedor, com certeza cerveja	Executed by Impact Hub, they discussed daily issues of entrepreneurship, mixed with brainstorming, brainstorming, and networking.	https://belohorizonte.impacthub.net/2015/05/04/empreendedor-com-certeza-cerveja/
Dragon Dreaming	Promoted by Impact Hub they use methodologies aimed at generating social change agents.	http://www.dragondreamingbr.org/portal/index.php/component/content/article/80-quem-somos/91-equipe-belo-horizonte.html https://www.facebook.com/dragondreamingbrasil/posts/806791729433865
MÊS – BH Social entrepreneurship Meetup	Debates about social entrepreneurship in the capital, orchestrated by Grupo Empreend. Social Beagá	https://www.facebook.com/groups/MESBeaga/?fref=ts

A Fieldnotes Diary Designed for Mapping Social Businesses

An important tool during data collection was a fieldnotes diary specifically geared toward capturing the ecosystem of social businesses in a city in the South America and how actors within the field frame this new concept. As described by Maria Cury (2015), fieldnotes can be broadly understood as “a written account of fieldwork happenings at the end of each day in the field, in a form that is more coherent and reflective than the notes taken in-the-

moment, but nowhere near the level of analysis and insight of the finished product that arises from the fieldwork” (p.2). Geertz (1973) described ethnographic work as not simply participant observation, but also consistent reflection, analysis and interpretation of said observations through notes. At the heart of ethnographic research, therefore, is participant observation along with the process of carefully writing up notes in such a way that fosters reflection and leads to significant data analysis (Emerson et.al. 2011; Taussig, 2015).

In light of fieldnotes being such an essential component of ethnography (Emerson, 2011), shining a light on the process and outcome of writing up fieldnotes could help advance the field of applied ethnographers. As Cury succinctly states, “The way we think about, talk about, and generate fieldnotes lends us credibility as practitioners of ethnography out in the world. That said, in applied ethnography, the discussion around ethnographic fieldnotes has also been thin.” Within the EPIC community, specifically at conference proceedings, fieldnotes have received little central attention. Accordingly, this paper aims to advance the field by discussing how a fieldnotes diary played a key role in data collection and analysis.

In this study the primary researcher conducted life history interviews and engaged in participant observation during events aimed at advancing social businesses in Belo Horizonte in 2015, accompanied with fieldnotes that evolved into the development of a fieldnote diary. All of the interviews were transcribed verbatim. The diary was full of photos and ethnographic notes about the frequency and patterns in behaviors of participants at relevant events and meetings, the configuration of meeting spaces, most commonly-used phrases and expressions among participants, as well as personal and theoretical reflections by the researcher regarding the social phenomena under study (Brazão, 2011; Caliman & Costa, 2008). She filled the diary as a method of data collection, with the aim of noting subjective observations such as the development of social business actors, their life history and their relationship to this central group of social business actors. During the analysis phase, the primary researcher carefully reviewed all transcribed interviews, as well as her notebook of participant observations, and coded themes that emerged in the data that spoke to the original research questions. She also coded themes that related to the literature on social business previously reviewed in this paper. Because we were interested in uncovering the primary players in the social enterprise space, as well as social forces that shaped their perspectives on social enterprise, important factors such as family, experience with social projects, educational background, and international experiences emerged from the analysis. Coding based on participant observation provided rich data on the interactions among the participants, which spoke to social positionality (Bourdieu, 1998), as well as how these dynamics played a role in shaping the field of social enterprise. The primary researcher played special attention to key debates and coded words and phrases used during meetings and events in order to examine how the research participants’ notions of social businesses intersect with prior literature and debates among scholars and practitioners in the social business world.

The field notes diary served as a vital tool in terms of keeping in check how the researcher’s perspective (past personal experiences, social positionality within the social enterprise ecosystem, cultural influences etc.) inevitably influenced the kinds of data she selected during data collection and the interpretation of this data (Peirano, 2008; Cavedon, 2003; Caliman & Costa, 2008). To facilitate this process, she shared her diary on a weekly basis with her academic mentor, who offered a more “objective and distant set of eyes” and

asked critical questions regarding her observations and analysis of data. One could argue that this shared experience speaks to Cury's (2015) work on the value of collaborative fieldnotes. Based on experiences with this project, the primary researcher gleaned some insights and suggestions on how to set up a fieldnotes diary for those interested in studying the social enterprise landscape, which is discussed in the concluding section of this paper.

WHO, WHAT, & HOW

The Who

One of the objectives of this study was to identify the central actors advancing the social enterprise field in Belo Horizonte. Accordingly, this study revolves around 10 primary research subjects who were repeatedly referenced as trailblazers in this field in Belo Horizonte. In addition to the majority co-founding and managing social business entities and programs, they are active members of events aimed at promoting and advancing the field of social enterprise, such as social business accelerators and cooperative workspaces. As a cohort, they are a young group – the average age being twenty- something years old. A friendly group, they typically welcome “old-timers” and “newbies” with a hug at events. While dedicated to inequality and poverty alleviation, the vast majority would not be considered *nova classe média*. Only one of the 10 participants came from an informal settlement (*favela*). They are a highly educated group relative to Brazil's general population; in addition to having postsecondary degrees (predominately in the social sciences and humanities, such as sociology, design, communication and international relations) they seek new knowledge and social experiences via advanced degrees and other courses that cover topics such as innovation, poverty reduction and social development. Take João, for example, the one participant in the study who grew up in an informal settlement. Unlike most of his childhood friends and family members, he had the opportunity to attend university and receive a master's degree from the University of Coimbra, a prestigious university in Portugal.

A similar narrative emerged among the research participants when describing their social entrepreneurial trajectories. The participants described how their professional path could be traced back to experiencing feelings of indignation and frustration regarding the state of poverty and extreme inequality in their country. João, for example, grew up in a *favela* and experienced firsthand the repercussions of minimal access to resources that encourage social mobility, such as quality education and social networks that lead to good jobs. Many of the participants described how participating in social projects, social movements, and educational programs helped them realize that pity for those most impacted by poverty and inequality would not make a difference. Instead, critical-reflexivity that leads to awareness of one's social positionality encourages folks to resist hegemonic political and social processes, such as paternalism and welfarism. One of the participants, for example, described how participating in a month-long educational residential program in São Paulo aimed at supporting emancipatory social projects had a profound influence on his professional trajectory. One of the older participants described a long trajectory of participating in social movements against the country's military government. All of the participants described international social projects in which they participated and they borrowed heavily from these experiences when thinking of social enterprise approaches and processes. Case in

point, one of the participants had participated in an exchange program in India, with a focus on social enterprise. He borrowed many of the practices when setting up projects back in Brazil. Another talked about his time in the United States, which encouraged him to engage in entrepreneurial practices. While the participants referred to social enterprise models and approaches that they had seen or heard about outside of Brazil, curiously none mentioned internationally renowned Brazil programs such as *Banco Palmas*. International influence is also reflected in the language that they use as English terms and expressions were frequently integrated in their discourse during meetings, in the names of events, during presentations, on posters at events, and within the social programs they initiated. The research participants also align with Fligstein's (2007) description of entrepreneurs in terms of their capacity to connect people (Granovetter, 1973; Burt, 1992) and generate collective action. They described how they began to design projects and successfully encouraged others to collaborate on the project, which today are referenced as exemplary social businesses in this field in Belo Horizonte. In sum, the stories of respondents suggest a process in which they first reacted emotionally to injustices around them, which led them to engage in social projects both in Brazil and overseas aimed at addressing injustices. These experiences helped springboard them to a more advanced stage in which they wanted to disrupt hegemonic social processes and institutions in order to fight injustices and inequalities on a large scale through social enterprise.

The What

An impact business, not a social business – What is a social business according to the central players of this emerging field in Belo Horizonte? Is there divergence or convergence in the way they understand social businesses?

The data tells us that the participants in our study shared similar values, beliefs, objectives and identities that shaped their work. Specifically, the participants across interviews reported a shared desire to transform society and its problems through the creation of projects and businesses that “generate impact”. In fact, the term “impact” seemed to be of particular importance to this group, so much so that during the social enterprise events, as well as during the life history interviews, the primary researcher observed that the term “impact businesses” was used significantly more than the term “social business”. (A handful expressed a degree of repugnance for the term social business, as they believed it was a “trendy term” used in rhetoric but not in practice. “Impact” they felt, better represented their work). During one of the interviews, a research participant explained, “It’s been a few years now since we’ve abandoned the term ‘social business’ and have lifted the ‘impact business’ flag.” Building on this sentiment, a number of the younger participants stated in varying ways that they believe a social business must cause a positive impact in society, transforming the way we live (specifically in terms of consumerism and inequality) and ultimately lead to a more just life for everyone. The finding suggests that in Belo Horizonte, a defining characteristic of social businesses revolves around impact. But what kind of impact do the social enterprises among this network have in Belo Horizonte? The focus seemed to be mostly on supporting income generation geared toward poverty alleviation. Case in point, one of the initiatives served as a social enterprise incubator and helped folks from an informal settlement start over thirty successful businesses within the community (we describe this accelerator in more detail below). Others utilize traditional profit-making

business approaches aimed at generating income for low-income populations (such as rural tourism mentioned above in which income opportunities are generated by promoting rural tours and supporting local businesses in exchange for an authentic countryside experience). Such approaches speak to scholars that conceptualize social businesses as an entity that generates employment and income for groups with low- to- no mobility potential within the job market (Teodósio & Comini, 2012). Considering that Brazil is one of the world's most socioeconomically unequal countries it is not surprising that impact pivots primarily around issues of poverty. We also see here the potential influence of Brazil's solidarity economy movement in which participants focused on alleviating poverty and social problems caused by unequal opportunities in the traditional capitalist system. Yet, debates on impact at social enterprise events also focused on the notion of addressing issues beyond poverty, such as environmental problems, improving public spaces, or racial and gender discrimination. One of the participants argued that a business could not call itself a social enterprise if it only had an impact on alleviating poverty but at the same time limited opportunities for women or Afro-Brazilians. Perhaps as the field of social enterprises grows in Belo Horizonte, social businesses will become more adept at simultaneously addressing numerous social issues beyond economic ones.

With the community, not for the community – The primary researcher repeatedly heard a handful of other key words or phrases during interviews, formal presentations and informal conversations that seemed to be a mantra of sorts among social businesses in Belo Horizonte. Popular terms during meetings included: “a shared dream”; “dialogue”; “empowerment”; and “need to work with the community”. Such words and phrases offer insight into the values that shape this emerging field in Belo Horizonte, specifically the notion of participatory action and collective good. One of the participants described, for example, a month-long community project that he helped coordinate. The project was sponsored by a major Internet company that provided funds for a renovation project in a peripheral neighborhood. The research participant facilitated a series of design-thinking oriented discussions and activities that aimed to work from the ground up, by engaging the community residents in a collective challenge to renovate a community plaza. Community members were directly involved and drove each phase of the project, including ideation, problem-solving and implementation. In addition to funding the public space renovation project, the Internet company also promised to provide free Wi-Fi access in the renovated public plaza. The project illustrates the hybrid nature of social enterprises in Belo Horizonte as it involves a major corporation (the private sector), as well as bottom-up grassroots strategies traditionally utilized by the third sector in order to empower community members. At the same time, the sponsoring corporation influenced consumer patterns by offering free Wi-Fi in the renovated public space. Prior to the project, residents of this peripheral neighborhood did not have access to public Wi-Fi.

The emphasis on collaboration aligns with Brazil's third sector and solidarity economy movements. Indeed the value of collective action and working with communities could be seen in the approaches of various social businesses among the participants. Across interviews when describing social business activities, they described how their approach worked *with* citizens within the *nova classe média* and not *for* them. To highlight the two major themes of impact and collective action among the social enterprise sphere in Belo Horizonte, we describe below in detail the work of one of the research participants, who we feel best

embodies the conceptualization of social business as discussed during debates among participants.

Local participatory action + impact – João was born and raised in one of the largest informal settlements (commonly referred to as a *favela*) in Belo Horizonte. João noticed that many people in his community wanted to leave in order to find work, as well as have access to consumer goods that they could not buy in the *favela*. Friends and neighbors also expressed their desire to leave the community because of its lack of infrastructure, such as streetlights, a sewer system and public schools, which impact the quality of life of residents. João wanted to change this exodus by creating job and revenue opportunities within the community using a social enterprise approach. He believed that creating income opportunities through local business generation would positively impact the community on three fronts: one, community members would no longer have to look for job opportunities outside of the community. Two, local businesses could provide services and products within the community that previously did not exist (and thus stimulate local economy). Three, as a collective, business owners could invest in community improvement projects with the income earned through their local businesses. To support this process, João initiated a social business accelerator (Yunus, 2015). While traditional business incubators aim to help new businesses get started so that they can become financially profitable, João aimed to create a whole slew of businesses that ultimately would create social impact within the community through income generation, access to products and local community investment. Similar to other incubators, João's program included a local business pitch competition in which the winners would have access to a series of supports including initial financial backing and training. Prior to the pitch competition, however, João organized a myriad of community gatherings to encourage dialogue among community members, as well as external experts on topics revolving around business and community development. Using a discursive approach, the gatherings were geared toward understanding the needs, expertise and challenges that community members face, as well as fostering human and social capital development. However instead of solely inviting external experts to speak on entrepreneurial topics, João invited social business owners within the community to serve as mentors. The audience (community members) of the gatherings was encouraged to actively participate in conversations and was perceived as valuable resources. The meetings helped João gain insight into the kinds of educational approaches and supports that would be best suited for community members interested in starting a local business. An accelerator, for example, that demanded participants to complete reading and writing assignments would not work because some of the residents were functionally illiterate. Equally as important, João absorbed the local knowledge and expertise of community members, which outsiders (considered experts in management and business development) could not possibly understand. In this sense the project is not just about providing money to aspiring business owners but it is also about including community members in a creative process aimed at collective benefit. Such a process is important to address Brazil's long history of paternalism, which stifles agency among community members.

During pitch competitions organized by João's social business accelerator, local business ideas are evaluated not only in terms of viability, but also the potential for community impact. Specifically, the accelerator is interested in businesses that provide a service or product that is currently unavailable in the community and therefore inaccessible to

community members unless they leave the *favela*. (One of the pitches, for example, was a business that provides “*buffet infantil*”, a children’s birthday party package that is popular in Brazil, but historically only financially feasible for the middle or upper class). Social enterprises are judged on how many employment opportunities will be generated by the business and whether the business will provide a service that will benefit the entire community. For example, if a person pitches the idea for a construction company, would the company be able to help with improvements to community buildings and necessary street renovations? Another factor that distinguishes the project as a social incubator is the form of communication and process of evaluating projects. While many pitch competitions in Belo Horizonte are run and directed by external “experts” who assume to have a superior level of knowledge to community members, João includes community members on the panel, as they are considered local experts. Also, the language that is used during the pitch evaluation process is aimed at being constructive as opposed to critical. Since its inception, the accelerator has supported over thirty micro-businesses within the community. Reminiscent of the solidarity economy movement, João’s social accelerator encourages relationship-building among businesses owners so that they can exchange products and services that mutually support the enterprises.

Yunus or bust – In many ways João’s social business accelerator encapsulates many of the exciting debates revolving around social enterprises. For example, his project challenges scholars that advocate that social enterprises should only fall within the third sector or a cooperative (Nyssens & Kerlin, 2005; Kerlin, 2006). His work also serves as an example of how to go beyond revenue-driven social entrepreneurial approaches by engaging in grassroots practices that give voice to community members by respecting local knowledge and that support the development of social capital among entrepreneurs.

João’s work also touches upon how social enterprises have the potential to instigate new capitalist trends that align with the solidarity economy movement. Ultimately the aim of João’s accelerator is to instigate a shift in product and consumption patterns so that community members no longer have to leave the community in search of income, products and resources that play a role in quality of life factors.

The research participants in this study often engaged in debates about whether the fundamental aim of social enterprises was to enhance income opportunities, augment the buying power of emerging consumers, or encourage more democratic management practices and participatory market production. (In João’s case, his project touched on all three fronts). The research participants often situated this discussion around philosophical differences between Yunus (2008) and Prahalad (2002). One participant explained, “It is an eternal fight between Yunus and Prahalad. Prahalad says that a business that gives access to products that the poor didn’t have before, [referred to as] the Base of the Pyramid, is a social business, and we begin to have this here in Brazil...” Most participants (though not all) were critical of conceptualizing social enterprises under Prahalad’s BoP. One participant expressed his concern, “So does a person that wants to use social businesses to sell more to a low-income population really believe that he/she has a social business? Ok, people are able to buy more, but do they have more dignity because of access to more goods? Do they have more citizenship, or are they just able to buy X tennis shoes because a certain company has a cheaper shoe for them to buy?”

The participants overwhelmingly felt that social enterprises in Belo Horizonte aligned

with Yunus' vision of social businesses, which emphasize participatory structures both on the production and consumer side, as well as conceptualize development beyond economic terms. One participant stated:

"In Belo Horizonte, the (social enterprise) practices align with Yunus, There is a tremendous amount of divergence among the people that work with social businesses here in Belo Horizonte that goes beyond the debate between Yunus and Prahalad... I believe that social impact is a change in the reality of low-income people. I think that in Belo Horizonte practices have occurred *with* communities, and examples of these are Oásis, Engenheiros da Alegria and Fa.Vela. I don't think there is anything more Yunus than that."

Despite the overwhelming enthusiasm for Yunus' approach to social enterprise (2008), we'd argue that in reality there are some social businesses in Belo Horizonte that have a mission and vision that align with Yunus (2008) but in practice adhere to a more traditional business model with a top-down management style. One of the research participants in our study, for example, undoubtedly helped generate income opportunities through her social enterprise, but she made all of the decisions and told the micro-business collaborators to simply follow through with decisions made by her. What was missing was a dialogue among participants, such as in João's project, which could have offered a "voice" to the micro-business owners.

What these debates among the participants symbolize is that there is an evident change in the market (albeit in its early stages) that is directed toward the periphery. Accordingly, organizational models are emerging that embrace varying visions and values. The debates among the participants in this study reflect an evolution of sorts, potentially moving toward a more inclusive economy.

FUTURE ETHNOGRAPHIES ON MAPPING SOCIAL BUSINESSES IN CITIES ACROSS THE GLOBE

This study offers a snapshot of the current debates, conceptualizations and practices of the social business field in a city situated in South America. The finding helps us problematize this new field, which promises to address issues of poverty and other social issues. But can it deliver? To build upon this research, it would be interesting to conduct a longitudinal study that examines the same group of actors five and ten years from now and examine how this field has evolved.

It would also be interesting to compare how the notion of social enterprise is evolving in other cities. A multi-site study could offer a comparative global perspective that examines similarities and differences in conceptualization and practice. Building off the findings of this study, it would be particularly interesting to examine the impact of social businesses on emerging consumers and the business environment, the ways hybrids play out in this field and ways in which participatory action is encouraged within social enterprises. Naturally every city is unique in terms of its behavior, infrastructure and culture. Therefore, to move forward with such a study it is critical to examine the unique space of each city in which the social business sphere encompasses, including but not limited to its organizational makeup and infrastructures, actors, interactions among stakeholders, values and culture. If the researcher is not already embedded in the social business space, we would suggest as a first step in the research process to survey main events as well as the actors who organize them. We found cross-referencing names and resources an important part of understanding

networks within the social business field. To overcome the limitations previously mentioned regarding cross-referencing participants in a closed network, we encourage researchers to look outside of spaces and places of self-proclaimed social enterprise actors, as well as include the perspectives of actors from the peripheral social enterprise movements.

As previously mentioned, the fieldnotes diary was a critical tool in the data collection process. Based on our experience, when attending events and observing the organizers and primary players who take a central role during the events, we suggest utilizing a fieldnotes diary with dedicated pages for the following data points: participants, space layout, discourse (language used, highlighting key words), symbols, event programs, and notes on events as they unfold. Certainly pictures helped capture details that might have otherwise been forgotten or difficult to analyze later. Based on prior research, we also found it helpful to have a separate paper dedicated to follow-up questions to be addressed during future events and/or interviews. Doing so helped affirm that these data collection goals were addressed and not forgotten during follow-up field site visits. Based on prior research, we also found it helpful to color-code the data immediately after data collection, and coding for specificities such as theory, method, insight etc. We found sharing and discussing the fieldnotes diary with a trusted colleague who was not directly involved in the data collection process helpful in our efforts to engage in an objective data analysis process. Finally, though not utilized in this study, we suggest creating a visual story arc for each research participant and visually mapping how key life events and individuals involved in these key moments are linked together (Scheiber, 2016). Visual story arcs are often used in the video production process and can offer a powerful tool to create a visual understanding of social factors that shape the trajectories of social enterprise actors.

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Participatory Design: Re-evaluation as a Socio-material Assembly

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This paper aims towards a critical re-evaluation of Participatory Design processes based on a completed collaborative research (2015) in rural China. The study involved two complementary disciplines; the Applied Social Sciences and Design and their corresponding research methodologies; Action Research and Participatory Design aligning the social and the physical. The resulting design and implementation of a community kitchen in rural China enabled villagers to develop social enterprises and new types of collective organizations. With Action Research providing the necessary ‘software’ for social organization and engagement, facilitating the development of ‘hardware’ or design outcomes through participatory processes. Beyond design and social outcomes, the study raised questions concerning the critical, conceptual and praxis underpinnings of Participatory Design that impact its effectiveness as a tool. Participatory Design, sometimes panacea for an objectified and corporate driven field, often remains focused on design as outcome rather than on process or the development of outcomes embedded in a social context or based on non-commercial values. Complex design processes involving multiple stakeholders in design development may also result in an over-simplified outcome or a lowest acceptable solution approach. Additionally Participatory Design understood as a purely consensual process often ignores the complex negotiations tensions and conflicts between different forms of knowledge; characterized as the ‘nightmare’ of Participatory Design processes (Miessen, 2010), whereas it may in fact be the tension in the process that leads to paradigm shifts and possible ‘real’ innovations. A viable starting point for re-evaluation of Participatory Design methodologies therefore repositions it within complex social and materialization processes; in which design outcomes become the formation of socio-material assemblies, constructed within processes that span both before and after the design stage. It is useful to contextualize this process in terms of emerging changes in social systems that are evolving the ways both the social and design processes are developing towards distributed forms of knowledge, collaborative processes and cross-disciplinary practices (Sanders and Stappers 2008). These changes are impacting the ways we understand tangible and intangible culture and the nature of artefact or object, inasmuch as design or artefact are increasingly reconfigured as a relational matrix intrinsically connected to social (and sometimes technical) contexts. In other words outcome should be considered as a design object together with its attributes and relations, or as a socio-material assembly (Latour, 1999). This highlights the importance of knowledge (generation and transfer) as parts of the interconnection of the social and the design process on the one hand, and between the different heterogeneous fields of knowledge and the negotiations these entail. The paper therefore explores how understanding the role of complex knowledge generation in the design process can lead to a critical repositioning of Participatory Design. Drawing on work by Bjögvinnson, Ehn and Hillgren (2102) who posit Participatory Design should move from a conventional understanding of designing “things” (objects) towards designing “Things” (socio-material assemblies). Their reconsideration of the etymological meaning of “Thing” as (public) assembly or as the gathering of properties or attributes is critical. In other words, “Thingness” is the socio-material assembly that Latour (1999) characterizes as “a collective of humans and non-humans,” both relational and complex. The paper will also reference the ‘design before design’ and the ‘design after design’ issues highlighted by Bjögvinnson et.al., as an intrinsic part of this process.

Further, if the recombination of different knowledge fields generates new forms of knowledge that can – but do not always – contribute to an ecology of knowledge, Participatory Design can help structure and materialize this as outcome and process. Design in this case may be a useful tool to model or negotiate complexity as a “Thing,” functioning as a mediator between different domains of knowledge (for instance design, social sciences, tacit, local and external knowledge.) If mapped onto Snowden’s sense making model Cynefin (Snowden 2007, 2010), one can see possible ways that Participatory Design processes could be repositioned; not as a formulaic design process but as a part of complex adaptive processes that may contain conflicts, indeterminacies and uncertainties. The potential relevance is in seeking Participatory Design approaches aimed towards rural community development. A critical issue in China’s ongoing socio-spatial transformation that sees increased rural-urban migration; patchwork suburbanization of the rural; loss of agrarian lands (Guldin 1997); development of urban villages in urban contexts; increase in left behind children; (Xuefei 2013); hollowing out of rural communities and alteration of socio-economic conditions; aging of rural populations; the rise of corporate farming, and; loss of rural sustainability (McGetrick & Jun 2009). It asks can the role of design as a social process - through a reconfigured Participatory Design - be an effective tool towards an increased sustainable development (Manzini 2011), generating an understanding of resources, capacities and capabilities as local knowledge ecologies for new sustainable development approaches; and further how might these be effective tools of social innovation?

PARTICIPATORY DESIGN AND SOCIAL DESIGN

Participatory Design focuses on design as outcome rather than on the development of outcomes embedded in a social context; despite its usual development within social situations involving many stakeholders. The retrospective over-simplification of the social and materialization interactions when viewed through the lens of the final outcome is common. Additionally it is clear for many researchers that Participatory Design understood as a purely consensual process may result in an ineffectual lowest acceptable outcome approach, a ‘least offensive’ outcome or one that leads only to incremental improvement rather than being transforming. This important distinction, between system improving (social learning / actualization) and system transforming (social mobilization) is often evident in Participatory Design approaches. This has been characterized as the ‘nightmare’ of Participatory Design processes, Miessen (2010) who argues that complex negotiations, conflicts and their subsequent resolution and tensions between different forms of knowledge may be the process that lead to paradigm shifts and possible innovations, or at least to system transforming design projects that are better positioned to contribute to social innovation and sustainable development.

Participatory Design, and the related fields of co-design and co-creation, employ methodologies that involve users and stakeholders within the design process. This typically involves aspects of: i) initial exploration and preliminary assessment of user needs; ii) discovery processes of user’s values: developing collaboration and participation in decision-making; iii) prototyping: iterative process of design development; and iv) feedback and self-evaluation. As a self-reflective cycle (Kensing & Blomberg 1998) this is repeated to determine the participants’ consensus through the design development stages. Participatory Design processes are used in diverse ways in spatial and product design, whilst variations such as participatory planning (an older form of participatory design) are common in city planning where social or collective actions have a determining influence on public spaces and amenities. Often misconstrued as purely design approach, Participatory Design is in fact

a “rigorous research methodology” (Spinuzzi 2005) involving a complex systems of knowledge generation and co-design processes where the interactions of people, practices, artifacts, interaction and knowledge, steers a course between participants’ tacit knowledge and designers / researchers’ abstract, analytical or technical knowledge.

The current tendency in Participatory Design shifts emphasis from the user as a ‘carrier of needs and problems’ to an active design member who is a ‘non-design expert’ with local knowledge, skills, organizational capabilities and entrepreneurship. The design researchers’ roles adjust to become facilitators of specific design knowledge transfer processes. In this reformulation, design is understood as a contextual practice which engages creative communities working “in an economy of reciprocity” (Janzer & Weinstein 2014). Such Participatory Design projects can potentially generate design outcomes involving social innovation in which social enterprise and knowledge transfer can become the strategic directives and motivation to instigate and drive social change through design. Indicating a convergence of Participatory Design and social design and leading to possible extended definitions of Participatory Design as a “constellation of design initiatives aiming at the construction of socio-material assemblies where social innovation can take place” (Manzini & Rizzo 2011). Design in this context becomes a conceptual and practical tool that can be understood as a relational process connecting the social process and its associated body of knowledge; a type of design ecology (Tilder 2009) or a complex mesh of tangible and intangible factors, social forms and networks, information and interconnections of contexts and people.

Comparatively, Action Research actively engages participatory processes (Lewin 1946, 1958) to generate positive social change. Typically involving cyclical processes requiring iteration and feedback. Usually in four or five step cycles, for example: plan, act, observe, reflect; and plan for subsequent cycles (Kemmis & McTaggart 1988, Susman 1983). Action Research’s methodological basis draws from psychology and sociology, referencing Dewey and earlier empirical theories and is supplemented by practical application of these theories and methods in active engagement with its research subjects (Winter 1996, O’Brien 1998). Recent developments in Action Research put greater emphasis on social enterprise, development of new social forms and organizations and on social innovation, concordant with wider society changes. These move the conceptual focus from a reflective practice towards a projective one, but embedded in a social context.

In overall terms, Action Research is compatible with Participatory Design, however clear differences exist: Firstly, Action Research as a reflective approach has a stronger base in the social sciences whilst Participatory Design tends to be a projective practice whose methodologies are more design process focused (although not exclusively). Secondly Action Research is naturally more adept at social organization and network building embedded in social contexts; in contrast, most Participatory Design approaches do not have a sophisticated understanding of social organization. Action Research therefore has developed processes to facilitate social enterprise, network, support and service. Thirdly whilst Action Research emphasizes activist participation as “communities of inquiry and action,” that evolve as the community of co-researchers grows or changes (Reason and Bradbury, 2008), the capacity to evolve is generally absent from Participatory Design approaches that are not well equipped to evaluate impacts and social change after the ‘design process’ is concluded. Within a design context, the reflective practices developed within Action Research often engage the projective practices of Participatory Design as an “oscillation” between

“knowledge generation and critical informed reflection” (Froth & Axup 2006, Schon 1983, O’Brien 1998). As a pair they are mutually beneficial. In actual collaborative project situations, developing shared objectives, commonalities in communication and knowledge transfer may facilitate better integration and help define new knowledge domains, whilst pushing Participatory Design out of the ‘problem-solution’ paradigm.

In a broader context, changes in social systems are evolving the ways design develops towards forms of distributed knowledge, collaborative processes and cross-disciplinary practices (Sanders & Stappers 2008). Traditional design approaches are brought into question as new methodologies are developed, tested and refined that can deal with emerging relationships and the growing fields of social design. Such changes are impacting the ways we understand tangible and intangible culture and the artifact, design or object. Furthermore, the knowledge generation resulting from these processes can be an outcome that indicates not merely data or metrics but new pathways, connections, processes and social constructions; potentially opening up new hybrid fields of knowledge. Many researchers posit that linking social design to social enterprise ticks all the boxes for sustainable development and social innovation (Meroni 2009, Manzini & Rizzo 2011) whereby innovation can draw from the hybrid knowledge domains. Further, as design disciplines (and design schools) seek ways to respond to broader social changes, there is a need for new tools, methodologies and collaborative frameworks to engage and embed design processes in social contexts and in new modes of practice. The emerging social context of design therefore impacts the professional and academic boundaries of design disciplines.

PARTICIPATORY DESIGN RECONCEPTUALIZED AS SOCIO-MATERIAL ASSEMBLIES?

A viable starting point for re-evaluation of Participatory Design conceptual frameworks and methodologies therefore repositions it within complex social processes; in which design outcomes become the formation of socio-material assemblies, constructed within processes that span both before as ‘design before design’ and after as ‘design after design.’ The claim here is that Participatory Design needs to be understood as a ‘relational’ design process (Ehn 2008), connecting social context, socio-material implications and their associated bodies of knowledge in the design process. As such the definition of both the design process methodologies and design outcomes require reconsideration, as well as the roles of users, participants, and designers in the process.

Bjögvinsson, Ehn and Hillgren (2102) write that Participatory Design should move from a conventional understanding of designing things (objects) towards designing Things (socio-material assemblies). Drawing from Heidegger’s (1967) seminal reflection on ‘thingness,’ they reconsider the etymological meaning of Thing as (public) assembly or public space taking place at a certain time and place. They posit the need to understand ancient societies participation in these gathering places and their purpose as common places where disputes were resolved or where negotiations and even conflicts took place between the social (belief) and the material worlds. A Thing therefore can be understood as the gathering of social and material properties and attributes and is critical to this re-evaluation as Participatory design is also a gathering of people and artifact design in a common framework. In other words, “Thingness” is very closely allied to the concept posited by Latour (1999) of Socio-Material

Assembly. This Latour characterizes as “a collective of humans and non-humans;” whereby the collective gathers social and material (artifact) relations within an assembly that is closer perhaps to a contemporary form of ethnography. As part of this collective our participation, gathering and engagement in the material world forms a series of complex and dynamic interactions.

In Participatory Design terms the design of socio-material Things shifts emphasis from the conventional understanding of design as a process towards the non-hierarchical performative or relational as mechanisms to resolve conflicts or negotiate between diverse groups of participants. Distinct from more conventional approaches this has the capacity to build in uncertainty and unexpected outcome that could lead to system transformation or social mobilization / innovation. This process necessarily needs to consider before and after the normative design cycle, the design before design and the design after design (Björgvinsson et.al. 2102), not as a process of ‘projecting’ but as a process of infrastructuring allowing for continuation of the socio-material assembly before and beyond the design cycle itself. This is increasingly the case for specific types of artifacts such as mobile devices and social media in today's context that are defining new forms of socio-design ecosystems and new practices.

FROM KNOWLEDGE TRANSFER TO COMPLEX ADAPTATION

The importance of knowledge (generation and transfer) as parts of the interconnection of the social and the design process on the one hand, and between the different heterogeneous fields of knowledge and the negotiations these entail cannot be understated. The formerly discrete fields of knowledge require often complex processes of translation and negotiation for instance between the tacit knowledge of a craftsperson and the conceptual knowledge of a scholar.

Further, the potentials for knowledge transfer between Action Research and Participatory Design approach are high. The primary research methodologies and approaches employed generate considerable knowledge: for example the ‘asset mapping’ of Action Research as well as the Participatory Design processes contain a high level of methodological and discipline specific knowledge. Additionally their application in-situ provide case study specific knowledge that has context value and can indicate specific nuances of the social and cultural context, its skills and its capabilities. The processes therefore foster multiple-directional knowledge transfer between different participants and researchers on many different registers. Of note the integration of this knowledge, when applied to design led social enterprise has value as identifiers of resources for locally based sustainable development and social innovation approaches. Further, if the recombination of different knowledge fields generates new forms of knowledge that can (but do not always) contribute to an ecology of knowledge, participatory design can help structure and materialize this as outcome and process. Design in this case may be a useful tool to model or negotiate complexity as a Thing, functioning as a mediator between different domains of knowledge (for instance design, social sciences, tacit, local and external knowledge.)

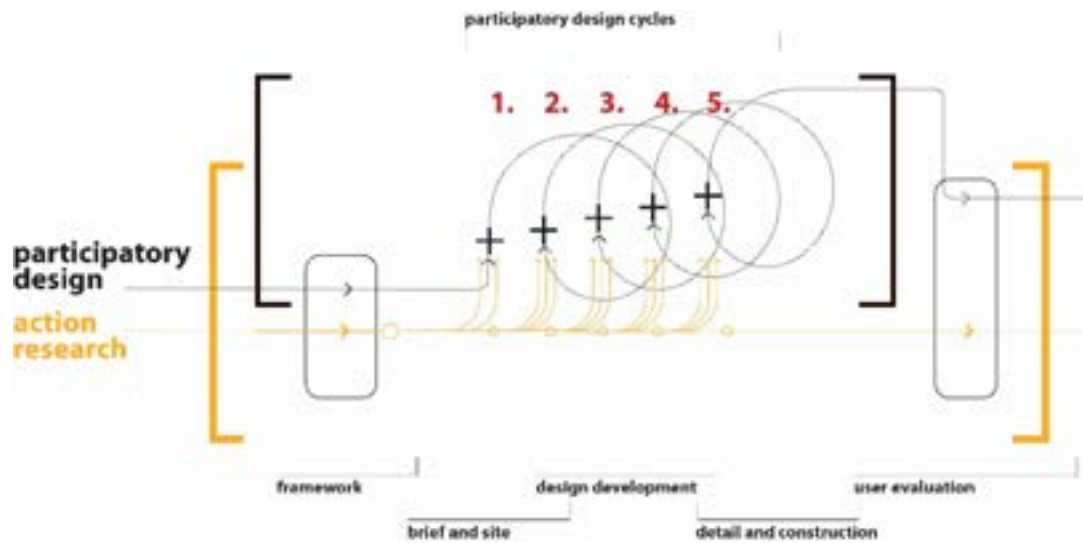


Figure 1. Action research and participatory design integration and socio-material assembly. Source: author.

Many participatory design projects undergo stages of indeterminacy and uncertainty. This can be in the definition of outcome or within the complex processes engaged to different degrees in the different stages of design, due to the complex nature of participation and divergent stakeholder views. These generate a web of different situations, negotiations, intersecting or contradictory knowledge fields. In a normal participatory design project the processes (Fig.1) engaged may be further broken down into a series of overlapping stages of: i) initiation (agreement to do a project); ii) ideation (initial design project conceptualization); iii) design development (participatory iteration); iv) design resolution and implementation. As Sanders and Stappers (2008) note, the ‘fuzzy front end’ of design processes that seek to structure the consequent design have been increasingly recognized as ambiguous and chaotic in nature. Extending this I posit that each participation cycle has the potential for an uncertainty of outcome that only becomes clear through negotiation processes. The repositioning of Participatory Design within a complex knowledge field thus allows for better understanding, analysis and management of this dynamic.

The Cynefin Framework developed by David Snowden (2010), is a sense-making and analytic framework used primarily for knowledge management purposes in complex social situations, the name deriving from the Welsh word for habitat as the place of multiple belongings. The five part framework, derived from complex adaptive systems theory, is structured around basic systems of order and boundaries between them. It is considered as a dynamic process in which the interrelations between the five parts are fluid, differing from categorical frameworks which tend to be static. The five parts: Disorder, Simple (cause and effect), Complicated (knowable with expert knowledge), Complex (emergent ordering systems) and Chaotic (incoherent), allow situations and conditions to be mapped, analyzed and appropriate responses formed according to the type of complexity the situation has.

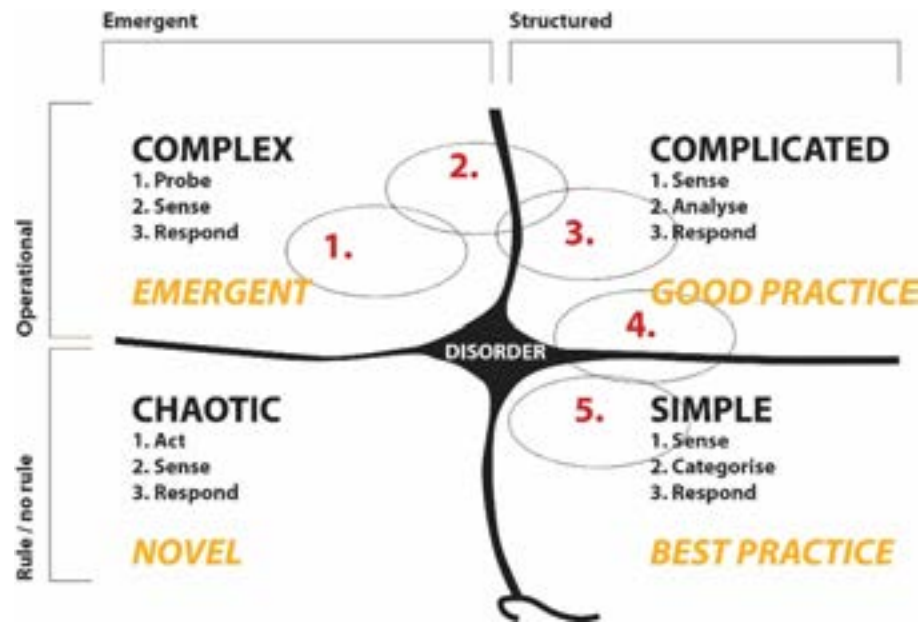


Figure 2. Cynefin framework with mapping of participatory design cycles. Source: author, after Snowden.

If mapped onto Cynefin framework (Fig.2), Participatory Design processes can be repositioned within appropriate categories allowing for a more finely nuanced understanding of the complex dynamics of participatory processes. For instance; design initiation and ideation would fit within the Complex category whilst design development and design resolution would better be positioned in the Complicated or Simple categories. This would better allow these design stages to be understood as parts of complex adaptive processes that may contain conflicts, indeterminacies and uncertainties, and which require the identification of suitable approaches as suggested by the framework.

COMMUNITY KITCHEN: MULTIVALENT COOKING

Rural community development is a critical issue in China's ongoing socio-spatial transformation. Factors affecting this include: increased rural-urban migration; patchwork suburbanization of the rural environment; loss of agrarian lands (Guldin 1997); increase of internal migration and related development of urban villages coupled with an increase in left behind children; (Friedman 2005, Lin, 2009, Xuefei 2013); hollowing out of the rural communities and alteration of their socio-economic conditions; aging of the rural population; and the rise of corporate farming. For rural sustainability, an alignment of localized socio-material conditions and resources with consideration of the habits, patterns and values of the inhabitants is necessary (Guldin 1997, McGetrick & Jun 2009). The combined Action Research and Participatory Design approaches can therefore be relevant to sustainable development for small scale rural communities, aiding the understanding of resources, capacities and capabilities as a form of local knowledge for new sustainable development approaches. The impacts can be applicable widely.

In this context the case study research was located in Miao Xia, a rural village in Sichuan. A region affected by the Lushan earthquake in 2013 that significantly disrupted existing social, cultural, economic and physical structures. Additional factors affecting the village include: the impacts of recent changes to land ownership in rural communities; the fragmenting of farmlands by suburbanization; increase of agricultural corporations; the dilapidation and depopulation of traditional wooden villages; the aging of village population; increasing subsistence farming marginalization; and; the loss of former agricultural patterns, cultural practices and skillsets.



Figure 3. Participation process documentation. Source: author.

An existing action research project (2013-) provided social foundations and identified existing tangible assets (historic village, skills and material resources) as well as intangible assets (cultural and social structures, kinship, values and oral history). The Participatory Design processes co-initiated by the author (with Dr Ku Hok Bun) aimed at developing the village capability to deal with aging and economic decline through the redesign of cooperative and public amenities in the village. The resulting design and implementation of a community kitchen and community center through Participatory Design enabled the development of social enterprises and new collective organizations, extending the village capability for revenue generation, festivals and community events. Thus becoming an important marker for the village, fostering community identity, collective pride, and social cohesion through the process. The collaboration enabled new possibilities and measures that facilitate balances between social provision, development and enterprise.

The completed research (2015) involved two distinct but complementary disciplines; the Applied Social Sciences and Design; and their corresponding research methodologies; Action Research and Participatory Design. Beyond the design and social outcomes, the study highlighted how the two methodologies are mutually beneficial: with Action Research providing the necessary 'software' as community engagement and social organization facilitating the development of 'hardware' or design outcomes through Participatory Design processes, aligning both social and physical manifestations.

Comprehensive public consultation with the villagers was used to develop and actualize their social enterprises, while Participatory Design addressed identified design issues with stakeholders and was then used to develop culturally specific design solutions. An outline of the steps taken includes: evaluations of potentials and brief development; social enterprise initiation; development of cooperative agreements; negotiations on shared responsibility and mutual benefit; site and leasehold negotiations; design intent and participatory process development; local skill engagement; development of appropriate technological solutions; management of different construction stages, volunteer participation and budget. In total over eight participatory design cycles were involved with typically 15-25 stakeholders engaged in each cycle. The wide range of stakeholders (more than 60) is included primarily elderly villagers of different capacities and authorities, non-resident relatives and kinfolk, local craftspeople and local experts as well as social workers and social work interns from three institutions, designers and design students from two different HK schools. The total process took ten months from initiation to completion. In what is a complex multi-staged process, clearly the social development and engagement are equally important as the actual ‘design.’



Figure 4. Participation process documentation. Source: author.

Whilst the intent is not to outline a procedural explanation of the research, its complex processes can be illustrated with reference to specific instances. An example to illustrate the complex engagement and intertwining of the social and the physical: Firstly the development of the initial project focus went through over five distinct variations and three different sites before negotiating the agreed direction and brief, and the social enterprise and cooperative framework through multi-level engagement of both social workers and designers. This negotiation aligned the social stakeholders together with the desires for specific income generating spaces and facilities. As a second illustration, a discussion later in the project on whether the main space should be divided between the kitchen and the dining area (a cultural issue because most rural buildings are functionally separated into discrete rooms) or kept open to provide a social space with a fireplace for the winter was debated at length and was approached with a mix of discussion and design strategy: the final outcome being to postpone this decision for 6 months so the villagers would use the space during the winter and see the benefits to keeping the space open themselves; a process that took two separate meetings to determine as it went counter to commonly understood social and cultural norms

in the village. Both social sciences and design disciplines were critical to these processes and iterative cycles.

ENGAGING IN-SITU COMPLEXITY

In practice Participatory Design processes are messy and complex and are never as clear as the conceptualized cyclical development models outline. In fact the steps of design initiation and design development, the various participatory cycles, consensus on final design solutions, as well as design implementation provide a whole range of complex negotiations and social situations that change according to group dynamics, collective mood, misunderstandings, who has the loudest voice, design anxieties, fear of new ideas and many other variables. Even the group members may change between cycles affecting the social dynamics. As a series of linked and complicated negotiations in a constantly changing situation, it requires the participants to be flexibility or adaptability through ad-hoc or on the spot solutions to concerns and at other times the need to refocus the project framework to enable participants greater understanding of the issues. The dynamics only become more predictable in later stages of the design process.

Obviously external agents (social workers and designers) coming into a disaster affected context bringing new mechanisms of engagement, modes of mediation, and ideas may disturb the pre-existing patterns, clearly adds to the underlying complexity. Consensual participatory design and action research processes are not simple in such contexts, even in a small communities. The disparities of value sets and knowledge domains means all parties and stakeholders will have very different interpretations of community and self-interest at different moments in the process. In actualization the complexities of negotiation of land-use, sharing of collective responsibilities, identification of roles, formation of social enterprises or the development of common understandings (linguistic and in terms of design language) for shared visions and project briefs in effect activated and negotiated very different levels of complex knowledge translation, exchange (on multi-lateral levels between different knowledge domains). As a codex, it needs to be noted, that locally specific socio-cultural modes and practices are coupled with the complexities of social structures, kinships, hierarchies and values in both intangible and tangible forms. Specifically villagers have 70 years of experience negotiating the ever shifting centralized policies and their impacts determined by the Peoples Republic of China government and their local representatives during each 5 year plan. The various rural and urban policy shifts that have occurred and are still occurring keep the agrarian communities in a constant state of flux. Their resilience and adaptability should not be underestimated.

Previously in rural contexts, Action Research and Participatory Design approaches tended to be either socio-anthropologically based, or answering specific design needs such as disaster relief provision. While scholars have proposed social design frameworks in more developed contexts, in developing locations these are generally focused on empirical or analytical studies, leaving significant gaps with the development and hypothesis testing of applied research in situ. The impacts of a better resolved framework can therefore be relevant across similar conditions in China and can eventually lead to the development models with wider applicability in other contexts. Participatory design can facilitate higher levels of sustainability in rural environments (Chambers 1994, Darabi, 2010), as it identifies

and links local resources, economies, skills and practices with specific needs, forming a holistic approach.

Broadly stated, the development of an “Action Research and Participatory Design” framework as a social design methodology approach applicable for rural contexts can positively impact or contribute to collaborative cross-disciplinary research, design research methodology development and research testing in applications in real situations. Specifically the repositioning of Participatory Design as the design of socio-material assemblies that are considered within complex adaptive system frameworks has several implications. It decreases the tendency for participatory design to be understood as either design outcome generating or procedural problem solving, instead valuing the knowledge and social structures on an equal plane as the design outcomes. It more clearly opens the possibilities for collaborative frameworks in which different local and external knowledge fields can engage in complex parts of a participatory design project. It contributes better to nonlinear causalities and processes, implying that Participatory Design could better contribute to sustainable development and resilience models.



Figure 5. Completed participatory design. Source: author.

In passing we note that emerging tendencies of design to become networked as a mix of material and immaterial systems (Manzini 2011) connected to places and people, suggests that design schools can become socially innovative as cultural agencies developing ‘open design programs,’ ‘distributed design agencies,’ or ‘design lab networks.’ The potential of design schools exists to be a collaborative ‘social resource’ that can become an active ‘critical and creative actor’ in sustainable development (Leadbeater 2008). Utilizing its networks, competence, initiating and constructing interactions with wider communities as outreach, research and social design using participatory design processes.

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NOTES

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PAPER SESSION 5

Ethnography / Analytics

Curators: SIMON PULMAN-JONES, GfK & DAVID SCHALLIOL, St. Olaf College

This session explores applied and theoretical intersections between ethnographic methods and quantitative, computational, statistical, linguistic, biological (or other quant-led) methods. The ascendance of virtual commerce, social media, and the relative accessibility of so-called “big” or distributed datasets pose a challenge to qualitative methods, and even the possibility of ethnography-led innovation. The encounter with “big data” therefore presents applied ethnography with an opportunity to renew engagement with fundamental epistemological questions, while exploring both the empirical limitations and virtues of qualitative and quantitative social science. Having covered the merits of hybrid “qual/quant” approaches in prior conferences, the purpose of this session in 2016 is to advance the state of practice.

‘It’s Not Just about the Patient’: A ‘360° Feedback’ Ethnography of Chronic Care Knowledge Generation

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The paper attempts to offer a method to consistently monitor and capture a data eco-system in the everyday of a patient-caregiver relationship. We offer an account of the capture and intermeshing of different types and quality of data sources and their gainful deflection into a methodological protocol for ethnographic engagements. We call this the ‘360° feedback’ ethnography and elaborate its underlying methodological process in this paper. Building on the live feedback obtained from various stakeholder activities in a care ecosystem, we propose how a 360° feedback can enrich regenerative knowledge.

INTRODUCTION

The art and praxis of care management is a contextually embedded one; not only is it reliant on the nature of the care giver-patient relationship but also the coming together of a tethered eco-system of location, information and infrastructure. While penetration of the internet of things is providing opportunities for creating tools to diagnose patient conditions and care plan interventions, caregiving offers specific challenges related to the situational and the emotional hubris surrounding the roles and relations between caregivers and the patient who are united by more than the bond of caregiving. Alongside the emotional and exhausting interpersonal exchanges that happen in caregiving scenarios, multiple caregivers, including non-professional, informal and familial caregivers are needed to loop the eco-system of care management. The use of pervasive computing for perpetual and assured gathering of patient data presents an opportunity to not only have deeper understanding of patient’s condition but also to engage various stakeholders in caregiving ecosystems; perhaps to even engender patient-centric technologies with humane overtones.

This paper will offer an instantiation of how ethnographic methods have approached big data- by big data we mean various types of quantifiable data in a caregiving situation encompassing key persons, stakeholders, caregiving practices and contextual contingencies. Making a case for big data and ethnography as a relationship in generating interpretative insights based on human behaviors [what Curran [2013] references as ‘Big Ethnographic Data’] we dwell on a research contribution towards transforming consumer centric healthcare services. In the attempt to offer a method to consistently monitor and capture a data eco-system in the everyday of a patient-caregiver relationship, we offer an account of the capture and intermeshing of different types and quality of data sources and their gainful deflection into a methodological protocol for ethnographic engagements. We call this the

'360° feedback' ethnography and elaborate its underlying methodological process in this paper. In a sense this paper is less about the ethnography and more about an approach assimilating the sensibilities of big data and 'thick data'.

Previous research (Fiore-silfvast and Neff 2013) talks about data valences in digital health data ecosystems, and comments about the relevancy of data in social, organizational and institutional scenarios. Even if patient mediated or pervasively captured patient-end health data, such as the one proposed by Human API (Baek et.al. 2013), are obtained simultaneously, the impact of invisible work (Unruh and Pratt 2008) and the caregiver's participation (Corbin and Strauss 1985) in chronic disease management remains, well, invisible! Perhaps the live nature of every care activity can provide a 360° knowledge of care delivery and further improve care interventions [Interestingly, in the domain of customer experience consulting, ethnographers (Slobin and Cherkasky 2010) have emphasized data acquisition to gathering customers' experiential understanding. They call this "360 view of my customer"']. Given the diverse profiles of caregivers, multitudes of processes and information exchanges, and the longitudinal nature of chronic disease progression, having a 360° view of the care ecosystem becomes even more important.

An ethnographic study with 22 patients from 18 families in three tier-two [cities with under a million population] in India foregrounded the study to capture the eco-system of care management knowledge – the latter included a plethora of players and their relationship to care management. We chose smaller cities where care giving is more familial and not outsourced to a hospital [more common in the big metropolises of India due to better hospital infrastructure]but nonetheless intersect with professional caregiving practices. It gave us a snapshot of the dynamic challenges faced by caregivers within a family and a window to think about opportunistic technology interventions. Our initial assumption centred around non-adherence to medication, unobserved disease symptoms and missing information requiring continuous involvement, attention, and coordinated dialogue exchanges among and between the diverse sets of patient – caregiver duos. Moreover, whether remote or situated, caregiving is mediated through psychic-emotional closeness between the caregiver and patient with consequences for care outcomes. There is a critical need for building communication strategies catering to a caregiver's involvement in the care process, integrating their knowledge and experience in a specific patient monitoring ecosystem. We address this gap capturing patient and caregiver knowledge into a caregiving ontology (CO).¹ The knowledge categories we generated about caregiving protocols and ensuing relationships are directly informed by our ethnographic observations of caregiving in the Indian family.

Ethnographic vignettes gathered from homes and contextual scenarios presented motley arrangements of between caregiver-patient relationship dynamics. We explain these scenarios through a *trust-persuasion relationship quadrant*, representing the different scenarios and extent of trust and persuasive strategies among patient and caregivers depending on care availability and the nature of caregiver- patient kinship /social ties. We further substantiate our findings via a technology probe called *iSwear* including the patient-caregiver communication repertory, a feedback mechanism about the patient's everyday care regime, patient information about physical activity and adherence or the lack of it to everyday medicine intake and consequent changes in communication patterns caused to regular patient – caretaker communication behaviours. We created knowledge categories of care [we also call it care ontology, CO]that considers, not just the patient's clinical and activity data but the

collaborative nature of caregiving, multiple care communication protocols entailing accurate and generative knowledge of a care ecosystem. The knowledge categories or CO, are built from accounts of patient data which are periodic [sometimes self-recorded or fetched from the wearable we designed], and caregiver data such as situated availability, knowledge and extent of participation in care. Contextual interviews during the *iSwear* pilot study and logs fetched from *iSwear* helped us to map caregiver profiles based on care contribution and patient-caregiver trust levels. While Caregiver profiles and their relationship to the patient were vital, capturing right amounts of patient care feedback data, at critical moments of caregiving helped to comprehend not only a specific care ecosystem but to evolve a generalizable and ontological understanding of communication practices in the patient-caregiver everyday repertory. And, we call this ‘a ‘360° Feedback’ ethnography of chronic Care knowledge generation’.

This paper is arranged to reflect the primacy of the ethnographic process in framing caregiving praxis and knowledge categories of care management. We begin with an in-situ understanding of familial care giving segueing into design implications and the actual building of the wearable *iSwear* aiding communication protocols of chronic care management. We then elaborate the generation of a care ontology/CO, focussed on the centrality of the caregiver’s relationship to the patient, routines/praxis of caregiving and types of everyday communication protocols between the care giver and patient. We reiterate that this paper is as much a piece on the ethnographic method as it is an approach to synthesise ethnographic insights with the generation of a data eco-system.

OVERVIEW

Over the last decade studies have emerged around social, economic, and health concerns of general ageing (Vines et.al. 2015) and chronic diseases in particular (Wanger et.al. 1999). Patient compliance in health care is one of the significant factors under research scrutiny. We begin the literature review with an overview of Chronic Disease Management (CDM) and the role of caregiver in care delivery. We move on to the social and structural context in the family caregiving scenario in order to understand the relationship dynamics in caregiving, role-playing, construction of trust and their effects on patient motivation and emotional support. Finally, we look at how technologies have evolved to assist chronic disease management, and how this data could benefit care interventions.

Caregiving and Chronic Disease Management

The caregiver’s role has been widely discussed in HCI literature (Vines et.al. 2015). We took inspiration in the work of Corbin and Strauss (Corbin and Strauss 1985) who speak of trajectory work, which explains the nature and complexities of care work required during acute health conditions and general chronic problems. Higher trajectory work requires additional experience and professional training in caregiving while lower trajectory work can be done at home. A lot of the work that informal care givers (i.e. family members) do is low trajectory work like scheduling appointments, managing prescription and transportation issues. Corbin et al. mention three lines of work in CDM, in the case of home-based caregiving, care givers perform trajectory work such as monitoring patients, recording temperature, checking medication doses, etc. It emphasizes the semi-professional character

of the work of informal caregivers as these also included activities such as fostering a sense of independence in patients while simultaneously enabling, motivating and persuading patients to follow prescription etc. The caregiver's ability to perform medium and higher trajectory work (if required), is largely dependent on her experience of performing low trajectory work and an understanding of the patient's condition. Caregivers are heavily involved in day-to-day quotidian activities related to chronic illness management along with providing emotional work having a significant impact on a caregiver's lifestyle (Chen et.al. 2013). Thus, we consider the interactive behaviors and exchanges of dialogues between a caregiver and a patient, especially in the emotionally loaded setting of a family, as a crucial factor in influencing a caregiving scenario. These, we believe, were constitutive of persuading and motivating the patient to positively respond and comply with caregiving activity. Our ethnography also focused on understanding the caregiver's nature of needs and preferences in managing their kin's health and the accompanying challenges to these activities.

Social Structure of Care

We begin by looking at the three main aspects of the structure of care giving. These are; one, the role of formal caregivers who may not be family members; two, informal caregivers, who are family members; three the immediate social support such as friends and persons from the neighborhood supporting caregiving as activity. We took inspiration from the line of work typology by Strauss, but while arriving at the three main aspects we specifically focused on the patient-caregiver relationship. Much of caregiver literature clearly also draws a distinction between physical or practical support (Gandhi and Bowers 2008) (i.e. in case of formal caregiving), and emotional support (Young et.al. 2004) (i.e. in case of informal caregiving). The role of familial caregivers, particularly spouses, children and siblings, as the primary providers of emotional support (Keating et.al. 2003) have been shown as playing an important role in persuading a healthy lifestyle and promoting wellness (Parker et.al. 2012) in patients. Additionally, patients also receive care from relatives who are not living with them (i.e. remote caregiving scenario). Literature suggests that care received in the case of the remote scenario is more likely to be functional than emotional (Allen et.al. 1992). These studies underline the fact that it is moot to generalize the type and extent of caregiving provided by family members and immediate social surroundings.

Furthermore, formal caregiving is largely restricted to hospitals, and family caregivers do most of the care arrangements at home (Dolenal et.al. 2002). Studies show that caregiver stress is reported to be associated with variables such as family income, age of caregiver, kinship relationship, caregiver's attitude and certain attributes of the care recipient (Jamuna 1997). Apparently, the way a child manages care for a parent might be very different from a spouse managing care for her partner. Thus, we draw our focus on understanding different roles that caregivers play in a family caregiving setting and how the relationship does influence patient wellness and adherence to medication. We further emphasize understanding the differences between the contexts of filial versus conjugal caregiving. To the best of our knowledge, there is no study that illustrates the differences in caregiving behavior among different familial roles. Furthermore, there is a need for understanding multiple types of persuasion and motivating behavioral strategies in a family caregiving setting.

Technology and Chronic Disease Management

Design for Chronic Disease Management (CDM) and Patient Monitoring have been widely discussed in both medical science and gerontology. Researchers (Chen et.al. 2013) explain the importance of designing for patient-caregiver integrality, especially due to the burden of care negatively affecting the health and wellness of caregivers, leading to anxiety and stress. Previous work exploring the caregiving process and how technologies can be designed to offer improved physical, social and emotional support to patients considers the collaborative nature of caregiving (Conclove et.al. 2004). Apart from sensing technologies, very little research has focused on facilitating caregivers to effectively persuade patients.

Systems and devices are being developed to enable caregivers to monitor patient activities from distant locations (Duncan et.al. 2009) and to aid a caregiver coordination network (Tang et.al. 2012). Wireless health communication systems and caregiver communication system for home environments provide patients with a direct link to a caregiver. These interventions permit a patient to send a request for assistance directly, and provide for two-way voice communications. Most of the above-mentioned interventions have been designed with a technologically deterministic point of view and overlook the trust and relationship interplay between patient-caregiver communications. Additionally, such systems focus on an acute scenario of caregiving where patients may be bed-ridden. Notification communications are usually designed to target the onset of acute conditions for varied latency of occurrences that may occur abruptly. In case of chronic illness, the onset of a deteriorating condition is generally gradual, often insidious, where technological interventions tend to become indecisive with uncertain diagnosis and prognosis (Holman and Lorig 2002). There is a need for pervasive and continuous patient-caregiver communication support wherein care activity becomes longitudinal and patient motivation is framed by the caregiver's effective persuasion.

To the best of our knowledge, to date there is no study examining the usability and perceived usefulness of such systems. More importantly, most extant studies talk about usability and adaption, but none focus on the multi-user aspect (where you have a patient as the primary user and a caregiver as the secondary user of the system).

METHODOLOGY

We conducted two studies; the first comprised of contextual interviews with 18 care givers and 22 patients in 18 families living in the cities of Bengaluru, Bhubaneswar, and Mumbai; the second a preliminary evaluation and user study with iSwear, our communication and patient mentoring system, in 3 families, 2 in Mumbai and 1 in Bengaluru. Before we move on to describing the social contexts of caregiving in our sample, here are a few broad yet key questions framing our investigation and the more specific investigations of in-situ and personal interviews.

- What is being measured – What is the type and extent of formal support caregivers provide to the patient?
- How is it being measured – What are the present methods of monitoring, information sharing, and information exchange among the patient and caregiver in various contexts of familial caregiving?

- What are the predominant challenges— What are the caregivers ‘every day pain points’ and how do they impact their day-to-day caregiving activities and broader lifestyle?

Sample

The sample consisted of 10 in-person caregivers and eight remote caregivers. Eight out of 18 of the participants (in-person: eight; remote: zero) were either wives taking care of husbands (i.e. six) or vice versa (i.e. two). We will address them as conjugal caregivers in rest of this paper. The rest 10 of the participants (in-person: six remote: four) were children taking care of their parents. We will address them as filial caregivers. In total we had nine female and nine male caregivers.

Our sample had no caregivers falling in the category of conjugal-remote scenario- by remote we mean spouses, still married but living in different homes. The term ‘remote’ is used, for the purposes of this study, to exclusively denote physical distance. We did not have the wherewithal to include emotional distance in our research framework. Moreover, physical distance was one of the implications for design in this study influencing the iSwear system. We also had spouses living together impart remote caregiving to partners during specific hours in a day from their work places during working hours. Instances of caregiving such as being vigilant about food and medicine intake, and follow-ups with formal caregiver would often occur in a remote scenario. Thus we considered data from conjugal-In Person scenarios for analysis, in which the caregiver had been away from the patient for a limited amount of time. We had cases of extended families [with more than two generations of a family lived together where multiple caregivers are involved in providing various degrees of support to the patients. Six were joint families in which caregivers took support from other family members. Extended family members such as in-laws or close relatives take up caregiver roles for a specific duration accompanying the patient for periodic checkups, or other activities when the primary caregiver is not around. Most of the patients from these 18 families have had at least one acute episode during which our participants have managed their care. All the participants were reasonably versed with a few computer/mobile applications and health devices available for patient monitoring and adherence. Two caregivers were also versed with using bedside systems such as a health-buddy, but only in a hospital setting.

Table 1. Preview of selected sample

Caregiver's Relationship	Remote		Situating	
	Male	Female	Male	Female
Filial (10)	3	1	3	3
Conjugal (8)	0	0	2	6

All families belonged to the middle-income group in urban India having annual income ranging between USD 3000 and 10,000 with medication alone costing USD 150 to 500 per month for every patient. Additionally they were incurring cost of other expensive medication in case of shoot in problem and regular checkups. They were all taking continuous professional support from established hospitals in their cities, sometimes even further away

in bigger hospitals, based on the availability of specialization and expertise. A basic fall alarm, tracker bracelet or bedside alarm that can be used at home would cost anywhere between USD 100-250 but chances of their adoption are extremely low in Indian homes.

Some of our participants had one or more chronic conditions – diabetes, arthritis, hypertension, lung disease, renal disorders, and heart problems. It is important to note that the kind and extent of medication or care required may differ in all of these diseases, but the prescribed self-care behaviors (Shrivastava et.al. 2013) largely remains the same. These self-care behaviors emphasize healthy eating, physical activity, monitoring blood sugar, compliance to medication, problem-solving skills, healthy coping skills and, risk-reduction behavior.

To achieve a more diversified and deeper understanding of the caregiving context we developed an interview question schedule based on our early set of broad research questions to investigate the specifics of care giving in a set of familial social contexts. Two authors of this paper conducted interviews mainly in the home setting of caregiving. Each interview lasted for 60 to 90 minutes. All interviews were recorded and transcribed. The interviews and prototyping iSwear took a duration of 3 months, which was followed by a month of the iSwear pilot study.

Method

We analyzed our notes taken during fieldwork and interview transcripts using an affinity mapping exercise (Kawakita 1991) and evolving design themes clustered according to their similarity, dependence and proximity of relationship. Themes were identified from the body of evidences gathered from the field and used for the ideation of a caregiver assistive system or tool. Some of the key themes identified are motivation, persuasion strategies, monitoring and vigilance challenges, information flow, role reversals and conflicts. Patient monitoring and vigilance emerged as a key challenge influencing patient-caregiver relationship as well as caregiving dialogue exchanges, and conflicts. Success of persuasion strategies strongly depended on the effectiveness of monitoring. This motivated the design, implementation and testing of iSwear, a wearable device for patients with chronic illness, which can send messages to caregivers about patient activity related to food & medicine intake. An initial exploratory evaluation was conducted with 3 families, where iSwear was given to these patients for a week. We monitored usage patterns through patient-caregiver sms/call logs and followed up with in-person interviews in the homes of the families. We faced limitations in time to extend our probes during the pilot but the period afforded an intimate view of caregiving routines that formed around the technology probe and the challenges thwarting a more successful adoption of technologies for caregiving. We discuss the findings from our ethnography in detail in the next section.

Design of iSwear

This section will explain the design of the CDM communication and monitoring system 'iSwear', primarily informed by the ethnographic insights derived from caregiving situations.

iSwear is a system focalizing caregiving as a set of key practices in persuasive health care delivery in family settings. Our aim was not to build a prototype with full capability and accuracy, but to look at usability and acceptance of such a system in a familial caregiving

scenario. Our ethnography of familial caregiving revealed caregiver-devised patient monitoring and vigilance strategies focused unduly on the need for assurance and pervasive communication with the patient. With iSwear we aimed to aid some of these strategies while placing the caregiver as the central actor in caregiver-patient communication practices.

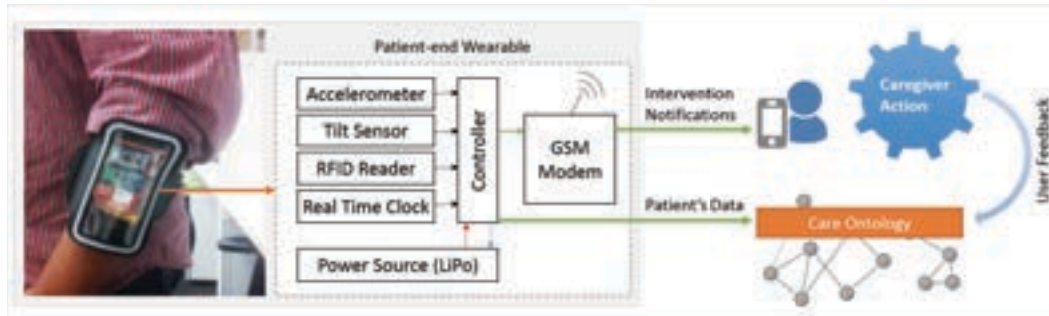


Figure 1. iSwear device & its components

We considered measuring physiological parameters such as heart rate, ECG, EEG, activity and food intake, to measure and manage multiple chronic conditions. Considering the focus of our study and caregiver intervention areas, we narrowed it down three parameters. These are 1. Measure of daily physical activity 2. Time of medicine intake 3. Time and portion size of food intake. A wearable system, iSwear, was designed to measure these physiological parameters. Figure 1 shows the complete component diagram of iSwear. iSwear consists of three main sensors, the accelerometer, tilt sensors and an RFID transceiver. These were used to measure the above-mentioned patient activity data. RFID tags placed on the medicine bottle helped to inform about medicine intake. The data collected from the sensors of the iSwear is converted into meaningful information about patient activity with the combination of different data streams.

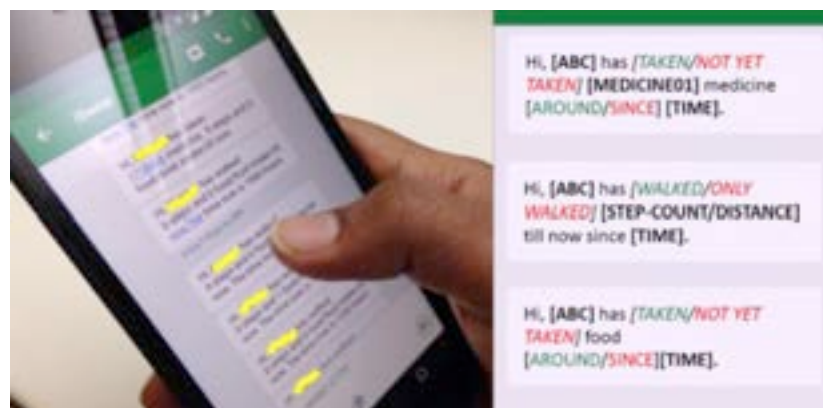


Figure 2. Message variations received at Caregiver's Phone

The GSM module attached to the device consisted of a specialized modem with SIM card, for sending SMS to the caregiver at a frequency of four times a day (i.e. 9am, 12pm, 3pm and 6pm). Figure 2 shows different variations of the SMS designed for actions of medicine intake, walking, and food intake respectively.

Design of Caregiving Ontology – Caregiver as Agent

To capture caregiver activity or responses on the received system messages, a caregiving ontology(CO)was designed. We use the standard OWL (Web Ontology Language) to create entities- in our case, caregiver data about existing caregiver – patient social and kinship profiles and their contextual information (such as experience of caregiving and locational availability) were created as ‘caregiver’ entity to the CO. The system would query the entities and their inter-relationship to trigger notification for any care activity related reporting. Patient entity values were analyzed in runtime, and contextual information about patient activity and medicine adherence were added to the ontology as another set of entities.

Patient-end disease information and contextual information about patient activity and medicine adherence were added to the ontology as object values. Caregiver data about existing caregiver profiles and their contextual information (such as the experience of caregiving and locational availability) are added as ‘caregiver’ entity to the CO. The CO would store all the caregiver responses as an object value for the entity caregiver. A simple SPARQL (Simple protocol and RDF Query Language) pseudo-code run on the patient entity for the CO is used to understand the required caregiver response, and thereby send an actionable notification to the caregiver. The queried activity is then sent to the different caregivers based on their type using the messaging system.

```
SELECT ? cgType ? cgFeedback ? cgIntervention ? Recommendation
Where
{
  cgIntervention : Activity
  cgType : CGc-s
  cgFeedback : hasRecieved ? hasResponded ? hasActed ?}
```

Once the intervention type and the nature of the caregiver have been identified, predefined message templates are used to create recommendations. These recommendations are pushed as notification to the caregivers. The caregiver messaging flow and their responses to these notifications informs us about the real-time human interaction in a caregiving ecosystem. The system places the caregiver as agent in triggering the messaging activity.

EVALUATING THE FEEDBACK DATA ECOSYSTEM

We conducted our preliminary field study with 3 families (2 conjugal, 1 filial, all in-person caregivers). All 3 patients were above 60 years of age and suffering from type-II diabetes mellitus. iSwear was given to the patients who were asked to wear it for a period of one week from 8am to 8pm. This was the time when these caregivers or patients were generally out at their workplaces. We took care to familiarize and orient users to the device and the nature of our experiment. The RFID tag was stuck to the medicine bottle/strip and dosage timing and

frequency was noted. The phone number of the caregiver was noted and set as default number to send SMS through iSwear. An SMS & Call Log Backup application [33] was installed in the caregiver's phone with their consent. We also gained consent for all phone conversations to be time logged and recorded.

We observed wearable notification response and patient action response through phone logs and wearable logs. Wearable notification response would inform us about how caregivers responded to the received notification and in how much time. The patient action response would inform us about the patient activity once the caregiver has responded to a notification in a certain way, such as making call to the patient. Additionally, at the end of every week, both the patient and the caregiver were interviewed for system feedback.

INITIAL FINDINGS

Our findings are focused on understanding care arrangements in Indian families. We probed on the nature, order and extent of various caregiving activities, health record keeping and information management involved in effective care delivery. We took specific care in understanding family dynamics that shaped and hovered around caregiving activity in order to focus on the caregiver-patient interactions and emotions surrounding the act of caregiving. We observed various forms of persuasion and motivation strategies, ranging from the subtle to the distinct, in a caregiver's repertoire of practices for wellness compliance. We probed for the overt and covert needs that caregivers expressed with the current system of access to health monitoring technologies and CDM aids. Location closeness (i.e. remote and in-person caregiving) also provided us insights on different caregiving needs and concerns.

We represent the trust-persuasion quadrants of caregiving scenarios in Figure 4. These are 1. Filial-Remote (FR), 2. Filial-In Person (FI), 3. Conjugal-Remote (CR), and 4. Conjugal-In Person (CI). This representation helps us understand the aspects of trust and persuasion among filial or conjugal caregivers with their kin. The remote and in-person caregiving setting represents the location closeness between caregiver and the patient. While experience represents the number of years spent with the patient as a caregiver, we also found the parameter of experience complimenting the trajectory work representation (Strauss et.al 1985) as caregivers gain in understanding of the patient's explicit and implicit needs with experience. With gain of experience in longitudinal chronic caregiving, the lower trajectory work becomes part and parcel of a caregiver's daily lifestyle. However, the same representation may not be true in case of acute episodes, which requires higher trajectory work.

We explain the aspects of trust, persuasion and roles in these quadrants in the following sections. The quadrants themselves are informed by the affinity analysis we undertook to process ethnographic data. We focused on the specifics of the remote and situated care and the emotional and interactional differences among and between filial and conjugal caregivers. These relationships have been mapped in the form of the proposed quadrant.



Figure 4. Trust-Persuasion Quadrant in Caregiving Scenarios

Levels of Trust & Assurance in Caregiving

Caregiving goes beyond just physical and practical support as chronic patients seek consistent and continuous emotional support. We found that both filial and conjugal caregivers were involved in providing emotional support along with lower trajectory work [Ref] . It was more evident in case of remote caregiving. One of the caregivers mentioned, “I remember, my sister who is staying in US, was very busy with something and was not responding to her calls. My mother created a Facebook and twitter account all by herself and followed both of us. - (U02/FR)”. Being remote the patient was seeking assurance, and from our understanding every caregiver wanted some kind of assurance consistently about the patient’s well-being. In one case, a conjugal caregiver mentioned, “We take all kinds of precautions. But biggest challenge in monitoring is to know, if we are doing enough and we are going good. - (U15/CI).“ This was her major pain point. Perhaps seeking assurance is mutual.

In the case of filial caregiving a common question that every caregiver is concerned with is, “are we doing enough”. Filial caregivers seem to need assurance on their caregiving performance with an over-emphasis on the patient’s speedy recovery. In one instance a caregiver mentioned, “She [mother] first says whether she is doing good or not, I feel that is kind of very minimal information. We need to do something more. – (U03/FR)”. This particular case was a remote caregiver with less awareness about the patient’s adherence to medication. In another case a filial in-person caregiver mentioned, “for an emergency we are given a common number but not the doctor’s personal number. For some case I would want to know if I did anything wrong – (U06/FI)”. He wanted to remain assured in this case with the doctor’s personal number. This indicates how filial caregivers continuously seek professional support and are open to discuss their shortcomings.

Caregivers both filial and conjugal are aware of the patient’s getting around health and medication routines, sometimes even lying about their medical compliance. Caregivers ensure they have complete knowledge about the patient’s condition and doctor’s prescriptions and recommendations. In one instance a conjugal caregiver had her house help accompany her husband for a regular health checkup session. She insisted to know what the

doctor had mentioned about her husband's condition in detail. We found more examples of vigilant arrangements in the case of filial caregiving scenarios. In one instance an FR caregiver was doubtful whether his parents were taking enough care, and thought her remoteness was a limitation. She mentioned, "Not really, I thought that they are taking care of themselves. They have also told me that, but I do not know what is going on behind the scenes. - (U02/FR)". Many filial caregivers mentioned about the need of continuous monitoring. Such as, "Other than walking and physical activities, food is a big change. But right now we don't have any means to monitor. - (U12/FR)". Apparently an in-person filial caregiver confronted his father for smoking under cover. We found multiple such anecdotes of conflict in the case of filial caregiving. This indicates less trust and a stressed exchange in the filial care-giving situation.

Higher levels of patient-caregiver trust were found in apparently all the cases of conjugal caregivers. It is often due to the lack of surveillance/supervision in care or vigilance arrangements that leads to the patient's non-adherence. We observed a caregiver often times is aware of the workarounds patients indulge in. A caregiver mentioned, "I know he goes out and eats Samosas (fried snack). At least he is not hiding that from me. - (U15/CI)". This acceptance revisits the aspect of experience in work trajectory theory. With experience the lower trajectory work becomes a part and parcel of caregivers' lifestyles. It's the specific or elaborate care activity or higher trajectory work (such as a newly prescribed injection) which are performed with a conscious effort.

However, the same is not true in the case of a filial caregiving scenario. In almost all the cases we found filial caregivers to be very particular and vigilant about patient adherence to prescribed health procedures. A caregiver mentioned, "I accompany papa all the time, whenever he goes out to the neighborhood market. - (U06/FI)". Filial caregivers go that extra mile, being conscious to gain caregiving experience. This points to filial caregivers seeking higher assurance on caregiving performance as compared to conjugal caregivers. To cite an extreme case, a remote caregiver moved back to live with his parents: "I was constantly worrying about getting reassured... about their [parents] medical habits and compliance..."

Both patients and caregivers want assurance in whatever ways, small or elaborate, about each other's whereabouts and are seeking to integrate them into their everyday rhythms and practices. But filial and particularly remote caregivers externalized it as a pain point. Both filial and conjugal caregivers deal with it through specific strategies, such as checking the pill inventory or tracker, getting vigilant help from neighbors or the house help. Conjugal caregivers, on the other hand, with higher levels of trust, often confront loopholes in vigilance arrangements or non-adherence by patients. In cases of filial care giving, similar situations lead to situations of conflict and resistance with the patient.

Contextualizing Motivation & Persuasion for Perpetual Care and Assurance

The art of persuasion in care management is an immersive and embedded contextual phenomenon; not only is it reliant on the caregiver-patient relationship but in multiple relationships within the eco-system of care. A powerful example is one we derived from insights studying contextual cues and the consequent strategies caregivers use to gain trust and thereby persuade the patient to adopt care. Caregivers make that extra effort to motivate the patient to adhere to the wellness regimen. We found filial caregivers applying different

strategies to persuade the patient. Such as, “Making sure that harmonium [an accordion based organ commonly used in India] is accessible to her. She could sit and practice it, on musical scales. So trying to distract her from her illness. – (U04/FI)”. In another instance, one filial caregiver used to take her mother to a particular vegetable store so that she would walk that extra distance daily. Interestingly a filial caregiver had placed a measuring cup at home so that the renal disorder patient would have a better understanding of the quantity of the water intake. The caregiver placed the measuring cup at strategic locations at home and always added ice to water for a feeling of drinking more water than what was consumed.

Role Playing and Role Reversals

The roles and the ensuing dynamic between caregivers in the course of care practices, the nature of trust built in the course of caregiving, and evolution of persuasive practices to comply with CDM/healthcare by the patient are vital to understand for designers and technologists.

We observed that in filial caregiving, parents found it challenging to accept their children as caregiver. In many cases these role reversals are gradual. But in cases of an acute episode and the chronic condition thereafter, such role reversals often happen suddenly and the relationships remains never like before. The sudden change of roles brings about defiance in accepting care from children. We found multiple anecdotes of deceiving about medicine and health checkup activities during our interviews. These lead to arguments and conflicts between caregiver and the patient. Moreover constant nudging activity from filial caregivers led to patient self-reliance issues. A filial caregiver mentioned, “She [patient] has been a caregiver for everybody and now the roles are being exchanged. I hope it doesn’t reaches to a point where I have to do something more than what I am doing right now. – (U04/FI)”. In another instance another filial caregiver mentioned, “They [parents] didn’t want to bother me, that’s what they are thinking. They are thinking that I am having a good life, studying. They think that I should not be bothered with all these things. – (U10/FR)”. This indicates something more than just an issue of role reversal. It was observed that patients suffer from a loss of self-reliance and often consider themselves to be a burden for their children who are now the caregivers. Thus, they often mask or become deceptive about their condition. Role reversals were specific to the filial arrangements of care giving, possibly arising from the parenting culture and age-specific cultural protocols in Indian communities. This makes for a fascinating future research proposal in the domain of familial health care practices.

FINDINGS WITH THE ISWEAR DATA ECOSYSTEM

Initially we faced challenges to recruit families with filial or conjugal caregivers for their kin suffering from chronic illness, and who could be monitored consistently for the running time of the study. iSwear brought a determinant shift in caregiving activity and dialogues of persuasion. All three families acknowledged the usefulness of such a system but duration of one week was not enough to illustrate and quantify the desired outcome. Product design and usability of the wearable was also a limiting factor to adoption but we had valuable inputs on the effectiveness of communication and reporting protocols during this study. We present some of the initial observations in the following section.

iSwear was originally sending messages only to the caregivers. All three users, who are patients in the familial caregiving relationship, suggested that they also receive the message being sent to caregivers. [There was a feedback mechanism in the form of a beep when an SMS was sent from iSwear to the caregiver who was remote at that time] The wearers of iSwear, wanted to make sure that the correct information was being sent to caregivers. Apparently they indicated towards the absence of any engagement in wearing the device. A patient asked, “How would I know if the sms is not annoying my wife? Can I do something about it? – (CI)”. Both conjugal partners were seeking parity and transparency in communication. Retaining the patient’s independence and a sense of comfort while being monitored regularly came out as an important concern. A patient mentioned, “Why sms her (caregiver) all the small things”.

Patient monitoring messages did not lead to any significant number of notification responses from the caregivers. It framed conversations in the evening when the caregiver and user got together. In such situations the caregiver would ask questions in a probing way, even though iSwear did not explicitly report the information, “Why did you have tea twice at the office? I got to know about it from the message...– (CI)”. She asked this question being unsure of what her husband had in the office. iSwear gave her a context informed cue but didn’t give her more factual information. It tuned out the patient-husband had tea just once, and the other sms was a false positive. However, the SMS helped initiate such dialogue exchanges. The caregivers were also not able to make complete sense of the information from iSwear; hence, did not know how to respond to it. One of the caregivers (CI) was excited to receive SMS from iSwear but did not know what it signified or what to do as a follow up. For example, knowing the number of steps her husband had walked confused the caregiver as to whether it was a good practice since this was not on her list of patient monitoring activity. She indicated towards the need of more actionable information from the caregiver’s perspective. She asked, “This is really good. But when should I call him? – (CI)”. This indicated the need for iSwear action prompts instead of showing factual patient information.

Challenges in the Field

In this section, we attempt to elaborate the tensions that ensue when an ethnographer and a designer co-habit in the designing of a care giving system. The designer is more interested in evaluating the system while the ethnographer is loathe to control any in-situ activity to service a design implication. Both authors found a ‘mean’ in balancing and triangulating the study of call logs from iSwear and the personal interviews during the pilot. The three patients identified for the preliminary user study were not facing any kind of acute mobility constraints and were normal in their day-to-day activities. Thus patients would go out of their homes for business-as-usual type of activities other than their morning or evening walk. In one case the user was checked at the entrance of a shopping mall by the security guard because the appearance of iSwear, in his opinion, resembled a bomb-triggering device. The user refrained from wearing the device while going out of his home for the rest of the week. Here, we understand the importance of form and appearance of the device and how an improved and non-intrusive form would have helped the study.

Another important fact to note is that the caregivers were life partners or children of the patient with a long history of domestic co-habitation. This informed their everyday

communication practices: phone calls were made during certain times of the day or only on occasions that were deemed as warranting a call. Thus many messages sent during a particular point in time of the day were completely ignored by the caregiver. This also aligns to the fact that caregivers were mostly aware of the context in which the patient was. However, caregivers indicated the need for emergency notifications warranting immediate action.

Evenings were spent in discussing the day's events especially those that involved health care practices. Families settle into a daily rhythm of communication practices that any system, seeking to mediate health monitoring, needs to take note of and even abstract design principles out of them.

DISCUSSIONS

Any system needs to be designed to take advantage of contextual awareness. Centralizing the role of a caregiver; accounting for the dynamics of role reversals; observing the contextual dynamics in multiple caregiving scenarios are some of the few key implications that can aid in designing for higher acceptance of monitoring systems. The nature and content of communication is of significant importance in such monitoring systems. In this section we discuss some of the open implications from our findings from ethnography and initial feedback from the preliminary field study. These questions and implications can be extended for the design of better CDM communication and wellness persuasion tools.

Accounting for Role Reversals

Our ethnography suggests that wellness and CDM systems should account for unforeseen and situational role reversals. While work of vigilance is important from a caregiver's perspective, CDM systems should account for its gradual acceptance. This demands higher transparency in wellness monitoring systems and provision for diverse communication protocols, which might also involve auxiliary caregivers for patient monitoring.

Designing Assurance Mechanisms

An important aspect of caregiving is enabling a positive disposition in the patient condition as a result of the caregiving activity. Our ethnographic study suggests that caregivers are in need of regular updating of the patient's wellbeing and activity. They require perpetual updates about food intake, medicine intake and physical activity, which need to be communicated if the caretaker is remote. A dedicated caregiver not only needs assurance but proof of efficacy for their caregiving activities. This is also a requirement for auxiliary caregivers who can evaluate themselves and receive assurance on their performance. This evaluation can be based on many factors like, monitoring patient progress on their health condition, knowledge about illness and skills in managing different trajectories of work. Caregivers could also collaborate and learn from professional caregivers who can not only augment skills but act as moderator or a caregiving coach. Wellness and CDM systems should tap into the basic needs of caregivers around this sense of assurance and achievement as a skilled person.

Enabling Multiple Persuasion Points

Our ethnographic study showed that even though there is typically one primary caregiver in the family, other members, sometimes neighbors, also play caregiving roles. In-person caregivers and remote caregivers have different contextual awareness. Remote caregivers would face challenges in evaluating patient health or wellness activity adherence. This may lead to a different dynamic of trust between these key actors in a caregiving context. Similar differences may also occur in terms of closeness in a relationship. An in-person caregiver attracts more trust than a remote one. A caregiver from the family would be closer than a neighbor or a hired help. A more dynamic system could address the need for communicating a diverse set of information to various types of caregivers offering varying degrees of care. Wellness and CDM systems should account for difference in stakeholder roles and patient preferences. Effective and curated communication of information to many kinds of caregivers can make for a powerful persuasion strategy.

Content of Communication

It was observed from our field study that patients expected to be informed about the system status and notifications. Patients felt disconnected from the process of iSwear notifications being sent to their caregivers. Future wellness and CDM systems should engage all stakeholders as active and communicating participants in the system. Another challenge was in the message design. Messages must clearly communicate the present state of the patient, set correct expectations on adherence and wellness activity and inform about coherent intervention required from the caregiver. Information from the monitoring systems should not raise false alarms leading to caregiver panic attacks. Knowledge of CDM and subject matter expertise is another important factor to be considered while designing the content of CDM communications. The reporting or notification systems should be personalized enough to cater to patient centric or caregiver centric needs. A medical report may be useful for an experienced conjugal caregiver but the same may be irrelevant for a remote filial caregiver. Similarly, caregivers may prefer to book-keep patient records or prescriptions, but the same cannot be used as an activity checklist for patients. Expectation of information also varies. We observed caregivers book-keep all records and prescriptions to prepare a simple checklist of activities for self-referencing. While remote caregivers were concerned about the quality of professional care and details of medical adherence, in-person caregivers were involved in the entire inventory management of care. Future wellness and CDM systems should abstract reporting information based on different stakeholder expectations to make it more actionable.

Nature of Communication

Patient monitoring and recommendation for care giving can be targeted to be effective and timely in nature during acute conditions. In the case of chronic conditions, the care required is continuous for long swathes of time. Common physiological parameters that continuously and pervasively monitor the patient can yield a holistic assessment of patient activity even if in varying levels of precision. We realize that the nature of communication in caregiving situations are emotional and affecting rather than technical or to the point. Thus

communication between caregivers and patients should be able to represent the emotional quotient while aiming to remove ambiguity about communicating any unusual patient activity.

Future systems should also consider the condition, time of the day and personal preference while sending messages to caregivers. In both the ethnography and the preliminary study, we observed caregivers having extensive discussions with patients once a day. Messages could be tailored around such caregiver preferences. Information specific to infrastructure, work culture and other situational contexts can help in designing time and frequency protocols aimed for the caregiver.

Designing Incremental Interventions

In our preliminary study we observed users struggling to adapt to the iSwear communication protocols. They had difficulty in responding to messages pushed by the device. The device brought in some disruptive triggers to their current caregiving arrangement. Perhaps a week of usage is sub-optimal for the desired adoption but there is definite need for any device or system to be non-intrusive and pervasive enough if it had to remain with the patient all the time. While caregivers wanted systems that could perpetually inform them about the patient's condition, issues of privacy and the adoption of an always-on technology into a patient's daily life remain a challenge. A system for CDM should be built to bring in gradual and incremental changes in patient-caregiver routines and lifestyles.

CONCLUSION

Future opportunities for a qualitative and design pilot of iSwear include a more detailed and longitudinal usability evaluation of the iSwear system. We further plan to extend our communication capabilities to a wider stakeholder community such as extended family members and formal caregivers. We discussed some of the open implications on content and nature of communication in a CDM system. These implications can be further extended to design individual persuasion and motivation strategies in a range of wellness monitoring and persuasion applications.

Our ethnography provided an understanding of trust-persuasion quadrants of caregiving. We realize that our ethnography has been serviced to break down 'trust' and map them to the presence and nature of relationship between the caregiver and patient- in our case one that resides within Indian families. We would also like to confess our awareness of reducing the caregiving relationship into a function of two discrete variables. We consider this to be a beginning of a discussion about designing systems that are sensitive to and accommodative of complex human motivations and behaviors, no less, in a care giving context. Expanding these quadrants to care work trajectories for specific chronic conditions will offer a deeper understanding of specific care requirements. We hope this will lower the barrier in building caregiver centric applications and engender a new class of wellness and CDM tools. Family ethnographies, designing iSwear, its in-situ pilot capturing caregiver-patient exchanges, post-pilot efficacy mapping, and the evolution of a care ontology to define communication protocols in a care context clearly underline the importance of a data eco-system. Capturing right amounts of patient care feedback data, at critical moments of caregiving helped to comprehend not only a specific care ecosystem but to evolve a

generalizable ontological understanding of communication practices in the patient-caregiver everyday repertory.

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NOTES

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¹ Here, we use ontology as in the information sciences representing the regenerative knowledge and definition of the types, properties, and interrelationships of the entities that exist for a particular domain of discourse.

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Paco—Applying Computational Methods to Scale Qualitative Methods

BOB EVANS

Google, Inc.

For several years we have been building and using an open mobile research platform, called Paco, that enables the scaling of qualitative research through quantitative, computational techniques. The platform provides a mechanism to design and deliver remote research instruments to mobile devices in the field and it provides mechanisms to abstract and develop new research tools.

The most immediate way the platform scales qualitative research is by enabling researchers to visually design, deploy, and manage research instruments comprised of surveys, triggers and sensor logging without needing to program or build a new mobile app. The combination of sensors, surveys and triggers supports idiographic, phenomenological, qualitative inquiry as well as contextual data collection in participants' natural setting.

Stepping back, the platform is an experiment in scaling the generation of new instruments and the generation of new knowledge in the science itself. Under the covers, Paco is implemented as an open construction kit of research components for all to use and modify as they like. Its design enables computational thinking [Wing] about both qualitative and quantitative behavioral research. It makes it possible to generate an infinite combination of research instruments from basic building blocks. Specifically, it borrows concepts and practices from programming language design, software architecture, and the software community.

By writing down the elements and methods for research instruments in a precisely specified, machine-executable language, they become more clear. This makes them better understood. This scales the generation of knowledge in behavioral science.

Automated tools cannot replace the researcher. Ethnography has a very deep rich practice of immersive field work and analysis. The researcher is the ultimate instrument for understanding what is significant both individually and culturally within any study. Paco merely offers tools to support and advance the practice by scaling methods, automating parts that are amenable, and, by facilitating precise characterization of the data and data collection protocols.

There are many challenges to how well computational methods can model and support behavioral research, particularly the qualitative methods used in ethnography. We finish with a discussion of some of the theoretical and practical challenges and how our method meets, and doesn't meet, those challenges.

INTRODUCTION: SCALING QUALITATIVE INPUT WITH COMPUTERS AND COMPUTATIONAL PRACTICES

For several years we have been building and using an open mobile research platform, called Paco, to conduct qualitative and quantitative research into user experiences in daily life, including experiences of technology such as mobile phones as well as health and wellness. The platform provides a mechanism to design and deliver remote research instruments to mobile devices in the field and has been used by over 400 researchers to create over 4300 experiments involving over 25000 participants.

Most importantly, the platform uses computational methods to allow reasoning over the research methods themselves. This allows development of new higher-level methods from existing components and recombination of components to generate an infinite number of new, more precise research tools from basic building blocks. It does this using an open scientific method that allows sharing and improvement of knowledge in the research community.

Ethnographic research, and the qualitative methods it employs in particular, are capable of producing deep, rich insights about individuals and their culture. Leading corporations have sought out this valuable insight into their customers. The EPIC literature is full of examples. One example in particular is the IBM CEO study of 2010 which reveals that CEOs see the business environment becoming more complex and that they fear they will not be able to operate effectively in that environment. They look to ethnographic methods to help them better create meaningful products and services for their customers. As Roger Martin, dean of Rotman business school puts it, “Ethnography is essential to Innovation” [Ladner].

So, why aren’t all businesses clamoring to ethnography for insights into their users? One challenge is that traditional ethnography with immersive field work and a long analytical process after the fact is costly and takes a lot of time. Sam Ladner also lists another possible cause. The essentially “operational, quantitative” orientation of business is in opposition to the “descriptive, qualitative” nature of ethnography. Business is quantitatively oriented because that is the primary approach they have used to increase their success [Ladner].

This dilemma between expensive, rich descriptive data and quantitative operations might be more usefully framed as an example of the classic explore-vs-exploit dilemma [Christian]. Is it worth it to expend energy looking in new uncertain directions for opportunities or is it better to keep the nose to the grindstone and exploit the present, clearly understood opportunity? CEOs from the study above understand that they need to explore but it goes against the quantitative culture which optimizes exploiting the current opportunity.

Clayton Christensen proposes an answer in his classic business book, *The Innovator’s Dilemma* [Christensen]. Successful businesses have to hedge against the inevitable commoditization of their current “cash cow” product line by investing some amount of their resources in finding the next successful product. He recommends allocating some significant fraction of resources to exploring new options and the majority to maintaining the current offerings.

This is a useful way to think not only about whether to invest in research such as ethnography and qualitative methods but also about how to incorporate these methods. Is there an approximation of the ethnographic research value proposition that can provide more of the “emic” stance, thus making products that are more meaningful to users than they otherwise would have been without the full cost of an ethnographic research project? This paper takes the position that it is possible to approximate some of the methods of ethnography through technological aids and that this will provide useful insights unavailable otherwise. It also takes the position that we can improve these approximations using computational thinking and methods.

Gathering qualitative, first-person experience using a theoretically grounded method along with collection of contextual information from sensors all within the person’s natural context can provide individual as well as cultural insights. With some care, it is possible to

craft research instruments in a way that respects ethnographic principles thus enabling the synthesis of cultural insights.

The researcher still needs to ensure their method is ecologically valid and that their approach is ethnographically rooted, i.e., focused on investigating the culture through the norms and outliers presented in behaviors, feelings, preferences, and affinities of individuals. Additionally, gathering as much data about the context and use of artifacts by individuals is important in developing a full description of the culture.

Identifying Parts of Qualitative Methods to Approximate

There are several qualitative methods and concepts from ethnography that the Paco research platform supports. There is the interview, of course, in the form of survey questions which also allow branching with simple or complex predicate logic to allow the interview to proceed along paths known to the researcher to be meaningful.

The survey can also be used as a structured interview to get within-person repeated measures or across-person measures for understanding the range of responses in a culture. Repeated measures through Experiential Sampling (ESM) [Hektner] can help quantify qualitative responses and may help achieve “saturation” [Glaser], the ethnographic concept where the distribution of the occurrences of a phenomenon is complete enough to point to norms and outliers.

With passive or active collection of data from phone sensors of physical actions and states in the environment it becomes possible to get a broader picture of where they are in their environment and how they use artifacts such as transportation and mobile phones in their daily lives. This is an approximation of some aspects of participant observation as well.

By being delivered via mobile phone, the data is collected in the person’s natural setting at the salient moments, thus providing opportunities to get better ecological validity. By using the sampling methods provided, experiential sampling schedules and event-triggered sampling, it becomes possible to further improve the ecological validity and reduce other biases in user responses.

There is another benefit of collecting the data without the researcher being present. While normally, the researcher’s presence in the environment allows a very rich data set compared to a remote sensing application on a phone, the researcher’s presence may introduce changes in behavior and in what is observable due to the researcher’s social role [LeComte]. The phone app may be less intrusive for some types of data collection and it is hypothesized that its social role will be less dynamic.

The Paco platform provides primitives for signaling the user and asking questions as configurable components so that they can be arranged as desired to target particular moments of interest and to get data when it is most salient and least erroneous. The experiential sampling method is a particular combination of these components, using random sampling and a focus on momentary experiences. It is based in the philosophical school known as Phenomenology [Phenomenology].

This is a theoretical framework that could be very much said to take the “emic” stance of ethnography. It puts the individual’s thoughts, feelings and experiences first. Phenomenology says that the person’s experiences, mediated by the body and the senses, and the things to which they pay attention determine their stance toward the world. This stance determines their beliefs. Their beliefs in turn determine their actions. In some sense,

perception becomes reality. In practical private sector ethnography, this is how we can better understand what users find meaningful and why they do or do not adopt products and services.

Circumstances That Made Paco Possible

The Paco platform started as an engineering tool to understand the dimensions of productivity in an commercial software engineering setting. Given the high cost to industry of recruiting and retaining engineers, it was important to understand what factors contributed to productive, engaging work for engineers under the hypothesis that an engineer in such a state would stay on and contribute productively to the organization.

The key technological innovation that made Paco possible was the introduction of the smartphones such as the iPhone and the Android operating system. The smart phone combined the capabilities of a full general-purpose programmable computer with an array of sensors and actuators in a small enough package that it is carried by participants throughout their day.

By being able to sense and record aspects of the context in which the participant lives, it is possible to build a more comprehensive picture of the natural setting than could be done with a traditional survey instrument. It is certainly not the same as an ethnographer in the natural setting but it offers a different set of data.

By being able to actuate in the participant's environment, e.g., signaling the participant to respond to questions, it can facilitate collection of data at moments of interest when they are most salient.

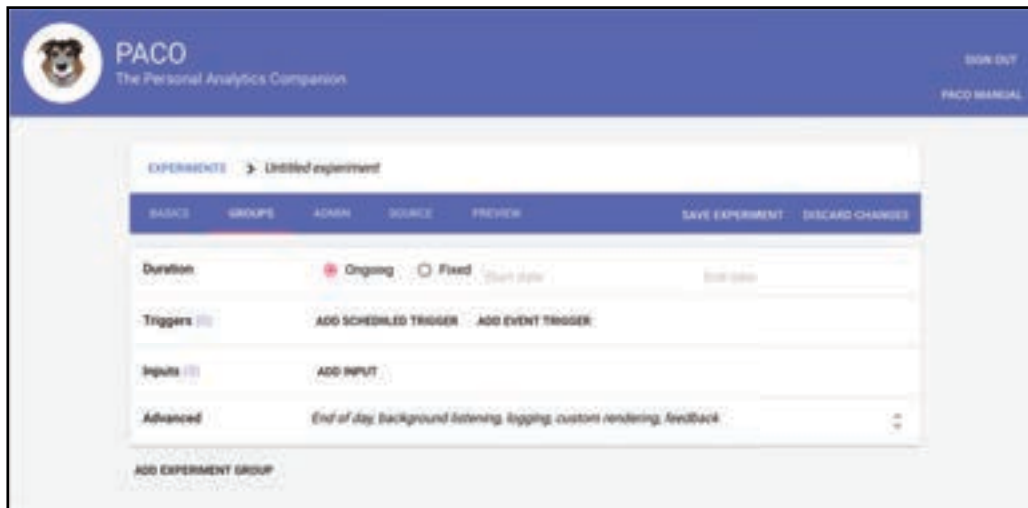
The power of the general purpose computer is the ability to build an infinite number of software "machines". In Paco's case, this means the ability to compose sensing and actuating components into an infinite number of behavioral research instruments. It is this compositional power that Paco tries to maximize in order to scale research.

PACO'S RESEARCH CAPABILITIES THROUGH THE VISUAL EXPERIMENT DESIGNER

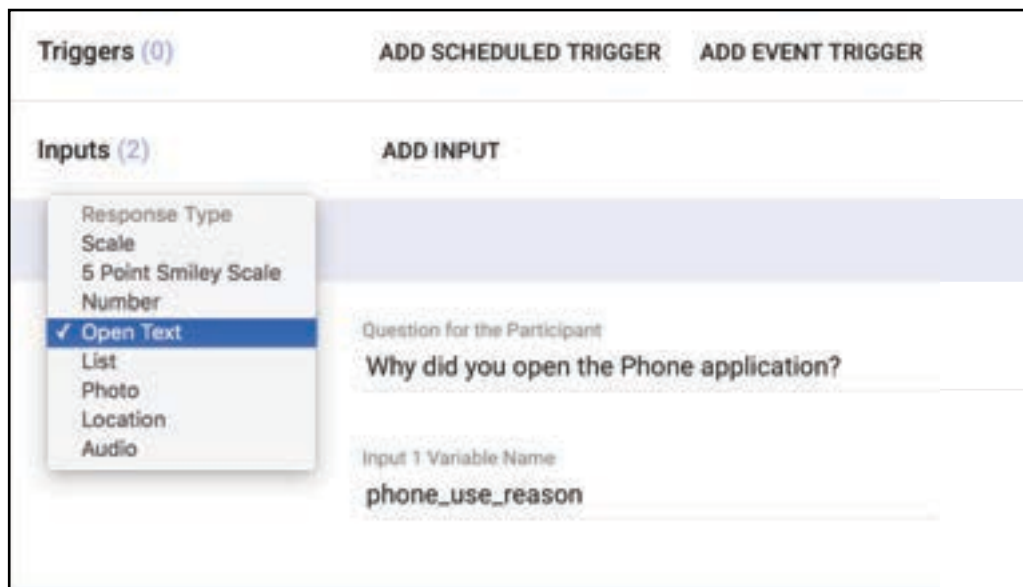
Paco [Paco] provides visual facilities (see figure 1) for designing, deploying, and monitoring experiments, and exporting data to statistical analysis tools. It does this with strong security and clear privacy controls.

The visual editor enables researchers who have no ability to program to create a wide variety of research instruments. If more power is needed, Paco provides a custom programming library in Javascript that most CS students could easily master. The strategy is to incorporate the most commonly used elements of research protocols available into the visual editor so the largest number of researchers can use them without resorting to custom programming.

Paco's first qualitative method was an implementation of the ESM on Android and iOS smartphones but it has added many other functions for capturing data. In this first section, we will expound on the features for designing and deploying research instruments that enable scaling the execution of research.



The two main activities when designing a research instrument are predicated on the research questions to be investigated. The first activity is to determine what data should be collected to inform the research question and the second activity is to determine when to collect it so that the sample is as strong and as valid as possible.



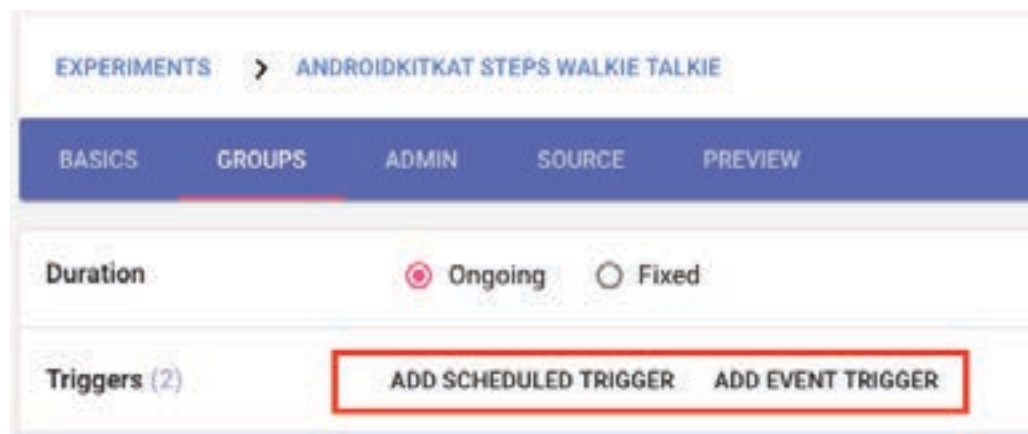
Types of Data Collection Supported

Paco allows a researcher to design surveys and to specify sensors from which to collect data. Sensors include location, app usage, fitness metrics (step counts), calendaring and other phone behaviors. For surveys, Paco supports qualitative and quantitative items. It offers

open text items, photo items, and audio recording items. It also offers scale items, list items (single and multiple selection), numerical items, and location (latitude and longitude).

In addition, surveys have a powerful branching logic system that allows questions to be asked only when specified criteria are satisfied. In contrast to normal skip logic which only specifies which part of the survey to jump to, Paco, specifies what criteria should be true before asking a question. This allows the researcher to easily specify multiple criteria for a given question or line of questioning.

Also, with Paco it is possible to have several different instruments in a study. For instance, there may be one set of questions asked as a pre-questionnaire, another as an ongoing daily study, and another that passively records sensor data at specified intervals.



The screenshot shows the Paco interface for an experiment titled "ANDROIDKITKAT STEPS WALKIE TALKIE". The "GROUPS" tab is selected. Under "Duration", the "Ongoing" radio button is selected. Under "Triggers (2)", there are two buttons: "ADD SCHEDULED TRIGGER" and "ADD EVENT TRIGGER", both of which are highlighted with a red rectangular border.

Defining the Moments to Collect Data

Paco, as mentioned supports randomized sampling, such as ESM. It also supports fixed interval signaling, e.g., Daily, Weekly, Monthly. Additionally, sampling can be event-contingent. This is defined as states or actions that can be sensed on the phone. Examples of events that can be sensed and thus used as a trigger include a user opening their phone, taking a phone call, using a particular application, entering a certain geolocation, or playing music. When one of these actions occurs, Paco can trigger them to participate in a survey.

Event triggers and scheduled triggers can be also be combined. One of the big challenges with remote data collection is getting good data. There are several factors that can affect data quality. One is getting the sampling to match the underlying effect frequency. Having more ways to cover time and events makes it more likely that an instrument can be built to collect data when those moments are still salient. If the moment has passed, a user may no longer recall it, or may recall it incorrectly.

Paco also allows setting a limit on the time allowed to respond. If the user is given a lot of time to respond or knows when they are going to be asked they may prepare more socially acceptable answers. For a detailed discussion of bias in sampling, specifically related to ESM see [Hektner].

Moments of Interest Can also Be Moments for Scripted Action

Above, we described how to define a moment to signal (schedule trigger or event trigger) and how to design a survey. Paco supports more actions than just prompting the user to participate in a study. It also has a full programming library. It allows the specification of more complex behaviors to be carried out as part of a study.

For instance, when an important moment occurs, Paco, can execute a program that evaluates more complicated state and, predicated on that evaluation, the researcher may record sensor data, prompt the user, modify the instrument itself (perhaps changing the sampling frequency), or just postpone action until a more appropriate moment.

Defining Custom Collection Instruments for Surveys

It is also possible to create completely custom surveys using html, javascript and css thanks to Paco's built-in Javascript functions. One example of a custom instrument is a reaction timer interface that allows collecting reaction times for participants.

Deployment and Monitoring

Paco makes it easy to specify who can edit an experiment, who can see the data, what parts they can see, and who can join an experiment.

It also makes it easy to see how participants are engaging on a daily basis with statistics on signaling, response rates and data collection.

Data Export

Paco provides report generation facilities for exporting all data including photos and audio samples in multiple formats including comma-separated value (CSV), Javascript Object Notation (JSON) and HTML.

Running Studies Remotely

Because the research questions that ethnographer and behavioral scientists want to ask are usually best asked in the natural setting of the participant at relevant moments, Paco, works completely offline once the participant has joined the study on the phone. It signals the participant and collects data without requiring any network connections. Experience has shown us that participants usually have systematic failures in network connectivity which leads to systematic sampling errors, e.g., they never have access at home. The data gets uploaded when the phone re-enters a network connected location. If the user has a connection when data is collected, it will be uploaded within milliseconds and available for inspection by the researcher almost immediately.

REIFYING THE RESEARCH INSTRUMENTS AND THEIR COMPONENTS AS FIRST-CLASS COMPUTATIONAL ARTIFACTS

When the user uses the visual designer to build an experiment, the tool is actually building a textual specification document behind the scenes. This document is a new computer program that tells the phones how to run the experiment. This is the basis for the larger goal of, Paco, the platform, experimenting with how to scale the generation of new behavioral instruments and new knowledge in the science itself. Paco is implemented as a construction kit for evolving research components and designs open for all to use and to modify.

This design approach enables computational thinking [Wing] about both qualitative and quantitative behavioral research components. It makes it possible to generate an infinite combination of research instruments from basic building blocks. Specifically, it facilitates this by borrowing practices from three areas of computer science: programming languages, software architecture, and the open source software community.

Specification Language

The research instruments are written in a specification language that is precise and executable. For example,

```
{ "title": "Mobile App Usage Study",
  "creator": "bob@pacoapp.com",
  "groups": [{ "name": "Daily Survey",
    "actionTriggers": [{
      "type": "scheduleTrigger",
      "actions": [{ "actionCode": 1,
        "type": "pacoNotificationAction",
        "timeout": 15, //minutes
        "msgText": "Time to participate" }],
      "schedules": [{ "scheduleType": 4, // ESM
        "esmFrequency": 8,
        "esmPeriodInDays": 0, // daily
        "esmStartHour": 28800000, // 8am in milliseconds
        "esmEndHour": 72000000, // 8pm in milliseconds
        "esmWeekends": true
      } ]}],
    "inputs": [{ "name": "question1",
      "responseType": "list",
      "text": "Have you used an app since the last time you were
        signaled?",
      "multiselect": false,
      "listChoices": [ "Yes", "No" ] },
    "feedback": { "text": "Thanks for Participating!" } ] }
```

This specification creates an experiment named “Mobile App Usage Study” that has one task, a survey, named “Daily Survey”. It uses an Experiential Sampling schedule to trigger the participant to participate in the survey 8 times per day between 8am and 8pm. When the user responds, it asks them one yes/no list choice question, “Have you used an app since the last time you were signaled?”. After they respond, it says “Thank you for participating!”.

Paco allows researchers to define many of these types of experiments with the visual builder. This makes it a lot less tedious. It then runs the specifications on the mobile phone or web in a precise, repeatable manner. However, for full power, the researcher can use the programmable building blocks to craft a more precise research instrument by programming directly in a text editor.

While the above specification is a trivial example, it already provides many benefits. Thanks to its precise format, meta-cohort studies become possible. Replication becomes possible. Exact sharing of sub-scales and sampling methods becomes possible.

Most importantly, by defining the what and how of a research instrument in this way, it is open for inspection. The knowledge contained in a research instrument, represented in this precise, open manner facilitates reflection and augmentation and allows new work and new knowledge to be build on it.

If one researcher specifies a research instrument, another researcher can run that instrument. As an example of the value, imagine that the second researcher gets a different outcome from the first. This is almost guaranteed to happen at the current precision of specifying experiments. We refer to this humorously as the, “Confounding Variable Generator.” The different outcome may mean that the specification is not precise enough to be replicable. This is an opportunity to augment the specification so that it contains more detail and precision about the research protocol to be executed. This becomes knowledge about how research is conducted that grows over time and allows ever further improvement.

Just as the invention of writing moved history and knowledge from the oral tradition and made it more transmissible thus giving those societies an advantage, specifying research protocols explicitly extends behavioral sciences’ abilities to build new knowledge more quickly.

The specification declares the “nouns” of the research instrument. Paco also provides access to the “verbs” of research by providing a programming library, in the Javascript language. By making the elements of research design first-class objects, they become directly manipulable by the researcher. They can be composed, extended, and reused. The mechanism inherent in the JavaScript language facilitates abstraction and higher-order reasoning. Abstraction and higher-order reasoning are generative and allow an infinite number of study designs to be expressed. This scales research because research instruments can be constructed that are better at collecting the data needed for the research question at hand.

A Brief Programming Language Explanation

As mentioned above, a programming language defines not only the primitive nouns and verbs but also the means of abstraction and the means of composition [Abelson]. Through those mechanisms, it becomes possible to generate an infinite number of computer programs and raise the level of abstraction, bringing it closer to the problem domain.

Behavior science in this case. Some of the abstractions represent the underlying machine. Some are about ways to compose abstractions into higher-level functions and components.

For example, a computer language may define primitives values, “nouns”, such as a list of word strings,

```
words = ["the", "quick", "brown", "fox"]
more_words = ["jumped", "over", "the", "lazy", "dog"]
```

that represent an abstraction of a word phrase. It may also provide means of composition, such as the ‘+’ operator that allows combining lists into one list:

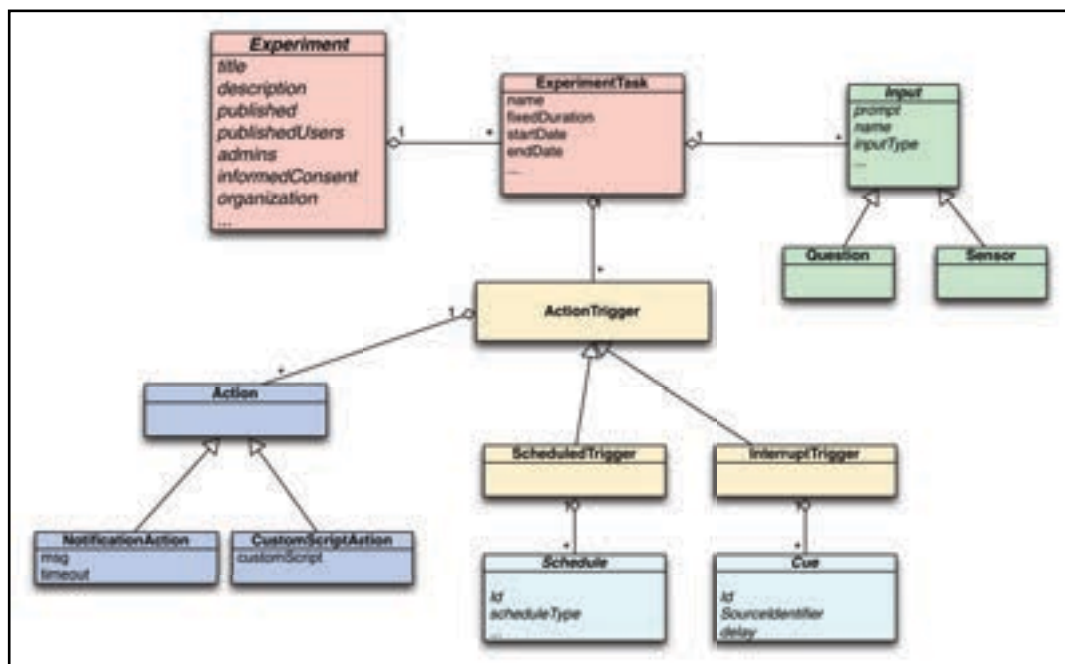
```
full_sentence = words + more_words
```

Now, thanks to the '+' operator, the variable `full_sentence` has the value,

["the", "quick", "brown", "fox", "jumped", "over", "the", "lazy", "dog"].

Paco takes this idea and applies it to behavioral science components. Triggering and scheduling definitions, types of data collected, case-based reasoning, sensors, monitoring, visualization, all become components that can be combined into sampling tasks and larger, more specific instruments.

GENERATING NEW INSTRUMENTS AND NEW KNOWLEDGE



In addition to the declarative language for primitives, such as schedules and triggers, described above, Paco uses Javascript, a common general purpose web language, as a base language in which to provide a programming library for building much more advanced experimental instruments. This Paco programming library provides functions, “verbs”, for saving and retrieving data in the database, modifying the experiment specification, creating new user interface elements, new compound triggers and new communications to participants in experiments. It also provides functions on android to interact with the system sensors, other applications, and the network. Above all this, JavaScript provides ways to create new functions from scratch or using the already provided functions as building blocks.

More functions are being developed as we speak. Many research groups have started to build higher-level constructs, such as goal setting interventions.

Programming Library Example

Here is an example for programmatically recording data into the data set for an experiment.

```
paco.db.saveEvent({ "experimentName" : "Mobile App Usage Study",  
                  "scheduledTime" : "2016/07/22 13:45:01-0800",  
                  "responseTime" : "2016/07/22 13:46:15-0800",  
                  "who" : "bob@pacoapp.com",  
                  "responses" : { "question1" : "Chrome" } });
```

The pacolib library has a database object, called db, that provides a function, saveEvent, that allows a researcher to enter arbitrary data into the data set collected for a given experiment.

Here is an example for examining the collected data:

```
var events = pacolib.db.getAllEvents();  
var question1Answers = pacolib.db.getAnswersForQuestion("appUsedQuestion");
```

Once again, the pacolib.db object is providing a function, getAllEvents, to retrieve all data gathered in the experiment and another function to retrieve the response to one question in a survey, getAnswersForQuestion(*questionName*).

These functions could be used to build visualizations or as a predicate to evaluate in case-based reasoning. For instance, suppose the first time the participant reported using the Chrome browser app, we want to ask for the “Grand Tour” as it is called in ethnography the next time they use it. We could write a program to modify the experiment to do this. We will need a function to test whether it is the first time they responded that they used Chrome.


```

function isFirstChromeUsage(question1Answers) {
  var chromeBrowserUsage = 0;
  for (var answer in question1Answers) {
    if (answer.equals("Chrome")) {
      chromeBrowserUsage = chromeBrowserUsage + 1;
    }
  }
  return chromeBrowserUsage == 1;
}

```

This function looks at all the answers to the *appUsedQuestion* and if the number of responses is 1 then it is the first time that they have used Chrome and the function returns true otherwise it returns false.

We will also need a function to modify the experiment to ask the grand tour questions. Note: we pass the *appname* as a parameter so that we can ask the grand tour for any app we desire.

```

function addGrandTourQuestionAndTriggerForApp(appname) {
  var experiment = paco.experimentService.getExperiment()
  var grandTourQuestion = { "name": "grandTourQuestion",
    "inputType": "opentext",
    "text": "I would like to understand what a session using" +
      " the " + appname + " app is like. " +
      "Can you describe how you typically use it from " +
      "start to finish?",
  }
  experiment.groups[0].inputs = [ grandTourQuestion ];

  var appUsageTrigger = { "type": "interruptTrigger"
    "cues": [{ "cueCode": 5, // "app stopped" trigger
      "cueSource": appname }],
    "actions": [{ "type": "pacoNotificationAction",
      "timeout": 15,
      "actionCode": 1}],
    "minimumBuffer": 59
  }

  experiment.groups[0].triggers.add(appUsageTrigger);
  paco.experimentService.saveExperiment(experiment);
}

```

This function rewrites the survey questions in the experiment to ask them to describe their usage of the given app, *appname*, from start to finish, in the manner of a grand tour question.

Let's put these two functions together now. When the user responds and hits the save button, the following function evaluates the situation using the first function and if true adjusts the experiment using our second function.

```
function saveResponses(formResponses) {  
  paco.db.saveEvent(formResponses)  
  var events = paco.db.getAllEvents()  
  var question1Answers = paco.db.getAnswersForQuestion("appUsedQuestion")  
  if (isFirstChromeUsage(question1Answers)) {  
    addGrandTourQuestionAndTriggerForApp("Chrome")  
  }  
}
```

By making the addGrandTourQuestion function take the app name, we can now easily construct a grand tour question for any app we are interested in, not just the Chrome App, and reuse that in a new experiment.

This is just one trivial, contrived, example demonstrating how to use the Paco programming library to dynamically adapt a set of interview questions in a fielded experiment. Most examples are much more complex than space allows us to explore here.

PRINCIPLES FROM SOFTWARE ENGINEERING AND OPEN SOURCE

From software engineering, Paco borrows the best practice of modular architecture and system design to allow extensibility and the practice of automated unit testing for quality and regression testing.

With a modular architecture comprised of components, it becomes easier to build in new sensors and new analytical tools to support the relentless development in hardware and research methods. More sensors are being developed as we speak. External researchers have contributed new sensors such as calendaring integrations, fitness sensor integrations and context awareness sensors such as location.

Unit testing is a programming practice that checks the implementation of computer functions at a fine grained level. It helps ensure that a function behaves as intended and in an ongoing software project it serves as a regression test that catches unintended program breakage due to the deletion and modification of existing code and the addition of new code. This safety net makes it easier to have many parties contributing code to the project and to ensure that the project minimizes bugs.

Open Source Is Open Science

From the software community the Paco project adopts the philosophy that problems as large as behavioral science require a community of researchers and developers working together openly. Therefore, it is licensed as open source software, uses open tools for development [Github], and invites collaborators in industry and academia. This open-ness means that any researcher can build on what others have done. They can examine the implementation to see exactly how it works and they can build new features into it to

accommodate their particular needs as well as provide a clear, common description of their own research.

Another reason it needs to be open is that the research questions to be asked are infinite in number and always evolving. The effort benefits from what Eric Raymond, famed UNIX hacker, calls a “network effect.” [Raymond] Behavior is far too vast a domain for any single group of people to possibly be able to cover any significant part of it in any useful time frame. It requires a network, a community, of researchers applying and improving the methods if it is to make significant progress.

Currently, every computer tool used for research reinvents the wheel and usually in a proprietary, non-extensible way. Research has to bend to the tools and the variability of commercial enterprises. Notably, commercial interests are much more “factist” oriented rather than “interpretivist” oriented. This leads to tools that help companies make money by providing features that support the largest number of researchers rather than helping individual researchers dig deeply into their unique questions.

This is one more reason why it needs to be open source so that it can continue to grow beyond any one company’s lifetime. This is an ongoing scientific endeavor that will take many take decades or longer.

In open source software, an analogous system is Linux, the operating system that runs 54% of mobile devices and 96% of servers on the internet [Wikipedia] of the data centers and phones in the world. As new hardware comes along, as new ideas about efficient system design come along, as new applications come along, interested parties can add to the system, modify the system, or “fork” the system and make changes based on their advances and needs.

Many of these changes are given back to the system. This sharing of advances makes the system better for everyone while distributing the work load.

LIMITS AND CHALLENGES

There are many limits and challenges to our project. Some of the most important challenges are in the very heart of this endeavor, whether we can automate any aspects of qualitative, descriptive inquiry in a way that improves scale and still maintains quality. We examine the problems that might occur if this were done within a positivist framework. Not least of the problems is the deep knowledge of humanity required to conduct qualitative research. We also have to consider what is computable. After that, we have to deal with the problem of ensuring that our methods are created to do what we actually intend them to do. Are the implementations, assuming multiple platforms, compliant with our specification. Even if we can implement some subset of methods correctly, there are limits on whether they will be adoptable by researchers.

Positivism Is No Panacea Nor Is It Our Proposed Program

It is important to clarify that this proposed path is no panacea and that it is not simply positivism in high-tech clothing. Making a research protocol more explicit is just a way of saying what we actually are doing clearly so that others can more likely replicate the findings, or not. That replicability adds to the knowledge base by instilling more or less confidence in the protocol’s outcomes. In many sciences recently there has been a huge crisis in

replicability [Baker], there are many reasons, but 55% of scientists surveyed by Nature cited “Methods, code unavailable”.[Ioannides]

A problem of behavioral science, due to the humans and human societies involved, is that it is so much more complex than the “hard” sciences. A program to precisely define research more clearly might unify concepts, clearing out duplication and pointing out uncharted territory.

Another feature of positivism, not required by this proposal, is the need to frame a research hypothesis in a form that is falsifiable. This is not the pursuit of ethnographic research nor of our project to make experiments that are more precisely defined. The pursuit is to understand culture and to use that description to illuminate the human experience whether it be to design products that are more useful or to design interventions that make life more healthy and happy.

The description should be precise enough that the results gathered using a method conforming to it conveys the participant’s perception of reality repeatably and faithfully.

This description, being language-based, and having meaning imparted to it by the researchers using it and the participants they study using it is subject to seemingly irreducible conflicts. Human language is not precise the way computer languages are precise. Ask anyone who ever tried to use a “human-language” programming language such as AppleScript [Konwinski]. Another example of the ambiguity can be seen in references catalogued by Winograd schemas [Winograd]. For example:

The city councilmen refused the demonstrators a permit because they *feared* violence.

The city councilmen refused the demonstrators a permit because they *advocated* violence.

Even in a specialized field like ethnography, different schools may use the same word differently. A specification language must either be more constrained than human language in its definitions or it must be more verbose if it is to be precise.

Behavioral Techniques and Limits on What is Computable

Another dimension in which we are currently limited is in specifying methods that are outside of the domain of the tool. As an example from the Agile Science movement [Agile], a coaching intervention is a human interaction where a “coach” guides a participant through a behavior management protocol. The specification of this intervention is conceivable if it is an artificial intelligent agent because that means it is inherently limited in abilities. If it is a human being then there is a seemingly infinite degree of variation in how the coach will be specified. It may be a strict disciplinarian coach. It may be a nurturing, accepting coach. It may blend those properties in at different circumstances driven by complex cultural norms deployed in specific contexts. It may be impossible to precisely specify such interactions because of the sheer enormity of variables and the complexity of the behaviors. Or, it may be possible. Only experimentation will tell.

This directly reflects a challenge in the attempts to conduct ethnographic interviews with computational methods and one of the reasons that computational tools are augmentations

of qualitative methods not replacements. Interviewing, the hallmark of ethnographic field research, is a process that is as complex as the richest human activity. One example of the complexity is the deep reading required prior to entry into the field. That knowledge is very helpful if the researcher is to understand what is significant in the speech acts of the participant and what should be explored further. That deep knowledge trains their research eyes.

Ethnography also requires the researcher to be able to process cultural differences, as expressed by other humans, in their own cultural terms. This means quick interpretation of new symbols or symbols used in new ways from limited numbers of examples. Also, the input is coming from a participant who may or may not clearly understand what they themselves deem to be significant. Good interviews, according to Ladner [Ladner] are heavily guided by theory and by an intuitive sense that comes from being an experienced interviewer who can build rapport.

In contrast, there has been a lot of promise building rapport with even very simple chat programs such as Eliza [Weizenbaum] and there is currently a re-surfing interest in ai-driven bots in communications apps [Edwards].

At the end of the day though, it is very hard to automate processes that we can't describe clearly enough to program.

There is another deeper limit of what is computable, Godel's Incompleteness Theorem, which sets limits on what is decidable in a logical system but it is beyond the scope of this article to address and the project is not likely to bump into it for a very long time to come.

Compliance of Execution

Given that the list of variables that might contribute to a clear specification is infinite, we have to expect boundaries on what this project could accomplish. Granting that, there are other obstacles that confront the project as well. One is the faithful execution of the specification across platforms and across implementations.

Any project this large will likely have multiple competing implementations. If the research generated across implementations is to be useful, it must be comparable. The expected outcomes must be testable. It must be possible to verify that the same protocol produces the same outcomes. This will be quite difficult given that there are so many other unspecified variables in any given execution of the protocol that thwart repeatability at least in the beginning. Even with the same participants there might be changes. They will have had experiences since the previous execution in ways that may alter the outcome. Most obviously, the experience of participating may itself have caused reactivity that alters outcomes.

This same problem applies even within the same implementation because of other changes such as defective hardware, upgraded operating system software, and a host of other variables inherent in complex general purpose computing systems.

The process of implementation must be coupled with a process for verifying outcomes if the specifications and the data they generate are to contribute to the advancement of our knowledge of behavior and culture.

Computational Thinking in Behavioral Science

Lastly, one other challenge to consider is the ability to capitalize on the advances presented here are limited by the ability to think computationally [Wing]. To make research items first-class abstractions, to compose compound instruments out of them, to decompose a research design programmatically requires the ability to think algorithmically. For example, imagine wanting to collect some data after observing a phenomenon occur several times. This is simple case-based reasoning that we do intuitively in our heads. It is another set of skills to tell a computer to do it. The researcher must write a recipe for the computer. First it makes sure the computer senses and records instances of the phenomenon. Then it must make sure that the computer periodically reviews the collected observations to see if a number of occurrences has been observed. This requires storing the data and setting a schedule for evaluating that data at the appropriate intervals. This decomposition of a problem into a set of exact steps is a skill many are not yet used to exercising. The hope is that computational thinking will become core curriculum in primary and secondary education at some point but it is not yet. In the meantime, exercising this skill in an advanced way may require collaboration between disciplines.

SUMMARY

Paco has already helped hundreds of researchers build research instruments quickly that are more precisely suited to their research questions and have allowed them to scale data collection. By incorporating computational tools into the platform that reify the research instruments and methods, Paco can help many more researchers build new, more precise instruments and hopefully hasten the generation of new knowledge in the behavioral sciences.

Our overall approach can be best summarized with the following quote from an eminent computer scientist.

Expressing methodology in a computer language forces it to be unambiguous and computationally effective.

The task of formulating a method as a computer-executable program and debugging that program is a powerful exercise in the learning process.

The programmer expresses his/her poorly understood or sloppily formulated idea in a precise way, so that it becomes clear what is poorly understood or sloppily formulated.

Also, once formalized procedurally, a mathematical idea becomes a tool that can be used directly to compute results.

—Gerry Sussman, Professor, MIT

By building and deploying research instruments, in a computational manner, we can reflect on those instruments, refine them, improve our knowledge of behavior, and build ever better instruments.

Bob Evans is a toolmaker and computer scientist at Google. His work is dedicated to augmenting human intelligence and quality of life by providing tools to support analysis and exploration of daily experience. Bob is the creator of PACO, an open-source, mobile, behavioral science research platform. He previously worked at Fujitsu, Borland Software, and Agitar Software.

NOTE

The ideas presented herein are mine alone and do not represent the position or opinions of my employer in any way.

APPENDIX A - FULL EXPERIMENT SPECIFICATION EXAMPLES

Experiment 1- An ESM study

```
{
  "title": "Mobile App Usage Study",
  "creator": "bob@pacoapp.com",
  "contactEmail": "bob@pacoapp.com",
  "id": 0000,
  "recordPhoneDetails": false,
  "extraDataCollectionDeclarations": [],
  "deleted": false,
  "modifyDate": "2016/07/26",
  "published": false,
  "admins": [
    "rbe5000@gmail.com"
  ],
  "publishedUsers": [],
  "version": 3,
  "groups": [
    {
      "name": "Daily Survey",
      "customRendering": false,
      "fixedDuration": false,
      "logActions": false,
      "logShutdown": false,
      "backgroundListen": false,
      "actionTriggers": [
        {
          "type": "scheduleTrigger",
          "actions": [
            {
              "actionCode": 1,
              "id": 0000,
              "type": "pacoNotificationAction",

```

```

        "snoozeCount": 0,
        "snoozeTime": 600000,
        "timeout": 15,
        "delay": 0,
        "color": 0,
        "dismissible": true,
        "msgText": "Time to participate",
        "snoozeTimeInMinutes": 10
    }
],
    "id": 0000,
    "schedules": [
        {
            "scheduleType": 4,
            "esmFrequency": 8,
            "esmPeriodInDays": 0,
            "esmStartHour": 28800000,
            "esmEndHour": 72000000,
            "signalTimes": [
                {
                    "type": 0,
                    "fixedTimeMillisFromMidnight": 43200000,
                    "missedBasisBehavior": 1
                }
            ],
            "repeatRate": 1,
            "weekDaysScheduled": 0,
            "nthOfMonth": 1,
            "byDayOfMonth": true,
            "dayOfMonth": 1,
            "esmWeekends": true,
            "minimumBuffer": 59,
            "joinDateMillis": 0,
            "id": 0000,
            "onlyEditableOnJoin": false,
            "userEditable": true
        }
    ]
},
    "inputs": [
        {
            "name": "question1",
            "required": false,
            "conditional": false,
            "responseType": "list",
            "text": "Have you used an app since the last time you were signaled?",
            "likertSteps": 5,
            "multiselect": false,
            "numeric": false,
            "invisible": false
        }
    ]
}

```



```

        "listChoices": [
            "Yes",
            "No"
        ]
    },
    "endOfDayGroup": false,
    "feedback": {
        "text": "Thanks for Participating!",
        "type": 0
    },
    "feedbackType": 0
}
},
"ringtoneUri": "/assets/ringtone/Paco Bark",
"postInstallInstructions": "<b>You have successfully joined the
    experiment!</b><br/><br/>\nNo need to do anything else for
    now.<br/><br/>\nPaco will send you a notification when it is time to
    participate.<br/><br/>\nBe sure your ringer/buzzer is on so you will hear the
    notification."
}

```

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DOI=<http://dx.doi.org/10.1145/1118178.1118215>

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How New Social Design Captures the Social with Photographs

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New social design defines “the social” rather than material things as its main design object, and builds usually on ethnographic research techniques in capturing the social. Designers use camera in their fieldwork but unlike social scientists, they build their camera practices on a variety of sources, often artistic and journalistic rather than analytic. This paper explores how new social design captures the social with photographs. It shows that the main unit of social action in photography is the design act. Place on the other hand remains a non-analytic feature that conveys the sense of having been there, but does not go deeper into the social. The most analytic constructs in photographs are diagrams and other representations. Discussion links these observations into the professionalization of design and its aesthetic rather than analytic base.

INTRODUCTION

This paper critically explores how social designers capture “the social” – social forms, processes, and structures – with photographs. It studies what has recently been called new social design (Koskinen 2016), which tries to change those social processes and structures that produce outcomes in communities rather than use design for socially responsible causes. A good example is *Nutrire Milano*, a project that created real and virtual food markets between Milan’s Parco Sud and the city. The best-articulated recent approach to new social design is Manzini’s social innovation (Manzini 2015); others include community design (Meroni 2007), collaborative design (Soini 2015), and frame creation (Dorst 2015). The original impetus for the paper was an observation in the author’s earlier work. This observation suggested that new social designers make several aesthetic assumptions about the social; these assumptions in their turn may shape the capturing process in subtle but significant ways.

Approaches vary, but new social design is almost invariably based on ethnography that captures social realities, but its results are typically designs like service and communication processes supported by kilns and buildings. This leads to a two-headed hypothesis about the photographic practices in new social design. On one hand, it may build on the legacy of anthropology and sociology (such as Bateson and Mead 1942; Collier 1967; Ruby 1980; Becker 1986; Harper 2012). On the other hand, it may borrow practices from many sources: documentary and news photography; advertising and product photography; fine art (though old, see Becker 1986); snapshotting (Chalfen 1987); and design (*Presence Project*, 2001). A safe but initial assumption is that photography in social design is *mélange* of a several practices, and the way social designers capture the social build on many types of references, some scientific, some aesthetic.

The camera is a heavily used instrument in data production in new social design, but there seems to be no discussion about how it is best used in this role. As an analytic practice, photography in new social design seems to be driven by unspoken-of assumptions about the camera representing reality. In reading social design papers, we routinely see photographs of

people, events, places in which they live, design objects of various sorts, and sometimes also links to events and processes beyond the control of the local community. Photographs do constitute a picture of society, but how? How is “the social” captured in the photographs? What kinds of aesthetic choices social designers do and how these choices tell about their interpretation of “the social”?

PHOTOGRAPHY: AESTHETICS AND ANALYTICS

New social design borrows its photographic practices from several sources. Their references come from: everyday life (Bourdieu 1990, Chalfen 1987) and their extension to mobile devices (Koskinen et al. 2002; Koskinen 2007); news and photojournalism; documentary photography; fashion and product photography; art¹; and the social sciences. Daido Moriyama’s tilted horizons, blurry focus and grainy pictures build on one photographic practice and Gregory Crewdson’s hyperrealism on another. Helmut Newton’s barely-clad models represent sexuality that could hardly be different from Nan Goldin’s drug-infused raw sexuality, or the middlebrow family photographs analyzed by Bourdieu.

This diversity of possible references suggests that the way in which photographs constitute a version of the social depends on what kind practices it is built on. The sociologist Howard Becker once made a plea for theoretically driven visual sociology by pointing out problems in Lee Friedlander’s snapshot aesthetic, which he claimed was analytically inadequate in its reliance on the suggestive power of photography.

Since the skilled photographer can make the image look as he wants it to, and knows he can, photographers should be aware of the social content of their photographs and be able to talk about it at length. As a rule, they are not. One of the foremost recorders of the urban scene, Lee Friedlander, asked to verbalize the explicit social criticism in pictures he seems to make, answered by saying, “I was taught that one picture was worth thousand words, weren’t you?”...

If the above remarks are accurate, then when social documentary photography is not analytically dense the reason may be that photographers use theories that are overly simple. They do not acquire a deep, differentiated, and sophisticated knowledge of the people and activities they investigate. (Becker 1986: p. 242)

An example of what Becker means by deep, differentiated and sophisticated knowledge of the people is Douglas Harper’s *Working Knowledge* (1987), an ethnographic study of Willie, the blacksmith in upstate New York, illustrates the procedural basis of a sociologist with a camera. It is impossible to read this work without studying the photographs that documented in detail Willie’s work, and the workshop environment, and then expanded to see Willie’s work in his community. Harper’s camera traveled through the social in Willie’s world using symbolic interactionist theory as his map (his mentors were Everett Hughes and Howard Becker). This theory helped Harper to direct his camera when he was hanging around in Willie’s workshop and created the critical storyline Becker was calling forth.

Becker’s “deep and sophisticated knowledge of the people” comes from the social sciences and he is certainly right about his critique of Friedlander, whose practice relied on ambiguity and remained in the realm of aesthetic. Yet, there are other types of photographic practices that take photographers to those background scenes that explain social action. In National Geographic for instance, the storyline starts from nature or society, goes to the scientific world, and often ends up in political decision-making. In fine art, artistic projects

may constitute a storyline that has some of those analytic properties Becker was missing. For example, Berndt and Hilla Bechers' *Basic Forms of Industrial Buildings* (2004), a book with hundreds of pictures of industrial buildings, indirectly constitute a vision of industrial past (Becher and Becher 2004) and Richard Prince's *American Prayer* (2011), a book about myths about sex and the Wild West in American media. Although these practices situate work to media and art world practices rather than to anthropology and sociology, they specify a picture of the social in some way and provide an analytic which, though different from the social sciences, provides an analysis of the social in some way.

If this insight is correct, the way in which the social is constituted in photograph in new social design depends on their research practice. At one extreme are aesthetic practices like Friedlander's snapshotting (see 2013) that mapped how the Americans use of pictures of JFK in their everyday life. They leave social commentary and analysis to critics, however, and even though they cannot avoid having a picture of the social, aesthetic practice gets foregrounded. Somewhere in the middle are photographic practices that build on journalism and artistic practices like that of Prince or the Bechers. Here, photographs participate in a storyline telling about the larger society, but how this happens depends on the storyline. Finally, at the other extreme are photographic practices that build on the social sciences. In these practices, the camera can go to considerable depths of the community, as in Douglas Harper's study of Willie or Mitchell Duneier's *Sidewalk* (2001), which documented the live of black book vendors in the streets of New York. In these practices, social theory directs camera work, while aesthetics remains a matter of choice rather than the guiding principle of photography.²

MATERIALS

The material for the paper comes six papers in a Special Issue of Social Design in the *International Journal of Design* edited by the author and his colleagues (ijdesign.org/ojs/index.php/IJDesign/, Vol 10(1), April 2016). The purpose of the issue was to take a stock of social design and its recent developments. Selected from 79 original submissions, these six papers described fieldwork and construction with local craftsmen in communities in China, Taiwan, Brazil, Australia, England, Sweden, Finland, and Scotland. There were about 80 photographs in these six papers that are freely accessible online, but it is difficult to give an exact number because of several collages with gradients that blur the lines between photographs. 34 photographs had people in them, and designers appeared in 27 photographs.

Picture 1 is a typical photograph in the collection. It comes from a design case study of Umeå Pantry, a folkloristic museum with several activities in the Northern Swedish town of Umeå. The picture shows a part of the pantry, where some of its collections and sellable items were on display. The photograph has no people, the lights are on, and the angle captures some shelves, a table, and a cooking pot, all located in an old wooden structure. The caption described these as the pantry's "physical infrastructure."



Figure 2. The physical infrastructure of the Umeå Pantry.

Picture 1. Umeå Pantry from Pawar and Redström (2016)³

Like in Picture 1, photographs in the Special Issue were almost invariably realistic and built on snapshot aesthetic. The photographers used pocket cameras, mobile phones, or regular 35 or 55 mm cameras and 3:2 or 16:9 picture formats. The photographs were captioned and explained and the narrator in captions is omniscient and impersonal rather than reflective or playful. There were few deviations from this format, most notably collages and storyboards, but these were rare. One possibility is that this realistic aesthetic was meant to convey an image of scientific practice and the sense of having been there. Usually, captions remain tied to what can be seen in the photographs, but they sometimes expand the interpretation by framing it with terms like “physical infrastructure.”

THE DESIGN ACT AS THE BASIC SOCIAL UNIT

Looking at how photographs picture the social, their unit of analysis is typically a design act organized by the designer: workshop, co-design session, role-play, or some kind of construction event. This practice reduces the social to design activities, and represents a move away from user-centered design towards a designer-defined point of view.

Picture 2 is from Rio de Janeiro. We see a designer leading a workshop exercise for children. This is the most typical organization of activities we see in photographs. The constants are designers, a group of people, and some kind of design activity in which people participate. Mostly, photographs show designers working with people with post-its, legos, games, scale models, or construction sites. Photographs in new social design routinely show designers, student groups, lectures, presentations, co-design teams, and designers testing interactive technologies like radios. Also photographed are events and in the case of China, groups of people. Designers drive the action, while the background fades away. Note also how the caption distinguishes the designer, leaves the photographer inexplicit, and distinguishes them from “local people” whose relevance stems from that role.

The closest equivalent to this aesthetic is probably snapshot aesthetic in art. If we look at individual photographs, the photography is similar to the aesthetic of, say, pictures in Robert Frank's *The Americans* (2015), Nan Goldin's *The Ballad of Sexual Dependency* (2012) or Larry Clarke's *Tulsa* (1971). We see tilted horizons, out-of-focus, natural lighting, "bad" posing, the photographer's shadows, and so on. The pictures are grainy, shot from the hip, sometimes from the movement, and they are not edited for their deficiencies.

These photographers, though, approach their subject through a project that generates an analytic frame. In new social design in contrast, photography serves the project in a supplementary and documentary format rather than works as an independent element. Here the practice departs from art, but also from news photography, documentary, and the social sciences. There, the storyline – and the analysis – tells where the camera goes, but in contrast to these, it keeps its snapshot like character; here, the camera captured the community through by focusing the lens on designers.



Figure 4. The first meeting: the designer interacting with local people.

Picture 2. Workshop in Rio de Janeiro (del Gaudio et al. 2016)

As such, this fits the nature of the discipline of design. Design is a discipline that aims at making a difference. It is natural that they focus their cameras on the supposed cause of changes, which is their intervention. Other aspects of action get much less attention, and in this sense, the realism behind photographic practice is biased, and prioritizes one version of the social rather than aims at a balanced view. This may reflect the reality, of course, but it may also lead to unbalanced and even misleading narration. If the actions of community leadership, management structures, and any other lines of action that are initiated outside the immediate context of the design work are left out of the narratives, the social gets a very narrow interpretation, as a recent PhD thesis which followed the aftermath of a design

project for years (Soini 2015) has beautifully shown. As Dawn Nafus pointed out to me in her comment to this paper, however, it may also be that focusing on the design act may in some sense be more honest than some of the alternative photographic practices. For instance, giving participants disposable cameras and telling them what to photograph hides a good deal of the designers' work in instructing and editing the photographs, and generates little contextual knowledge. Keeping the camera in the hands of the design team forces the designers to think about what to capture and show. Yet, current photographic practice in new social design concentrates on the design act rather than goes on to illustrate those underlying processes Becker was missing.

If this is correct, it leads to our next question. There is no doubt that other aspects of "the social" are relevant to design too, and if new social designers for sure want to change them, they have to have an idea of these aspects. How does the camera capture larger realities beyond the design act?

THE SCENIC PLACE

Looking at the images in the Special Issue, the answer is that these larger realities enter the narrative through several notions of place rather than social organizations. Papers in the Special Edition contain lots of photographs of the places in which action happens. These places are streets, buildings, rooms, and many types of workplaces. The social context, then, is not empty, but inhabited by places. Again, the question is how are these places exhibited, and what do they tell about the social?

Picture 3 is from the same social design project as Picture 2. It is a village scene that shows the square in which the project was taking place. There are a few people in the picture, but they are all absorbed in their own activities, and it remains unclear why they are there. The surrounding text tells about the village, but does not tell why this photograph has been selected for the article, and the caption dryly tells it is a "view of the square."

This photograph works very much like in descriptions of exotic settings in the romantic mode of early anthropology Geertz described (1986: 1-17): it shows that the researchers were there, but not much more. Later in the papers, this place becomes the stage in which designers do their work, but unlike in Harper's *Working Knowledge* or Mitchell Duncier's *Sidewalk* (2001), the camera does not follow the storyline to make connections from action to their background. Instead, visual narrative remains fixed to space, which is not treated analytically.



Figure 1. View of the square.

Picture 3. The scene of a design project in Rio (del Gaudio et al. 2016)

The difference to visual practices in art is also pronounced. These photographs lack the suggestive power of Stephen Shore's *Uncommon Places* (2012), a study of common deserted places in America, Joel Sternfeld's *On This Site* (2012), a study of how murder sites look like years after the horrors, or the documentary value of Bernd and Hilla Bechers' studies of abandoned industrial facilities in the Ruhr area in Germany that grow into a commentary of deindustrialization and its stony corpses (see Becher and Becher 2004).⁴

In contrast, in new social design, photographs paint place as a container in which things happen rather than an analytical device by, for example, juxtaposing privileged and underprivileged areas, or by showing social activities as they evolve in this place. The place remains a scenic feature (Sharrock and Anderson 1994) rather than a scene with layers of meaning behind the visible front of activities. Furthermore, it remains unclear who are the people in photographs, why they have been chosen, what they are doing, and how what they do relates to the design project beyond illustrating design activities and the settings in which they happen.

One possible reason for the discrepancy between text and photographs may again be designers' theory about action. For them, the relevant part of action is what they are doing rather than the community and its complexities. By flattening the context, photographs come indirectly to highlight design as the main locus of action and, by implication, the driver of change. Another possible reason is that the design practices behind the papers all build on co-design and co-construction, both heirs of the user-centered practices of the 1990s (see

Meroni 2007; Soini 2015). These methods push designers to fieldwork, but this fieldwork focuses on the interface between technology and people and how designers work in that interface with objects, co-design practices, and other types of props. With the exception of technology, the links to social forces behind situations tend to remain untheorized in these practices.

FLAT SOCIETIES: THE SOCIAL ON PAPER

Perhaps the greatest gap between new social design and anthropology and sociology exist between how they treat the social background of action. Because new social design wants to work with structures and processes that shape those situations people encounter, they should situate their activities to these contexts that are crucial to the success of new social design projects. They also follow social organization conscientiously.⁵ For example, Andrea and Marcelo Judice (A. Judice 2014; M. Judice 2014) worked with doctors and health agents to find ways to combat tuberculosis in Vila Rosario, Rio de Janeiro. The Brazilian League Against Tuberculosis funded the clinic, while the Ministry of Education of Brazil funded the Judices. Their text is full of references to institutions including the city, the police and the church, but their camera stayed in Vila Rosario.

The expectation for camera work is clear, if the measure is the analytic photographic practice Becker was missing in his critique of Friedlander: the camera should also track and record these institutional links. However, this is not usually the case. With few exceptions, the camera does not follow social organizations around action. It is either absent, or it is treated as an undifferentiated mass. For example, there must be several social organizations in Picture 4, but these are not explained in the photograph or in the caption. Here instead, the caption tells about innovation platform, which turns the picture social.



Figure 4. 5% Design Action Social Innovation Platform.

Picture 4. The Main page of the Design Action site, Taiwan (Yang and Sung 2016)

When we turn to the materials however, we find practices that stay close to the lived reality of the design process. Thus, although we find hints of institutions in text, we also find a discrepancy between the text and the visual storyline. The latter remains tied to easy-to-see things, and does not take us to the back regions in which activities are prepared. The camera stays within what is understandable with lay sociology or anthropology. Chen et al. have recently speculated about the reasons why social design stays in the scale of the village:

Designers seem to be well equipped to deal with what the early sociologists would have called *Gemeinschaft*, communities characterized by what one of the founding fathers of sociology, Émile Durkheim... called mechanic solidarity. In these small communities, people know each other and can anticipate the consequences of their actions on other people by relying on lay sociology. Designers are much weaker when they work in the *Gesellschaft*, or societies characterized by what Durkheim called organic solidarity. Here, actions are parts of long chains of action and rules of governance that make it difficult to see the consequences of the actions... If this observation is correct, social design in its current stage may do well at the scale of a village or an informal organization, but its prospects of success are far smaller when it has to deal with the abstract structures of governance typical to late modernism. (Chen et al. 2016: 3).⁶

Yet, even in this small scale, photography remains tied to design activities. It does not take researchers out of the design world in the manner Larry Clarke's *Tulsa* (1971) took us to the seedy, drug-infested side of sexuality in the town of Tulsa

The main practice that takes designers out of the design act are graphs of stakeholder networks (these are often inspired by actor-network theory (Latour 1987), so they include not only people, but also things), and photographs of these graphs, as in Gordon Hush's work in the Western Islands in Scotland. The project was designing ways to keep the small islands on the Western archipelago inhabited (see Koskinen and Hush 2016: 68-69). The project aimed at locating underused neighborhood resources that could be turned into public goods. The project built on Frisby's (1988) Marxist analysis of the UK.

The project used photographs in ways that were considerably more analytic than the scenic photographs we have seen so far. For designers, photographs are also material that can be augmented by drawings and graphic elements. They can also appear in collages, as in Picture 5, where we see a network map, beach scene overlaid with colored graphic circles, and a graph of the structure of proposed design direction. This picture gives a rich picture of Colonsay and its social organization, even though it makes no connections to social theory.

This is the best – and almost the only – example of an analytic use of photography in the Special Issue that takes design out from the local circumstances to larger social contexts. The photograph in the collage is a straightforward beach scene, but the visual context gives it qualities that go beyond the scene. The photograph is typical to design in several ways. First, it is in a projective context: it shows how some things are in Colonsay, but it also proposes new lines of action. Second, it does not make a difference between design imagination and reality. Third, it is not precise about the linkages between the scenery, networks, and proposed actions, but remains sketchy, as design often does in the research phase.

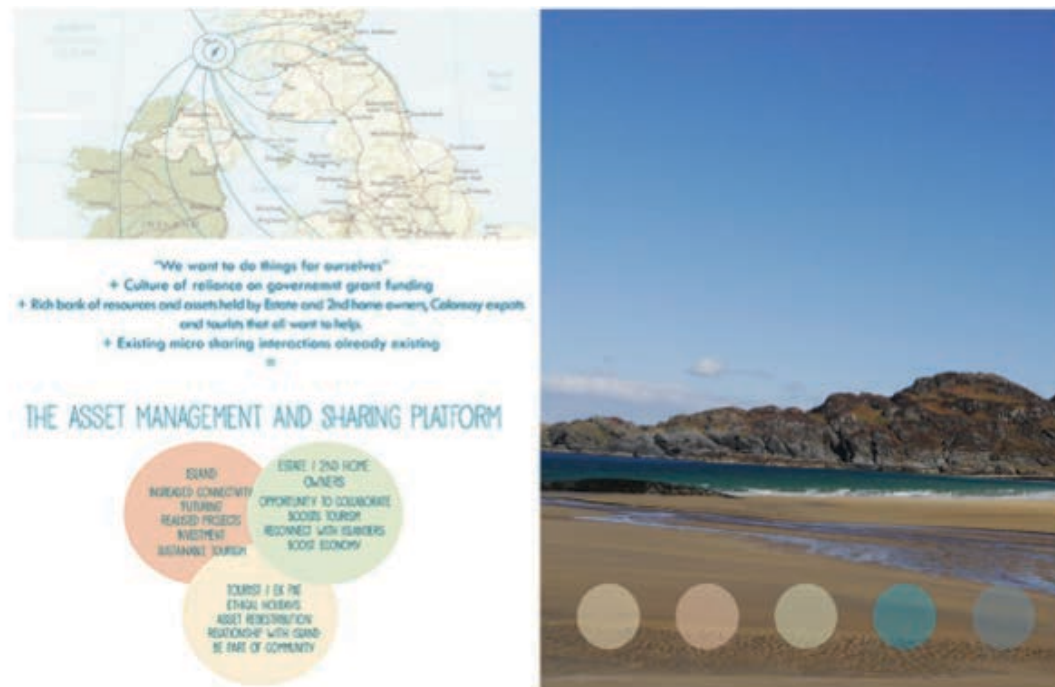


Figure 2. An example from Design Innovation & Citizenship program, reorganized for this paper.
Thanks to Rebecca Birch, Hyuna Shin, Craig Alun Smith, and Erin Reeg.

Picture 5. Stakeholder map of Colonsay, Scotland (Koskinen and Hush 2016)

DISCUSSION

This paper began as a question about the aesthetic of photography in new social design. Looking at possible references designers can use to build up their photographic practice, we saw a range from mainly aesthetic visions of photography to versions where the social is the main focus. By building on Howard Becker's (1970) observations of photography, the paper distinguished several types of possible photographic practices. At one end, we find snapshot-style practices that serve to witness that the designers were there (Geertz 1986), but keep the focus aesthetic rather analytic, as in Lee Friedlander's work discussed by Becker (see Friedlander 2012). At the other end, we find practices in which the camera is guided by some kind of social theory that helps designers show the dense social mesh around their work. Aesthetics gets a secondary role in this kind of practice, which is exemplified by professional social scientists like Douglas Harper (1987, 2012) and Mitchell Duneier (2001). Between these extremes are research practices in which the camera follows some kind of storyline that guides the camera through the social, but does not build explicitly on theory.

Perhaps the most interesting observation of the paper is that the camera mostly follows designers and the context in which they work. The focus of photography is the design act, which is documented in photographs that leave the larger social context largely invisible. Even the place in which design work is done remains mostly a scenic feature (Sharrock and Anderson 1994). Photography in new social design has similarities to snapshot aesthetic in art. We see tilted horizons, bad lighting, wrong color temperatures, the designers' shadows,

and many types of odd framings. These photographs, however, used few techniques of creating distance from snapshot or conceptual art. The camera seems to be taken as evident and the photographic practice remains non-analytic.

This may give some clues that help to find the roots of the practices described in this paper. One possibility is the methodic legacy of co-design and co-construction, both heirs of earlier user-centered practices (see Meroni 2007; Soini 2015). In these design approaches, designers leave the studio to do fieldwork, which usually remains tied to the immediate use situations of technology, and sometimes their technical background rather than the larger society. If this speculation is correct, it may be understandable that the camera is used to document design work and how it happens. Indirectly, however, it gives designers the forefront and builds the drama around them rather than the social activities and organization of the community. The camera proves that the designers have “been there,” as Geertz (1986) put it.

This conjecture may also identify one limit of current design practice. As Chen et al. (2016) have observed, new social design tends to remain tied to small-scale communities that can be understood without theoretical references from the social sciences. If this is true, photography may work against the main purpose of new social design: if it does not go beyond readily seeable encounters, it may miss those social processes that generate them in the first place. In the context of design, new social design contains a massive promise. It is building up new types of practices that may help in contextualizing design better by situating them into those underlying processes that generate observable situations, events, objects, spaces and processes. If research is kept too close to the design act, however, research practice fails to support the promise.

Another issue to think about is the relationship of design to social change. New social designers (and designers in general) see themselves as change-makers, whose work is designed to make a difference. From this perspective, it might well be that even the camera is meant to participate in the professional project of design. It proves that designers have been in the field, they have taken many types of actions, and they have initiated and steered social change. Because it refrains from suggesting changes in power structures behind the ills designers observe, it has a debilitating effect on the very thing new social design tries to achieve, change. The practice may have roots in the commercial assumptions of professional design, in which questions about power and social embeddedness are either irrelevant or might be seen as threats to business purposes. This works with the politics of many new social designers, but not all: many new social designers find their theoretical roots from Marxism through participatory design, and through Chantal Mouffe’s “agonism” from the structuralist Marxism of Louis Althusser and Ernesto Laclau (see Koskinen 2016). In the corpus collected for this paper, there were no agonistic papers, however, so the question of how the camera captures the social in this strand of design has to be left open.

If the writer is correct, this paper is the first exploration into how new social designers use the camera in their work to depict their object of design, the social. New social design aims at changing the social to improve the world, and it cannot avoid building on some notion of the social. As this paper has suggested, designers’ notion of the social inevitably builds on a set of social concepts, but the uses of the camera remain tied to their work practices. In photographs, the social builds around designers and their activities, and remains scenic in other respects. This exposes the limits of building photographic practice on lay theories of the social.

Ultimately then, this paper makes a call for more reflective and theoretical use of the camera as a research and communication tool in new social design. Precedents from visual sociology and anthropology might provide designers with theoretical storylines to guide camerawork deeper into those underlying processes that new social design is interested in changing; the relevant case is Gordon Hush's work in Scotland (Picture 5), which built explicitly on a Marxist understanding of society. These disciplines might also provide designers with sampling procedures that would provide more density to their visual narratives; imagine seeing how night scenes would have informed us about del Gaudio's setting in Rio de Janeiro (Pictures 2-3). Would we have seen joyful crowds, or prostitutes patrolled by militia, for instance? New machine vision techniques and neural networks might help to scavenge materials from the Web and organize them; this would be compatible with diagrammatic practices we saw in the Colonsay example. Finally, artists like Nan Goldin and news photographers like Ovie Carter (who worked with Mitchell Duneier in *Sidewalk*) have perfected empathic techniques that provide designers access even to some of the most intimate aspects of life; knowing something about patterns of family, love and conflict in a community would surely provide designers a solid ground to build on.

Ilpo Koskinen was trained in sociology, but he has worked as a professor of industrial design since 1999 in Helsinki, Melbourne, and Hong Kong. His main research interests have been in mobile multimedia, the relationship of design and cities, and interpretive design methodology. Some of his main publications include *Mobile Image* (IT Press, Helsinki, 2002), *Empathic Design* (IT Press, Helsinki, 2003), and *Mobile Multimedia in Action* (Transaction Publishers, New Brunswick, NJ, 2007). Most recently, he has published "Design Research through Practice. From Lab, Field, Showroom," a book on constructive design research (Morgan Kaufman, San Francisco, 2011). This book explicates recent developments in contemporary design research by focusing on their methodological foundations, whether they come from the sciences, the social sciences, or art and design. He has published about 150 papers, some of them good, he has supervised to completion 13 PhD students, and examined about 30, and he has had numerous positions as an editor and chair in conferences.

NOTES

Acknowledgment – Thanks for Dawn Nafus for her perceptive comments on an earlier draft.

1 A few design projects have been conscious about their aesthetic commitments, but these seem to be exceptions and have little to do with social design. For example, in *Symbiots*, a study of technology-human relationships in Sweden, photography followed hyper realistic painting (Bergstrom et al. 2009); and in *Design Noir* (Dunne and Raby 2001), the starting point of critical design, designers created "placebo" objects and photographed them in homes following a conceptual portraiture aesthetic to real the idea that these photos documented reality.

2 In Mitchell Duneier's *Sidewalk* (2001), for example, photography has the tone of news photography: his photographs are sharp, he uses flash and the purpose of the photograph is pointed out in detail in caption and text. We may see snapshots style akin to Friedlander too, however, but it is hard to see how the imperatives of research might go together with some art world practices like Gregory Crewdson's ultrarealistic conceptual photographs and Cindy Sherman's performative photographs.

3 To distinguish original captions, which were called Figures, from captions in this paper, the latter are called Pictures. Shadow is used to show the line between data and this paper's captions.

4 For example, Massimo Vitali's *Landscape with Figures* (2011) is a collection of photos that show patterns of the masses on the beach in Rimini. He showed but did not analyze their behaviors or social forms they created, though, even though they are clearly visible in the photographs.

5 Though with concepts social scientists would not use, like stakeholders.

6 Gemeinschaft and Gesellschaft are, of course, from Friedrich Tönnies (1957).

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The Domestication of Data: Why Embracing Digital Data Means Embracing Bigger Questions

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The EPIC community has been wrestling with ways to integrate quantitative and qualitative methods in light of the increasing role that digital data plays in business practices. Some focus on methodological issues (digital data as method), while others point to the consumer value in data products (data as thing in the world). This paper argues that “digital data as method” and “digital data as thing in the world” are becoming increasingly intertwined. We are not merely witnessing ethnographers’ halting embrace of digital data, but a wider process of the domestication of data, in which we, alongside the people we study, are participants. The domestication of data involves everyday situations in which ordinary people develop their own sense-making methods—methods remarkably similar to ethnographic knowledge production. In this way, the domestication process tightens the connection between data as thing in the world and data as method. I argue that seeing the interconnection gives us the conceptual resources necessary to open up new areas where ethnographers can gain both intellectual and practical footholds in data-rich environments.

DATA AS METHOD/DATA AS THING IN THE WORLD

Sensor data, click data, and other forms of automated time series data are all now well established elements of contemporary digital culture. Because they are largely numerical, they also reinvigorate longstanding debates about the uses of quantitative versus qualitative research, and the nature of mixed methods. Tools change what is thinkable and knowable. New tools renew questions of epistemology, ontology, and methodology. They shape methods discussions and, in turn, are shaped by them. The distribution of those tools also change the situation. Data collecting technologies may once have been exclusively the domain of scientific and social scientific enquiry, but they are no longer. Particularly through the widespread use of sensors, data have now become everyday facts of life. Neither good, nor bad, nor neutral, data serve as an infrastructure of everyday living, the substrate of the most banal business decisions, and forms of evidence for answering questions of many kinds. While professional researchers debate what sensor-generated data now means to them, data’s extension into everyday life opens up questions about who gets to be a knowledge producer. As ethnographers find new ways to engage with contemporary digital data, I hope to suggest that the popularization of data matters to our ongoing methodological debates, and to the choices now available about how we participate in a data-rich social world. I will argue that these are more interrelated than it might at first appear, and that seeing the interconnection might open up new areas where ethnographers can gain both intellectual and practical footholds in data-rich environments.

Within the EPIC community, as well as ethnographically-minded academic communities, there are two lines of discussion about ethnography and “big data” that stand out.¹ The first one lays out a set of methodological concerns and approaches, or what I will call “data as method.” Patel (2014) and Curran (2014), for instance, remind us of the reasons why

qualitative work and quantitative data are not inherently opposed. Wang (2013) and Boyd and Crawford (2011) take an additive approach by noting how ethnography can add richness to big data. It is no secret that, in the private sector, data analytics is often seen as a substitute for ethnographic work, and ethnographers' businesses have been disrupted by cheaper and worse data. Dig closer, and one finds possibility for collaborative, multi-method approaches. There are ample reasons why data scientists, who often lack domain expertise in social behavior, might want ethnographers as collaborators. In turn, ethnographers have begun to forge their own ways into these sorts of datasets, particularly through temporality (Ladner 2013, Nafus 2016). Anthropology and sociology have good approaches for understanding temporality as forms of social and cultural organization, and electronically collected datasets are particularly good at recording various cadences that fall out of ordinary memory. In this way, some new possibilities for ethnographically researching temporality have opened up.

Other work at EPIC approaches data not in terms of method, but as "things in the world." Margolis (2013), for example, sees direct consumer value in data beyond its aggregation and professional analysis. Roberts (2013) addresses ways that consumer-facing data have value but also create asymmetries between device providers and consumers. Material culture and STS approaches to data similarly seek to understand what data is doing in the social world, and how it mediates social lives. They see in data a kind of performativity, enacting rather than merely quantifying in a neutral way. Price data, for example, do not just measure value but also actively participate in the relations between exchangers, and in doing so directly shape the terms on which future exchanges take place (Munesia 2007). Carbon emissions data become political material that shape the world they also describe (Knox 2015). These scholars also see in data a materiality that is inseparable from data's meanings (Day, Lury and Wakeford 2014, Pryke 2010). For example, market traders' price visualizations shape how those traders act in a market. The numbers are not just abstractions but have color and shape and a screen size, all of which are part of what it means to act in a market. Like clay or paint, data are media through which people shape the world around them.

Latour (2002, 2010) laid vital conceptual ground for thinking about how data as "thing in the world" might be connected to methods. He revisited long-forgotten debates between Emile Durkheim and Gabriele Tarde in order to suggest that a deeper transformation is taking place in what quantitative measurement is about. He argues (2010) that the shift from survey-based work to working with digital traces represents a profound change in how we come to comprehend social patterning. Durkheim saw social structuring as something that takes place outside the individual, and inspired entire fields of inquiry to look for what was "higher" than the individual. Surveys became the instrument of choice for weeding out individual circumstances in order to identify the social structure that lies beyond any particular person. Tarde, on the other hand, believed structure to be nothing more solid than a perpetually emergent flow of discrete interactions between individual persons. In the Tardean view, there is no structure "out there" to be surveyed and known through what later scholars would call God tricks—a view from everywhere and nowhere at the same time, responsible to no human being in particular. There are instead only transactions between people that create paths that in turn potentiate the terms of future transactions. Here society is not cause, but highly provisional consequence, subject to constant renegotiation (Latour 2002: 10).²

Tarde lost a series of debates with Durkheim over this in part because he lacked the technology to do it. What would become Durkheim's technologies—surveys—were more or less ready to hand. “Transactional data”—data that is created through the interaction between people and the technologies they make and use—became more widely available much later, through digitization. Indeed, Tarde himself speculated that one day there would be a “glorimeter” that would both measure reputation, and enable people to follow and reflect on those metrics. Transactional data like our modern-day glorimeters (i.e., social media) are *a priori* embedded in a social relation of some kind. Ontologically, they are fundamentally different from survey data, more comparable to the archival objects of historians or visual anthropologists. They are a part of the relationships that ethnography was designed to uncover, and therefore cannot be fairly treated as mere survey data writ large. Instead, transactional data calls into question sociology's “fictive distinction between micro-interactions and macro-structures” (Venturini and Latour 2010:4).

It is perhaps not coincidence that the statistical approaches designed to find patterns in digital traces have more in common epistemologically with ethnography than survey-based sociology, even if the computational methods are harder for us to get our heads around. Bayesian approaches (the everyday workhorses of big data computation) tolerate the absence of a strong hypothesis when survey-wielding Gaussians get twitchy. Bayesians accept ‘found’ data not optimized for a particular question, which survey researchers often reject as poor research design. There is, of course, a much richer epistemic diversity in data science than I am portraying here. Some machine vision specialists, for example, work from general first principles and build algorithms accordingly, while others take the mess of real-world images as a given, and try to reduce that mess into a pattern that seems workable for the current, contingent situation at hand (Suzanne Thomas, pers. comm.). The differences in ways of knowing are far more complex than whether one is positivist or not. The newfound richness, made possible by a widening diversity of computational methods, means that it is now more possible for ethnographers to find the sorts of kinships and alliances they need to work in a data-rich world than were available even ten years ago.

The differences are also proliferating in disciplines closer to home. Building on the Tardean turn and other intellectual currents, there has been growing interest in social liveliness in sociology (Lury 2012, Marres and Weltevrede 2013, Ruppert, Law and Savage 2013). Here, researchers seek better approaches to the ongoingness of social life. This work asks, if data are things in the world—if they are not mere signifiers or indicators but actually act in the world—are new methods required to maintain the liveliness that sociological evidence is also a part of? For these researchers, data as thing-in-the-world and data-as-method are no longer separate—there is a social life of methods (Law, Ruppert, Savage 2013). Data and devices become possible to work with in new ways as a result.

This work is an important example of how it is possible to ask methodological questions about numerical data without concluding that one must choose between aping the methods of positivist social science, and relegating oneself to the role of friendly addendum—the storyteller that situates the numbers that scale. These scholars are working directly with digital data in ways that further their intellectual commitments, even if in a context that privileges resources for researching all things digital at the expense of other kinds of work.³ Whether these sociologists can open up a broader conversation about what constitutes quantitative methods, of course, an unanswered political question. Nevertheless, they have

created certain “facts on the ground” that *de facto* enrich the methodological diversity now available.

Indeed, if we glance over to the discussions happening in the digital humanities about the use of digital data, we find an analogous set of debates about what it means to be a humanities scholar with new methodological options. There is a good deal of concern about how funding for digital humanities projects is so often predicated on scholars’ willingness to render humanities scholarship into a positivistic exercise in computer science. Like our colleagues in the humanities and academic sociology, we also face the *realpolitik* of working conditions. Even if ethnographers do forge ways of working collaboratively with data scientists, we occupy the epistemological minority position. Genuine collaboration that truly respects epistemological difference is a wonderful thing, but it is also hard to come by. Wider social conditions and cultural norms can make meaningful collaboration easier or harder to establish. We could ask, then, what are those wider conditions exactly, and what kind of a say do we have in them?

A SPECIAL CASE OF DATA AS THING

One important part of our overall working conditions is the widespread preference for talking about “data” in very general ways. Much of the technology market (and some data scientists, and some scholarship) holds the assumption that data can be disembedded from its particulars entirely, and stockpiled. While most ethnographers would describe this assumption as a kind of magical thinking, our technical systems make it a social fact: I can download my steps count file as a .csv, and ship it to you, and you can fuse it with whatever you would like to attempt. Data’s set-forming ability leads to the urge to build up ever larger datasets, and the urge to minimize the incommensurabilities between different kinds of data--incommensurabilities that become more apparent when one is tasked with having to actually work with it. In this talk, the labor it takes to move data around is largely invisible. It all just becomes “the data,” writ large, like a kind of greased pig of truth. Here, “the data” is spoken of as if it were already encoded into one single database, awaiting querying. This reifying discourse is itself a (real) thing in the world. Young tech workers can be spotted in t-shirts proclaiming “data is the new bacon,” as if it came vacuum-sealed packets, ready to be sprinkled on everything in sight. When we get a greased pig instead of bacon, it is no wonder that the sight of actually existing data so often seems deflating!

This reified way of talking about data is so widespread as to be unavoidable-- a significant part of how discussions in various disciplines unfold. Pointing out its faults only gets us so far. I suspect Tarde would find it more fruitful to pay greater attention to data’s various concrete manifestations, and its everyday life as a medium like clay, paint, or language. The datasets I have in mind—sensor data largely—can be thought about in abstract ways, but when they matter, the where and the how matters most. We can see this when we look at sensor-generated datasets in a spreadsheet and then through a visualization tool, or in an app. We can readily see how some things change, while others stay the same. They have the same begin date and end date, for example, and an indication of what they refer to—steps counted in one minute, say. They can be re-calculated and re-visualized, but they cannot bend to any mathematical or visual will without losing meaning. It is only in its concrete forms where questions about what signifies what to whom can really emerge—questions that ethnographers are quite used to puzzling through.

THE DOMESTICATION OF DATA

There other conditions, beyond the prevalence of fantasy thinking, that are worth our attention. I would argue that in EPIC's current discussion of digital data, we are not merely witnessing ethnographers' halting embrace of working with such data, but a wider process of the domestication of data, in which we, alongside the people we study, are participants. By "domestication of data" I mean to evoke the processes of consumption and adoption that have taken place with other kinds of technologies, like computers and mobile phones. These were designed for narrow types of use, and yet meanings and practices quickly proliferated once people adapted them for the richness of everyday life (Silverstone and Haddon 1996). Few of these were anticipated or anticipatable by their designers. Text messaging famously was an afterthought to the mobile phone, and with use, entire genres of communication have been developed. Early personal computers were going to or business-sify our homes, and instead have become platforms for myriad other activities. In each case, users of new technologies push device capabilities, and a market ecosystem began to pay attention and recalibrate their wares accordingly. When adoption scales, what once was "a device" becomes myriad possibilities created by a combination of consumers, prosumers, artists, open source developers, companies and other institutional actors. Consumption is an active process that changes both the consumer and consumed.

An analogous domestication process is well underway with respect to data. Data is rarely sold to consumers as such, but devices and apps where the consumer is an audience for the data are now commonplace. This is relatively new, as data's long social history has largely been an institutional one. Long before electronic systems, data creation was an important technique of early European state-making, enabling large-scale taxation and conscription (Scott 1998, Desrosières 2002). Similar measurement practices were then adopted by the bourgeoisie in an attempt to legitimate their businesses as activity comparable to scientific practice (Poovey 1998). As more of Western social life became caught up in formal institution-making, and later audit culture (Strathern 2000), the tropes of measuring that were commonplace in institutions became facts of everyday life. Test scores, measures of height and weight, land ownership in so many meters or acres, are all largely taken for granted today as frames for how the world works (not just how institutions work). While quantification as a personal practice goes back at least to Benjamin Franklin, data as something that many people consume is relatively new. And yet here we are. Some obsess over the number of social media followers they have, while others occupy themselves with daily step count, and others still watch closely air quality or miles per gallon on their cars. That is, not only is data a "thing in the world" in the way that prices or test scores are, it is also now a *consumer* thing.

Consumption, of course, is never solely a market activity, even while it is also at key moments squarely a market activity (Slater 2002). Consumers live in much bigger social and cultural worlds than markets, even in the most neoliberal of societies. They bring their own non-market frames to data and devices. Social media, for example, is consumed for individualistic pleasure, and for articulating cultural and class identities of various kinds, but it is also used for the coordination of protest. That is, social media is sometimes a consumer good to be managed inside the moral economy of the household, and sometimes the means of (social, non-market) production. Some adaptations and uses of data by consumers will

feed the cycle of design evolution, but many will fall outside the scope of what a for-profit firm can optimize for. In these ways, then, we can recognize that when we ethnographers are working on this or that consumer good, we are shaping a much wider set of social circumstances beyond the particular markets our clients are in, even when those clients are in no position whatsoever to recognize it as such.

The data part of data products, similarly, is sometimes a market commodity and sometimes a means of social reproduction. When sensor data goes beyond consumption, and becomes a means of production, one important thing that is produced is knowledge. Sensor data opens up spaces in which everyday notions of evidence and research unfold. In consumers' hands, sensor data mobilizes everyday notions of health, biology, environmental sciences, and the like. People start asking research-like questions about whether the measurement is true, whether it is relevant, and whether more data is needed, largely because sensor data tends to be semiotically rather vague (Nafus 2014). It tends to offer up partial, messy answers to half-formulated questions.

Many good examples of using data as a means of non-professional knowledge production can be found in the Quantified Self community (QS), a community I study, participate in, and design for. QS members are people who get together in person to discuss what they have learned from the data they collect about themselves through various technologies new and old. QS is an environment where people do not merely ask "how can I take more steps?" but also "why 10,000?" or "Is that appropriate for me?" Often, the key to making meaning from data is outside the dataset itself. Therefore, members of QS often emphasize the importance of context, because that is largely where the value in sensor data lies. One has to know the individual context well enough to know what aspect of the data is or is not relevant. It takes work to puzzle through these matters, and many people put real intellectual effort into making meaning from data (Kragh-Furbo et al 2016).

One example of using activity tracker data "off-script" in order to get meaning from it comes from Jacqueline Wheelwright (2015), who spoke quite movingly at the 2015 QS Conference about how she worked with her activity tracker data to draw important conclusions about her autoimmune disease. Most activity trackers emphasize a daily step count by default, but Wheelwright reworked daily counts of steps into a total aggregation across a month, which better revealed a long-term pattern. She then carefully annotated those monthly time bins with a timeline of flare-ups, which led her to the conclusion that taking 10,000 steps per day was triggering her autoimmune disease. Avoiding 10,000 steps a day was the only way to get her autoimmune disease under control.

This sort of adaptation is what studies of consumption teach us to expect: she took a product's data apart and reassembled it anew, using the data science skills she had to make it speak to her circumstances (an autoimmune disease). We can even speculate on how designers working in this space might respond to ethnographies that explain and document this sort of activity. Some designers might respond by elaborating a "steps for autoimmune tracking" app, while others might reject the finding entirely as a kind of exception, and choose to double down on culturally loaded assumptions about "healthiness" as only ever more exercise. Other designers still might respond by developing a data analysis tool that make it easier to spot patterns in their steps data, which is what my colleagues and I did (Nafus et al 2016). Different designers will respond by emphasizing different valences of the underlying data (Fiore-Silfvast and Neff 20013), thus building up the ecosystem over time.

Similar examples of the intellectual work that people do with data can be found in the emerging class of domestic Internet of Things (IoT) devices. In a study of early adopters of home energy monitors, we found that these users either elaborated their sensing capabilities after an initial foray, by adding additional sensors or infrastructure, or else they abandoned the project altogether upon seeing that total kilowatts consumed did not actually help them measure “energy efficiency,” which they came to see as much bigger than kilowatts consumed (Nafus and Beckwith 2016). While we saw less interest in the meaning-making part than in Quantified Self (and more interest in hardware setup), the presence of sensors did prompt people to come to a point of view about what constituted “efficiency” and what an appropriate measurement of it would be, if not the one on offer. As with self-tracking, we can only expect that such views will shape the terms of subsequent adoption of these sorts of devices.

Finally, environmental data is also, albeit more slowly, becoming a matter of personal, scientific, and community-based inquiry. Devices such as the Speck, or Netatmo, monitor different types of air quality. The Speck is designed so as to enable individuals to monitor their own home, and also to contribute to a publicly available GIS of air quality conditions. While there is not yet available research on how people use such devices in their homes, there are precedents in environmental activism where “ordinary” people take samples of the air and have them analyzed in a lab in order to make claims about pollution in their communities. This research shows that people who live in areas strongly affected by pollution can and do develop notions about what the data is telling them (Ottinger 2010). In areas with large oil refineries, for example, Ottinger reports that it is not difficult to find people with fairly well defined beliefs about the inadequacy of year-long or twenty four hour averages as a way of processing pollutant data. Organized through civic groups, their data collection protocols are designed precisely to make the point that averaging over long periods of time is inadequate. While this use of data is not a consumer use *per se*, it supports the broader conceptual point that as data collection tools move out of the lab and into people’s hands, those people develop sensibilities about what the data means, and whether it is credible or useful.

In each of these examples we have a situation where expert knowledges are not necessarily the most important factor in drawing conclusions about what data means, even if they are part of the cultural milieu that people draw upon to make meaning. In the self-tracking example, there is no validated protocol developed by clinical research to connect steps aggregated monthly with autoimmune symptoms. In effect, self-trackers are doing their own N of 1 experiments. Indeed, Kragh-Furbo (2016) has found that some users of direct-to-consumer genomics data develop highly elaborate data wrangling skills in order to make sense of direct-to-consumer genomics data in the context of chronic conditions. Similarly, Marres (2009) found that people with green homes often framed their consumption as a kind of experiment in what is possible—i.e., the point was the production of knowledge about ecologically sound houses, and sharing that knowledge with others, not individual optimization *per se*. The publicness of it, as opposed to using specific scientific protocols, was what made it a “real experiment.”

It is also notable that where we see these sensibilities develop most quickly, it is in community. Self-trackers or environmental justice organizations are not working alone—they have social organizations that support and facilitate learning and sense-making. Marres’s smart home experimenters have an audience, and are not just quietly going about their

individual business. Just as Tarde would have it, the data they work with is not merely “out there” recording some abstract social structure or objective phenomenon. Data records the air people breathe and embody, and breathing problematic air demands an account of why, which in turn includes social relations. Recording and seeing those things further entangles people in their social worlds, and becomes the fodder for exchanges about what is knowable and known.

WHO GETS TO KNOW

We can also see in each domain different levels of interest in gate-keeping from expert communities of practice. In the air quality example, citizens’ claims about proper data processing are hugely contested by other actors with whom civic groups have conflicts (Ottinger 2010). These contests play out in decidedly “mixed methods” territory. We cannot say that “lay” people only have stories. Now they have numbers, too, and they do not hesitate to use them alongside stories, which also have their own power. The production of “legitimate” numbers—numbers produced through one of many possible scientific vetting processes—sometimes do mobilize action, but when they do, it is not because there is an uncontested notion of universal legitimacy. Which vetting process is used matters, and in a political contest, who pays for the science has a remarkable way of inflecting it. There are times too, when the scientific legitimacy of numbers is utterly besides the point (Ottinger, pers. comm.).

Responses to self-tracking from the medical world have been complex and varied, ranging from ignoring it as irrelevant and non-clinical, to complaining about it as a form of self-diagnosis, to acceptance of self-tracking data as a matter of working with patients. I have also seen the very rare medical professional embracing self-tracking as its own form of medical research. Indeed, the language that one might use to describe this activity is deeply loaded. If I had described Wheelwright’s work as “medical self-experimentation,” surely it would be immediately thought unwise, dangerous even. Yet she had effectively done a post-hoc A/B test to discover the impact of activity levels on autoimmune disease. In our own response to the language used here, we can see just how powerful medical gatekeepers are.

In the health domain, fights over data access take place through notions of who is properly expert to responsibly use it. Medical device firms often prohibit patients from accessing their own data on the grounds that patients are too inexpert to make sense of it, and thus deliberately thwart the domestication of medical data. In turn, patient groups like #wearenotwaiting mobilize for data access, noting that they are indeed experts in their own bodies, and that matters as much as a knowledge of the underlying biology. Type 1 diabetics, for example, learn how their bodies respond to various factors, and develop fine-tuned practices of eating, taking insulin, etc., which can take a good deal of time to learn and refine. The #wearenotwaiting group gathers together to work out how to reprogram their insulin pumps to respond to data about glucose levels in the way that they would. However, they also encounter difficulties from device manufacturers that make it difficult to access glucose data in ways that would enable their insulin pumps to use it programmatically, as opposed to having a person look at the glucose data on a screen and reset the insulin pump accordingly. At its core, this fight over access is a fight about who gets to know.

Given that so many different kinds of people do have something to say about the data that refers to them, the “big data divide” (Andrejevic 2014) might not be so big after all. The

“big data divide” points to a state of power asymmetries when large, profitable companies that offer little to no transparency to users about how they parse data, exert control over the largest datasets and therefore how that data acts in the world. While these power imbalances are quite real, my examples suggest that we do not have a completely sharp line between the data haves and have-nots. It is also notable that there are so many lead user groups who have found themselves in the position of demanding more transparency and data access because they have *uses* for the data in question. That is, the fights for transparency take place not because some believe that in general more transparency is better, but because particular kinds of people have compelling domestic uses for data and therefore need access. Cheaper data collection tools create the conditions of possibility for non-professionals to begin to formulate their own questions with data, and mount challenges to those gatekeepers who only offer it partially.

THE STAKES FOR EPISTEMIC DIVERSITY

These interactions between “lay” or “citizen-driven” knowledge and expert-driven knowledge are not new. Ottinger (2016) usefully suggests that we should not be fooled into believing that all citizen science projects are citizen-driven. She distinguishes between social movement-based citizen science and scientific authority-based citizen science. The latter uses unpaid volunteers to conduct low-level data collection on behalf of scientists. We see this modality at work in consumer health data products, where medical researchers call for people to donate that data to medical research, but without asking questions about the agenda of research or formulating views on its worth. Indeed, technical systems built to facilitate research on donated data largely exclude citizen scientists who have questions, as opposed to just data to give. This situation is under constant re-negotiation, and some projects do provide results back to data donors, while others consult patient-experts on research design and direction. I have not yet encountered an example of a medical research project that makes granular data available to uncredentialed researchers. Even writing those words makes the notion sound absurd: how would a non-expert know about proper data handling, or have the mathematical chops necessary to do it? The instant, visceral response comes from the culturally-ingrained view of the uncredentialed citizen scientist as only ever lacking (Irwin and Wynne 1996): what comes to mind is the figure of the hacker, a bull in the digital china shop, not someone also suffering from the disease who knows all too well what to look for. This view of citizens as people who only ever lack is likely to strengthen when big datasets are at stake, given the near magical powers society invests in those who can wrangle them.

According to Ottinger, social movement-based citizen science is not inherently opposed to scientific methods, but it is much more skeptical of scientists’ claims to be able to find universally applicable knowledge. It is more transparent about the values and agendas that motivate data collection, and embedded in concrete action such as public deliberation about what should be a concerning level of a particular pollutant—a discussion that requires moral reasoning as well as evidence. People working in this way are positioned to see things that desk-based data science cannot. Popular epidemiology, for instance, has instigated important discussions about what to do when statistically significant concentrations of disease cannot be mathematically produced, because harms are occurring in small communities that lack large populations that make it possible to eliminate random coincidence as a possible cause

in the usual way. The absence of large numbers does not mean the absence of harm being done.

Contributions to “formal” knowledge making from “below” are not rare, even if less visible. Chronic fatigue syndrome did not become a diagnostic category because a medical researcher saw fit to investigate it—it was a disease that patients had to fight to get by summoning evidence of its existence as a disease category (Dumit 2006). Early AIDS research was spurred not merely by a disease constituency lobbying medical experts to invest in more research, but because advocates developed an alternative basis of expertise that enabled them to challenge how science was supposed to be done (Epstein 1996). Activists successfully argued that “elegant science”—cleanly parse-able double-blind clinical trials—was effectively killing people by delaying access to experimental treatment. They did not black box the science, but developed views about appropriate methods, and advocated for them. No small amount of self-experimentation was done in the process. Similarly, air quality problems do not simply become “known”; citizens who suffer the consequences often have to do the research themselves in the absence of others taking an interest (Corburn 2005). These contributions from below are not instances of people simply playing nice with experts. They are born out of social contestation, and are made because they matter to the people making them. They happen when ordinary people can see what scientists cannot. This is not to say that scientific authority-driven citizen science are an inherently misguided, but that approach is more likely to be socially productive when values, worldviews, and interests between citizens and professionals are more closely aligned. The ability for the public to scrutinize scientific agendas when those things are not aligned also matters.

It is important to recognize that while “citizen science” might be powerful to our collective knowledge-making, it might not be a frame with which people who domesticate data see themselves. #Wearenotwaiting undeniably does research and development, but not to straightforwardly produce generalizable scientific knowledge. Self-trackers rarely think of themselves as researchers, even though what they find can in fact make a contribution to public knowledge about health, the environment, or other matters. While doing research is an everyday act (“I was researching cars today...”), the presence of data raises the cultural stakes, as traditionally only “researchers” research with data. *De facto*, however, people are doing it all the time.

Far from lacking skill, people who domesticate data have at their disposal the methodological advantage of situated knowledge. The observational powers of a diabetic to understand her own glucose levels are quite high; in a sense she has more “data” than a lab does because she can see what else is going (stress, lack of sleep and so forth). No big data company is ever going to create an inference engine to detect Wheelwright’s autoimmune disease fluctuations, or infer that that is the cause (or result) of steps going up or down. It is only she who is in a position to put those two pieces of the puzzle together, and recognize what to look for. The resigned techno-optimist might argue that systems will eventually get better at putting the two together, but this is a big assumption to make. It relies on the assumption that fatigue can be successfully quantified, that symptoms will be consistently tracked, that the technical systems to put the two together are sufficiently integrated, and the person who has visibility into the data across that system also thinks that autoimmune triggers are worthwhile to look for. They might think to look for autoimmune indicators, but they don’t know how to look in the way that Wheelwright knows how to look. She will

always run faster than large sociotechnical systems, because she has more flexible resources at her disposal.

While these epistemic diversities are not new, they play out on terms newly framed by continuously collected datasets. The 1990s are not the same as 2016. We might speculate that the next major citizen-led change in health or environmental knowledge is highly likely to use data from sensors already or newly deployed. Even though there are major uncertainties in how to coordinate citizen-led work organizationally and technologically, access to the means of knowledge production now clearly involves access to sensor data. That is something that we too have a stake in. The epistemic approaches in social movement-based citizen science, self-tracking, and other everyday acts of domestication should be instantly recognizable to ethnographers as matters near and dear to us. We too insist on the importance of contextual knowledge. Our intellectual starting point is that what one sees is always partial, contingent upon the position from where one sees it. We too use the embodied self as the instrument of knowing (Ortner 1995), and demand radical truthfulness about our values and assumptions rather than erasing them through techniques of bias removal—techniques which remove only biases of a particular kind. Therefore, we are not disinterested observers in the question of who gets to formulate views about what data says. Making room for diverse research methods in a data-rich social world—including the methods of people who may not even think of themselves as researchers—also makes room for ourselves. A world in which data gatekeepers prevent “consumers” or “citizens” from getting access to data is a world that dismisses our ways of knowing as only ever substandard science. If we are to be valued as people who can see what desk data scientists are poorly positioned to see, we need access to the means of knowledge production just as much as citizen scientists do.

WORKING THE METHOD/THING CONNECTION

These cases of data domestication suggest that what we applied ethnographers are dealing with when we deal with data is not just the “analytics” performed by a business, or by another researcher, but the forms of analysis that are ready-to-hand in the wider social world. One matters to the other, and the connection can be fairly direct in a business context. The types of data and analysis that businesses choose to take seriously shapes how they embed data into their products. For example, the urge to apply machine learning to self-tracking systems is not an impulse that is coming from consumers themselves, even if appropriate consumer-facing applications can be found. Finding those appropriate uses relies on how consumers choose to domesticate that data—what people make of what the machines are telling them, and what resources are available to do this. Businesses are keenly interested in what people make of their inferences. They should not be terribly concerned if what their customers do is in fact a kind of phenomenology of data, or a science project with it, but they do need to know, and we are fairly well positioned to tell them.

This back-and-forth between businesses and their customers is precisely the nexus in which many ethnographic practitioners reside. Collectively, we work with many different kinds of companies that provide a wide range of social, cultural and technical affordances that could encourage (or discourage) the domestication of data. We can help tip the balance, either in broadening our client’s understanding of what this or that product should do, or by showing ourselves to be capable of working with client’s datasets. We are also perhaps more

likely to be in the room when gatekeepers make it their goal to narrow who can know what, or choose to ignore the customers we interview as only ever “fringe exceptions” who “aren’t doing it right.” Clearly there are businesses that have a direct economic reason to make strong claims about what data means, and benefit from being hostile to alternatives. Individuals steeped in MBA-type thinking might never be prepared to see situated ways of working with data as anything more than the “bad science” that their customers do. They will be the first to decline us the opportunity to get involved developing strategies for parsing big data based on what that “bad science” shows, and they will lose a competitive advantage because of it. Indeed, we can see this cultural politics already on the wearables market, where there is widespread unwillingness to design data from wearable technologies to do much beyond cajoling people into a shame-driven, biomedicalized notion of health (Nafus 2016). This limitation constrains adoption, yet voicing alternative ways of doing data remains difficult because biomedical normativities are held for reasons that are much deeper than the need for profit-making. Shifting this situation requires more than thoughtful, socially-aware presentations to clients, but it also desperately needs those, too. Whether we are working from a position of relative strength or weakness, many of us will find ourselves in situations where we need to consider what our strategies will be for handling the epistemic and ideological differences that arise when digital data is part of the picture.

I would like to conclude by beginning a conversation about the kinds of things we can do when we do have some say in these matters. The first thing to do might be to acknowledge that the concerns of citizen science are almost never going to be the stated topic of applied research. What we tell businesses about what people do with data, shapes how the public can meaningfully participate in knowledge systems. Therefore, when we work on data products, we inadvertently participate in “citizen science” whether that is the stated goal of the project or not. If knowledge production systems are, realistically, more likely to be an afterthought, then we might focus on encouraging businesses to provide low-cost enablers that do not conflict with business goals, but might otherwise get overlooked. In some cases, certain enablers might support business goals, just in the long-term rather than the short-term.

Here are a few examples of some potential enablers. Many of us are in a position to remind our clients that some of their customers will get much more value out of a product if given good access to the raw data that their product creates, and just how cheap it is to build a data export button. In talking with colleagues in the self-tracking ecosystem, I find that often this vital component to the domestication of data is left on the table not because of any particular business interests, but simply because so few people are aware that it is even conceivable that people would want to look for something in the data outside of the app provided, or outside of other services that might connect to that app. Similarly, companies strive for accuracy in their sensors, but accuracy is never 100%. Giving users the ability to add approximations for times when the sensor was left charging, or delete obviously false data will enable users to have more accurate tallies across weeks, months, or years. One self-tracker I spoke with fantasizes about building the “Forgetbit” that would allow him to do such things with his activity tracker. This would overcome the issue some user have that they feel like exercise “doesn’t count” if they leave their activity tracker at home. I suspect that the inability for users to edit sensor data from within apps largely comes from an oversight rather than a strong distrust of people “making up” data.

Companies could also do more to enable groups of users to make their own pools of data. Today, “social” features in wearables initiate competitions between people, or share the fact that the user had taken a particularly long bike ride, which in some social circles amounts to the same thing. But it could be socially productive (and encourage end user continued use) to let patient or other kinds of communities create their own data sub-groups that would allow individual users to situate their data in a more relevant context. A group of people with a particular disease, or exposed to a particular environmental hazard, might want to know whether they are indeed experiencing more sleep disturbances than “typical” activity tracker users (for instance). This means developing systems that allow groups to better self-form in relation to their data, as companies are poorly positioned to pre-identify what “relevant” groupings actually are. Features like these are more costly to develop, but would allow companies to see what their customers thought their data was actually relevant to.

Finally, because consumer-facing data increasingly is processed into “upleveled” recommendations or insights yielded from artificial intelligence systems, ethnographers could very well play key roles in helping companies meet their obligations to customers to transparently explain why their systems made the inference or recommendation that they did. In 2016, the European Union created a legal “right to explanation” of any adverse action taken by artificially intelligent systems. This legislation is a response to data systems that increasingly make guesses about people’s likely behavior in discriminatory ways. What a meaningful explanation actually looks like is a significant unknown, and exactly the sort of problem that applied ethnographers are well positioned to tackle. Forward thinking companies might want to tackle it not just out of legal obligation, but also as a way to help customers get more meaning from their products in the first place.

These are just ideas that come out of my own experience in this space. No doubt you have your own to add to the list. My broader point, however, is that it is worthwhile considering the potential “citizen science” value in every data project, regardless of whether the public good is under explicit consideration in the scope of the brief. It is worth doing so not because the idea of participatory knowledge-making feels nicely moral, but because we have a professional interest in making a social world where diverse inquiry remains thinkable. Pointing out the need for a “Forgetbit” feature, or data export, raises the possibility that customers might also be knowledge producers who require certain resources from the business to proceed. Showing that a wearable device user might have their own phenomenological approach to data, potentially brings businesses one step closer to a deeper acknowledgement that there is more than one approach at all.

Data products will not create baby data scientists, but they will and do prompt people to wrestle with data using their own methods. When we focus our attentions on how people get their hands dirty in data, or when we also attempt this ourselves, we can build methods and approaches that do not just “add context” but build context into how data is cleaned, parsed, and represented. That is, our methods can start to occupy a plane commensurable with data science, and more meaningful conversation can begin with those corners of data science willing to try. We cannot deny that more heartbreak in a social world where we yet again constitute *exotica* might also ensue. However, we do have some conceptual resources that we can mobilize to encourage the acknowledgement of epistemological diversity—an acknowledgement that might come in a form that never uses those exact words, but makes room for us nevertheless.

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NOTES

Special thanks to Suzanne Thomas, who significantly helped the ideas in this piece mature, and for the felicitous phrase “greased pig of truth.” Thanks also goes to Nimmi Rangaswamy and Simon Pullman-Jones for their sharp editorial contributions.

1. In this work I focus on digital data, or sensor data, rather than “big” data, because what constitutes bigness is highly contested, and in any case the sheer volume is not necessarily what makes data interesting from a context-sensitive point of view. Nevertheless, the data types that I have in mind quite often become part of big datasets.

2 More theoretically minded readers might wonder if this view amounts to transactionalism, or a return to individual psychologism. Latour (2002) is quite adamant that it is not—that the “individual” actor here is already in fact composed of countless previous social interactions, and does not act as a single atomized unit.

3 There is much more going on in this intellectual turn than a crude response to funding priorities. I do not wish to reduce their work to that, but simply note that it cannot be seen outside of that context.

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CASE STUDIES SESSION 1

Pathmaking with Ethnographic Approaches in and for Organizations

Curated by Gary Gebhardt, HEC Montréal

CASE STUDIES SESSION 2

Pathmaking in Emergent, Underserved and New Markets

Curated by Simon Roberts, Stripe Partners

Case studies serve as real-world examples for fellow practitioners, academics, or students of how ethnographic methods are used to address a specific product, service, project, or organizational issue. An EPIC case study emphasizes methodology, including an account of how ethnographic methods informed a challenge in a concrete business, not-for-profit, or social context; as well the final outcomes achieved through such applied research. We welcome submissions that explore how ethnographic methods made impact for business objectives, while complementing other methods-of-knowing, such as; quantitative modeling, big data, test markets, etc.

Case studies include:

- Decision-Making Cases (in which an organization must make a decision or propose a strategy/solution, based on information presented)
- Descriptive or Analytical Cases
 - Success, Best Practice, or Showcase Cases
 - Failure or “Dark Side” Cases

For a description of Decision-Making and Descriptive/Analytical types, as well as the vision for EPIC Case Studies, please read “Making the Case for Cases”, a series of two blog posts:

[Part 1: EPIC Case Studies 101](#)

[Part 2: Pathmaking](#)

Case Studies 1 – Ethnographic Approaches in & for Organizations

How ‘Doing Ethnography’ Fostered Collaboration in Two Organizations

DANIELA CUARON

Empathy

This case study discusses the role ethnography played in fostering collaboration across two organizations during a research project. It explores how the opportunity for collaboration emerged, why it was seized upon, and what it meant for the project. The case study looks at the project challenges and mishaps and clarifies why in spite of this it is believed to be successful. It analyses the impact on people's perceptions of the project outcome and what this meant for our client.

Keywords: organizational culture, agency collaboration, design research, government

INTRODUCTION

Caitlyn¹ was a manager within the Injury Prevention branch of a state owned enterprise, responsible for providing no-fault personal injury coverage, called Injury and Accident Insurers (IAI). She was wondering how to address internal pressure to deliver results. Her team had done a year of work to produce a set of best practice guidelines for farm forestry health and safety. They had briefly paused and were close to completion when the environment changed. A new player had emerged, a government organization, which might have been seen as responsible for the scope of what Caitlyn's team had been working on. She then had to consider whether or not to continue developing this set of guidelines for market.

BACKGROUND

During the 1990s, the economic climate encouraged widespread planting of small woodlots throughout the New Zealand rural sector. Harvesting would begin towards the end of the decade, i.e. between 25 and 30 years of growth. This looming harvest is commonly referred to as the ‘wood wall’. The existing assumption in IAI was that harvesting time would see an increase in forestry activity. The belief was that this, coupled with an increase in new inexperienced harvesters, would result in an increase in forestry injuries and therefore an increase in claims. The organization wanted their Injury Prevention unit to address this.

Caitlyn's team had been working on a practice guide for the farm forestry sector to help improve health and safety as well as other business practices. A year's worth of research and stakeholder management had taken place and the guidelines were nearly complete when the project was put on pause. After the pause, when the team went to readdress the best practice guidelines they found their context had changed. Amongst the changes was the development of a new government organization Health and Safety at Work (HSW) that had been established with the specific aim to address workplace health and safety.

The context had also changed because IAI had redefined its strategy and focus. The organization was particularly interested in innovation. They were aiming to effectively deliver initiatives that were focused on their customers and would work alongside other branches in the organization to do so.

There was a perception amongst IAI that HSW was complicated to work with. The new organization was still defining its role and scope in the pre-existing market. It was perceived to be young and “having a tough time of it”.

START OF THE PROJECT

Caitlyn decided to approach a group of consultants, Empathy, who had a long-term relationship with the organization. Empathy had been involved in helping them to shape their recently defined approach to innovation.

Caitlyn explained to Sarah from Empathy that the organization was looking for quick win initiatives, projects that could be achieved in three months. The Injury Prevention unit's work addressing farm forestry had been identified as one such initiative. However, she had concerns that even though their work was near the finish line and, given their new ecosystem, implementing the guidelines might not be the best way forward.

Caitlyn was looking for someone to help her team figure out how to move forward and address the farm forestry issue. She wanted this done effectively and within the new practice framework of the organization that she also recognized her team might need coaching through.

Empathy came on board in a ‘facilitator’ and coaching role to build capability amongst Caitlyn's team. Empathy also understood that they might work alongside Caitlyn's team to bolster project team numbers when necessary. In their proposal to Caitlyn they laid out a first phase of work to assess the current guidelines and make a call on whether they should be taken to market. Given this would partly be dependent on HSW's role, Empathy suggested this phase be done with involvement from HSW. A second phase of work was included to facilitate and work alongside Caitlyn's team to either: shape, refine and implement guidelines or explore the new approach.

Phase One – Assessing Current Guidelines

A workshop was held with people from both IAI and HSW. Empathy held the workshop at their offices to provide some neutral ground. Sarah who was lead consultant and had been talking to Caitlyn facilitated the session. As Sarah described it, “There is palpable tension in the room as the ‘main guy’ representing HSW shows up late for the session. He's assumed it would be held at IAI. You can tell both sides feel like the others could've done better, but they're good people so nobody says much about it.”

They went through the session, trying to gather insight from each other to decide whether the guidelines should be finished and sent to market. Sarah's role became to ensure different points of view were considered, they didn't rush to make a decision and were mindful of the implications.

From early on there were some people that didn't see enough evidence to suggest the practice guidelines were a great idea. They began to wonder about their knowledge of the audience. Others disagreed and felt pressure to produce something after a year of work.

People felt bad for the amount of work already done by Thomas, the lead on the practice guidelines. The suggestion to “just do it anyway” — to finish the guidelines and put them into the market — was floated around the room. “We’ve come this far, let’s finish it,” said one participant.

Counter-arguments to this were shared by those concerned by the loss of good will that might be engendered by putting a campaign in to the market that didn’t actually suit the target audience. Another question arose around “what would it mean for forestry workers to see this?” It became clear they didn’t know the answer. This prompted concerns about the potential media embarrassment of being out of touch, as well as the time and money that was still required to finish the guidelines and get them out to market.

At the end of the workshop, the group decided not to go ahead with publishing the practice guidelines. Instead they decided to continue into the second phase of work, where they hoped to understand where and what IAI’s focus should be with regard to farm forestry. To address the discussion around the lack of evidence for a practice guide Empathy suggested using ethnographic methods in defining this approach. Sarah also reinforced the value of IAI and HSW continuing to work together.

EXPLORING THE BUSINESS PROBLEM

Caitlyn’s team and Empathy moved forward with the second phase. Given phase two was taking more of an exploratory focus than an implementation one, Empathy decided to reassign their lead consultant. Sarah stepped out of the project and handed over the reins to Erin. Similarly, Caitlyn remained involved as manager, but Thomas, as the team’s expert in the forestry space became the project lead. Together, Thomas, his team and Erin became the ‘project team’.

The first working session Erin ran with Thomas’s team was aimed at understanding the business context and drivers for addressing farm forestry injury prevention. As Erin put it, “Why are we going to be putting resources into this project?”

They explored the current pain points IAI had with respect to farm forestry, what had already been done before, who the other players in this space were, as well as the current ‘vibe’ of IAI and their stakeholders.

IAI had an instinctive sense that it was small-scale forestry that posed a looming problem. Forest management companies had more formal systems and processes in place and were less likely to pose a risk. However, the team didn’t have specific numbers.

As a group they also discussed the problem with media sensationalizing the lack of safety in the forestry industry. They identified that this shaped the public perception towards forestry, and many people seemed to believe it was dangerous and not much was being done to address it. They ended the session agreeing to find out more.

They learned that small-scale forestry was an incredibly diverse sector, with a lack of definition for what ‘small-scale’ really meant. It included absentee growers, farm forestry, small-scale forestry and non-corporate forestry. It was unclear which group they should focus on and where the potential problems were. In addition, the team didn’t have enough information to understand the basis of the health and safety problem. They wondered if it had to do with foresters’ indifference to safety, poor equipment standards, or a lack of skilled labor. Erin actually asked if health and safety was a problem at all.

When they looked through Thomas's data they found that IAI's concern with increasing claims was not reflected in their numbers. In fact, compared to other industries forestry appeared to be doing well avoiding injuries that lead to entitlement claims. Thomas and his team began to notice there was no strong financial reason for IAI to invest any further in the project. However, they also continued to receive increasing internal pressure to do something about forestry.

Despite the apparent lack of increasing claims, there had still been a number of tragedies in the forestry industry over the previous years, and there was a strong belief this needed to be addressed. In addition, there was still a problem with poor public perception and media coverage. There were remaining concerns that as the 'wood wall' came into full swing the number of accident and fatality incidents would further increase.

Thomas's team made a call to move forward. With the lack of numbers highlighting an issue, they recognized the business problem was still vague. They decided to learn more about small-scale forestry before going out into the field. Erin asked, "Where can we go to learn more?" Thomas answered, explaining it was HSW's Health and Safety (H&S) inspectors who had the most experience on the ground and first-hand knowledge of the potential hot spots. H&S inspectors were "the people who are in the field all the time."

The overarching relationship between IAI and HSW had not improved at this point. Although, Thomas's direct relationship with his counterpart, Alan, was healthy enough.

Thomas and the team believed that working with HSW was important but also a potential risk to the project. Regardless, HSW was seen as a key stakeholder. So Thomas and his team decided to reach out to HSW by treading carefully and managing it closely from a relationship and communications perspective.

INCORPORATING EXPERT UNDERSTANDING

It took Thomas and Erin several meetings to shape their plan for engagement with HSW. They had to define the value for HSW so they would be willing to participate. Even though both organizations were being told to work together from above, things were not straightforward. Internally each of their cultures was saying 'we don't work well together'. Senior leadership understood this and decided that what they needed was an example of successful collaboration. Getting HSW involved with Thomas's project was seen as an opportunity to do this. Eventually, HSW decided to get on board for a workshop where their staff would get to have their say.

Thomas and Erin began to work with Alan from HSW. They all understood that this next piece of work relied on the H&S inspectors being happy to engage. Inspectors worked across the country and were often in the field. Thomas, Erin and Alan decided the most effective way to gain knowledge from them would be to run a full-day workshop. Erin liaised with Alan to understand the mindset and attitude of most inspectors. They used this understanding to design a workshop approach that would work for inspectors.

The aim of the workshop was to understand the inspectors' perspective around who to include as a small-scale forester, who was at risk, how these foresters operated, as well as where and why there were safety issues.

The Workshop

There were 12 HSW frontline representatives in attendance, a combination of inspectors and managers. A further 15 attended from IAI. Erin facilitated the morning session by setting the tone, initiating the conversation with inspectors and managers, prompting them, exploring their stories and digging deep along the way. She asked the other attendees to take notes of what frontline staff had to say. Thomas and Alan co-facilitated the afternoon session to reinforce the partnership between their two organizations.

HSW staff explained the distinction between farm forestry and forestry on small woodlots. They discussed various factors that raised safety concerns – forestry contractors had low profit margins, and forestry activity was highly influenced by market conditions, likely encouraging contractors to go all out when prices were up or forcing them to cut costs when prices were down. They also made a point of distinguishing between full-time permanent small-scale forestry contractors, casual forestry contractors and forest owners.

Frontline HSW staff also noted the sector was under regulated and dealt with inconsistently. From their point of view reasons for this included the remote areas forestry contractors worked in, as well as their regular travel and temporary stays in locations.

During the course of the workshop more and more staff from HSW got on board with the work IAI was doing. They supported the approach and insisted that any intervention in this space needed to be specifically tailored to the target audience and the unique environment they worked in.

Together, workshop attendees decided that to gain more valuable insight of the target audience during fieldwork, the project team (Thomas's team and Erin) should focus on a specific subset of forestry workers. These were defined as:

- Workers operating in small-scale forestry (less than 10 hectares)
- Non-corporate foresters
- Full-time and all year round (not seasonal) workers
- Crews of 2-4 workers.

Next Steps

As a result of the workshop, Thomas drafted a report that documented what they had learned. This report was shared with HSW.

With the target audience defined jointly in the workshop, the project team then prepared for fieldwork. HSW agreed to play a role in recruiting forestry workers for the IAI project team to engage with during the fieldwork phase. HSW believed that with their people on the ground they were best placed to reach out to foresters. The project team appreciated the help.

The Restructure

Before the project team got a chance to go out into the field with forestry workers or get any recruitment done, IAI underwent a severe restructure. This caused a lot of uncertainty within the organization. Senior leaders were changing across the board. Whole teams and units were being restructured.

The project was put on hold while the organization went through the change and settled into the outcome. Five months passed.

The image below illustrates the dates when project activities actually occurred.

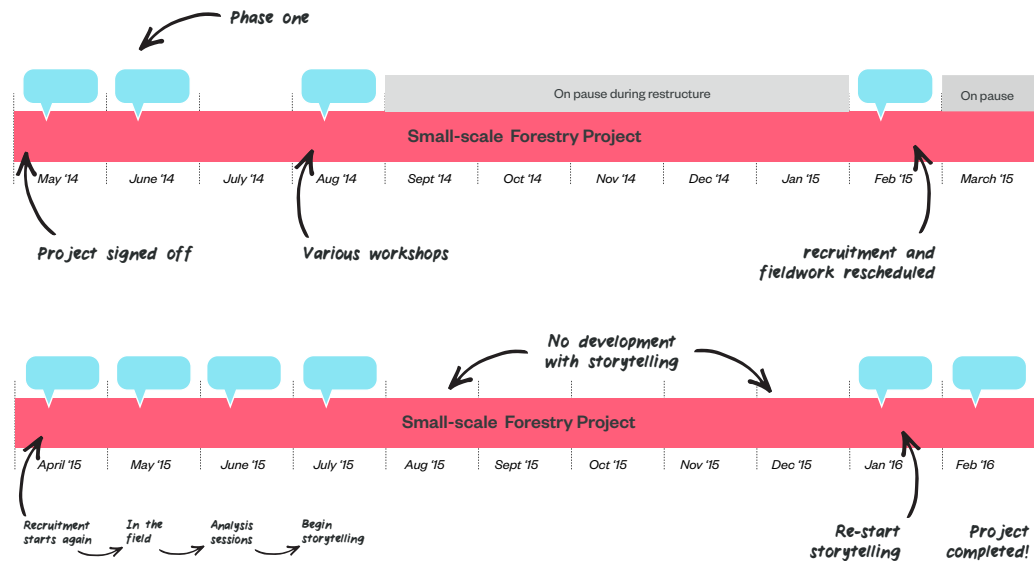


Figure 1. Timeframe of project engagements.

GAINING CUSTOMER INSIGHT

When Thomas was finally in a position to work on the project he reached out to Erin to kick things off again. However, he had a heavy workload and several of his original team members were no longer assigned to his area. Originally, Thomas and his colleagues were going to be conducting fieldwork themselves. Erin, in her role as consultant, had planned to add to the team's numbers if needed and facilitate and coach them along the way. Given Thomas's workload, it was decided that he needed more people to take an active role in the project. Erin got her colleague Natalie to join the project. From here, Erin and Natalie both took on more of a 'doing' rather than 'coaching' role by agreeing to conduct fieldwork themselves while bringing some of Thomas's team along.

IAI got in touch with Alan to ask for his help with recruitment of forestry workers as had originally been intended.

At first recruitment showed little promise. HSW passed on a limited number of replies to IAI, who attempted to recruit before eventually passing on the details to Natalie. Natalie also tried to recruit with no luck. She learned it was the wrong time of year to engage with forestry workers as it was prime harvesting time and they all felt too busy to participate. As Natalie noted, "No one would pick up before 7pm, and then even if they were interested they'd say they couldn't do it this month." The project team decided it would be

inconsiderate to their target audience if they continued with recruitment. The project was paused once again and scheduled for a later more appropriate time.

Two Months Later

HSW sent out information to forestry workers on behalf of IAI. They got a few more potential participants and Natalie restarted recruitment. Despite the two-month wait, recruitment was still slow. Foresters, while willing to participate, were not happy committing to engaging with someone on a specific date. This made it hard to arrange from a logistical point of view. In addition, not enough names had been provided to reach recruitment targets. The project team explored using different approaches to recruitment, including snowballing and cold calling. Eventually, recruitment targets were met.

In the Field

Forestry workers' lack of availability meant the project team prioritized the participant's schedule over their own. In the end this meant that only Thomas, Natalie and Erin were able to go out into the field. Between the three of them, they engaged with 12 main participants consisting of a combination of forestry contractors and their employees. In addition to these 12 they also interacted directly and in passing with various other foresters. This occurred because they were members of the same crew, friends of participants, or simply due to the prevalence of foresters in the area.

Meeting with people in their homes, Natalie discovered the pride and importance forestry contractors gave to their work. It came across in their lifestyle, and spoke to their apparent 'rough culture' — and their sense of pride even came across in their choice of décor. One forestry contractor that Natalie and Thomas engaged with had a photo of his skidder printed on canvas and hanging in the dining room. The contractor told them how after years as a forestry worker he had been able to get enough money to buy it. This had enabled him to start working for himself as opposed to sub-contracting out to someone who had the equipment but needed his services. As a new forestry contractor times had been tough. His first season was an especially bad one. His existing contacts had been key in getting him through it. But, he believed it had been worth the effort. Now he was able to run a crew of four guys.

On a site visit Erin was able to see the advantages of having a small crew. Whilst engaging with a forestry contractor it came time for morning break and they all paused to get together. "We always take smoko together," they explained to her. "It's good — it makes you feel like a team." They were mindful of doing this together, commenting that "H&S is all about communication" and "no one is better than anyone else we take advice from each other." Then, some of them took the opportunity to show her the manuals they use, the thin, copy based New Zealand one wasn't much use to them, but the thicker and image based Canadian manual was a favorite.



Figure 2. Showing manuals over 'smoko' (morning tea break).

In their engagements and visits with forestry workers Natalie, Thomas and Erin began to notice a trend. They spent several hours talking about it while on the road. Forestry workers felt safer than before. The team had heard stories of what it was like when people were young and heard over and over again that “the industry has cleaned up.” Outside of the industry there was a perception that forestry workers were cowboys, this was something that some of the forestry workers they spoke to also believed, and yet none of them could point them towards the ‘problem-people’. “I’ll tell you it’s frustrating when you’re working hard to be better but you don’t hear about the good ones, you only hear about the bad ones (...) they tell you, ‘ah you must be a rough...’ when you’re not,” one worker said.

Analysis and Definition

After fieldwork the project team arranged to get back together to share their experiences in the field and make sense of what they learned. Alan and some of his colleagues from HSW were invited to join the immersive analysis workshop. Erin said this was actively done “in order to foster collaboration.” At this stage Thomas and Erin were aware that IAI was interested in continuing to fund the project, but was potentially interested in having HSW in charge of implementing the initiatives that resulted from this work. This was in line with IAI’s new strategy post-restructure.

On the day of the analysis workshop the project team shared their stories from the field with others. They were able to compare Thomas, Natalie and Erin’s learnings with Alan and his HSW colleagues’ experience on the ground and working with foresters. This created a joint understanding. Alan was able to add the wider view of what HSW sees happening on the ground, which added richness and context to the stories being discussed. Meanwhile, IAI’s field stories added a different perspective to HSW’s understanding.

They heard about how difficult it was becoming to hire people with experience. Some contractors took the time and cost to ensure their crew was well trained by making sure they got all their certificates — but there were mixed perceptions in the industry as to whether this was a good investment or not. Someone well trained could leave you. As one person said, “Every extra ticket goes on their CV, and if they decided to leave they could easily work somewhere else.” Alongside this there was a fear that experienced people were leaving the forestry sector and “the loss of experience is creating risk.”

The project team also heard stories about the amount of time it took to do paperwork in an industry with low margins and high production pressures. Stories from the field noted “safety costs us our profit margin”, “the cost of compliance is going up” and “it’s all about the paper trail to cover your ass” but, “regulation won’t stop someone from doing something stupid.” Despite this attitude towards regulation, they also heard stories about how well the crew knew each other and how they watched out for each other because they knew each other’s families. Crew members understood what their team members were going home to, and at the end of the day “being a dad is more important than work.”

Once they shared stories they started pulling out emerging themes, patterns and discrepancies. The ‘extended project team’ worked together to decide how to group different observations, quotes and learnings under each theme. Particular care was taken from Erin and Natalie to encourage team members from both organizations to ensure that all data points grouped together spoke to the same theme and that the emergent theme was the most accurate representation of that learning. Discussion between team members reconnected people with foresters’ stories and challenged any biases and assumptions that came out along the way.

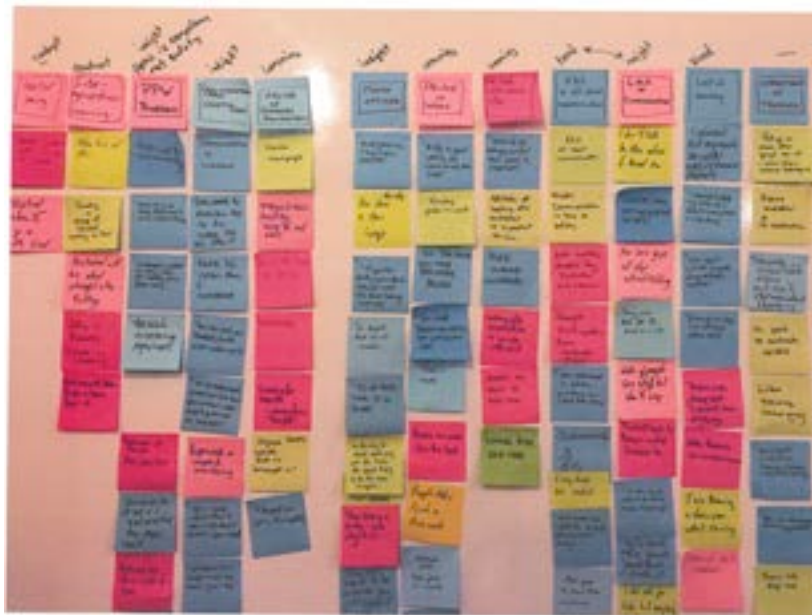


Figure 3. Examples of emergent themes.

From there the team got to work identifying foresters' needs in relation to workplace health and safety. Erin and Natalie facilitated a 'why-how laddering' activity to explore a variety of needs and then to further identify the level at which Thomas and Alan's organizations should be playing at. This activity explored various types of needs and placed them hierarchically in relation to each other. It uncovered the overarching needs foresters had, such as 'to keep their business running', 'to provide for their families', etc. It also explored the needs that related to specific details for example 'to keep up to date equipment'. Through asking either *how* or *why* foresters would address those needs, more needs emerged. By continuing to place them in this hierarchical relation to each other people could start to see the needs that fell within scope for their organizations. After some discussion and a voting session they arrived at the series of needs they felt they should be addressing. Team members then paired up to create point of view statements that centered on these needs. These were then shared and discussed with all attendees.

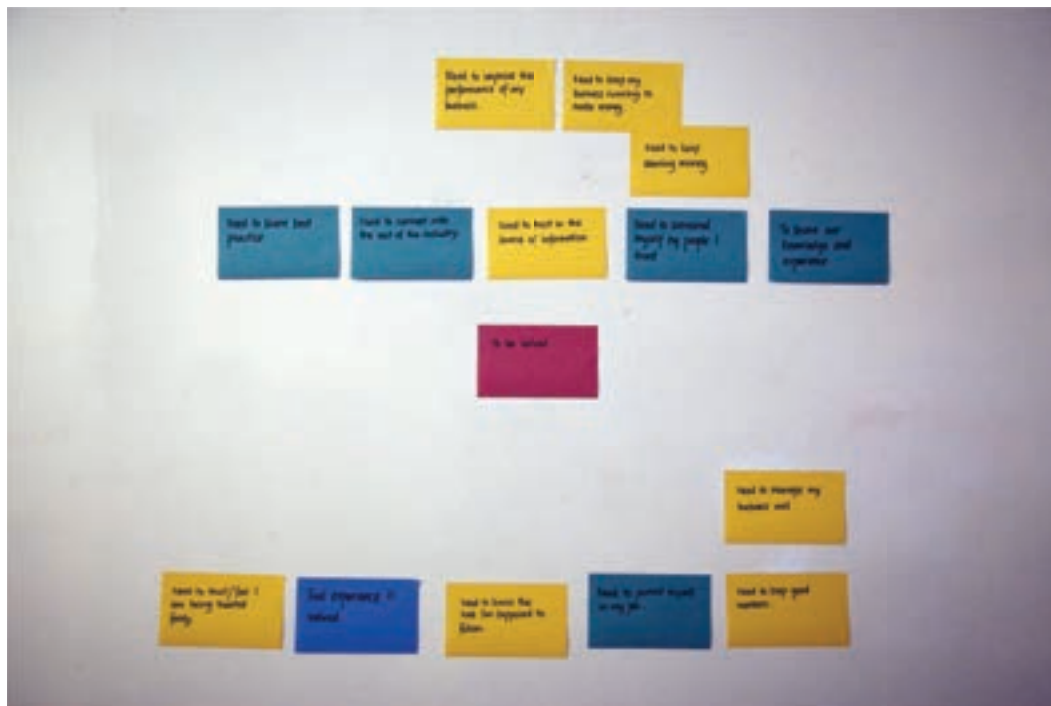


Figure 4. 'Why-how laddering' needs activity.

At the end of the two-day intensive analysis session the team wrapped and reflected on how easy it had been to collaborate and how glad they were to continue collaborating. Alan appreciated where the work had got to, and Thomas was glad that Alan was on board. Thomas explained he hoped HSW would be the ones taking action as a result of the customer insight. Alan agreed that was what this work should lead to.

STORYTELLING

Originally IAI was going to document what was learnt. This had been agreed at the outset, when it was established that Erin's primary role was to coach and most of the IAI team was to do fieldwork. Despite the changes that had occurred since then, given Thomas had been involved in every activity the original plan was followed. Thomas would be doing most of the documentation and storytelling back to IAI and Erin was going to coach him through the process.

Shortly after the analysis and definition session the pair met to discuss the story. Thomas brought his perspective of IAI, how they worked, what he thought they needed to hear, etc. Erin shared her experience storytelling this type of projects to clients. Together, they defined the structure of the document. The pair continued to work in this way over a couple of sessions where they explored the structure and content, Thomas then planned to develop it.

During this time, there was further restructuring within the organization and more people left. Thomas became the most senior and experienced person left in his section. He ended up "acting as his own manager" and all of his "previous program work was put on hold." Nearly three months passed before Thomas was able to renew his role and work with a new person as his manager. At that point, with a large workload that had been on hold, Thomas asked Erin, "Can you please help me, can you please just do the documentation?" Erin then worked with Natalie and a writer on their team to create the document. As they refined the story and outcomes of the analysis and definition session, they ended up writing a series of design principles for future health and safety initiatives with forestry workers.

Outcomes

The document was delivered. Twenty-two months had passed since Caitlyn, Thomas's former manager, contacted the consultancy. Twenty months had passed since the first workshop session and deciding more evidence was required to define the organization's approach to injury prevention amongst forestry workers.

The report was circulated and shared across IAI, HSW and their industry forum for forestry. The report positioned IAI as a further expert in the room alongside HSW and the industry forum's knowledge of the sector. Thomas continued his working relationship with Alan. HSW officially became IAI's partner in this initiative and their roles and scope were further refined. It was agreed that since the forestry industry body could connect with larger, corporate forestry operations HSW's purview would become the small-scale forestry that had been targeted through the IAI project and report. IAI's role became more clearly defined as the organization that would offer HSW support throughout this process, whether it be through funding or sharing their expertise.

A key outcome for IAI was the shift in thinking about forestry workers as 'cowboys' and 'the problem' towards a better understanding of their context, the constraints of the industry they were operating in and their mindset to safety.

A few months later, HSW had shaped an action plan for engagement with forestry workers to begin the following year.

DISCUSSION

The original project concept was meant to last three months. This would assess the health and safety best practice guidelines for forestry workers, and then decide to either implement these or work to uncover the organization's new approach to injury prevention with forestry workers. As soon as there was a pause between the first phase and the second phase this timeline became unrealistic. However, for it to have taken 22 months is both unfortunate and a clear failure for a project intending to be a quick win.

The reasons for this failure are not straightforward. Was it a mistake to believe a weighty topic such as health and safety and injury prevention amongst a controversial, heavily media covered industry could be a quick win? Could the internal project team members have accommodated for the organization's restructure? How might members from IAI, HSW and Empathy have better prepared themselves for recruitment? Given the history of the project, why was Empathy's coaching role continued? Would a more active role have been more appropriate from the outset of documentation?

On the other hand, this project avoided the money and time expenditure of further developing the best practice guidelines and sending them to market. What's more we learned that this level of intervention does not meet forestry workers' needs.

From a financial point of view, with the exception of the variation to include Natalie's work and additional documentation work in the project, it was carried out for the original amount the consultancy had agreed to. It could be said that the pauses as a result of the restructure played a significant impact on the project but were not in themselves project failures. One might argue these pauses were out of the project's control, as they not only affected the Injury Prevention branch but the wider organization.

For IAI, which needed to be seen to be doing something about forestry, doing the project in itself met the brief to some extent. They were able to both directly engage with forestry workers, potentially strengthening their presence in the community, and work with HSW 'the new government organization' in this space.

This brings us to a further point. The purpose of this project was multi-layered from the start. IAI wanted:

- A quick-win project (not achieved)
- A customer-focused initiative that would follow their new practice framework
- To build capability amongst its team members through the project
- To make a call on whether or not to publish best practice guidelines.

As we continued through the problem definition phase we found that there was no strong financial reason to do the project, but other concerns and external perceptions were placing enough pressure for it to be worthwhile doing. We also realized that both IAI and HSW were pushing to prove they could work together and were eager to use this project as a case study for doing so. It is through the lens of this last point that the project is viewed as a success. This became a surprising outcome for the consultants and an important lesson to learn.

At a behavior change level the biggest impact to date actually occurred in enabling these two organizations, HSW and IAI, to be strong collaborators. It is interesting to look at how this came about, as well as what it means for success to be defined in this way.

In some ways this project, and specifically the doing of ethnography, became the vehicle for collaboration. Thomas and Alan already had a healthy working relationship and an interest in the outcomes for forestry workers. As a pair, they were good collaborators anyway. However, the amount of meetings that needed to be conducted at the beginning to discuss the potential involvement of HSW suggest that without prompting and a need for a better understanding of their target audience, this collaboration would not have occurred to the extent it did and has continued to.

For both organizations, collaboration was still firmly in their best interest. For IAI working with HSW is directly in line with their new strategy to support a partner organization to operationalize initiatives. Likewise, for HSW, as a recently set up government agency, being funded externally to do the work would have strong appeal. There are clear motivations for collaboration beyond a mandate to do so and a shared problem. At an organization level there just hadn't been enough collaboration already occurring to understand what this would mean for HSW and IAI.

This allows us to look at the role ethnography did play (amongst these other drivers) in fostering this collaboration between organizations. We see both intentional and unintentional contributions.

- The initial perception that we needed to better understand the audience and that this might require ethnographic work helped project team members identify gaps in their knowledge. Being able to see these gaps in knowledge prompted the question, 'who can fill them?', which became the initial driver for stronger collaboration with HSW.
- Taking an ethnographic approach to understanding HSW's frontline staff allowed the project team to facilitate a workshop that narrowed in on their target audience, shared knowledge across both organizations, allowed inspectors to feel heard by the people in national office, and got people from HSW on board with the project approach.
- Recruitment saw several issues. Rather than facilitating collaboration, the intentional collaboration through this process added extra steps and complicated recruitment. However, it also became a symbol to foresters and people within IAI and HSW that both groups were working together.
- Fieldwork in itself, what most would think of as the primary 'ethnographic moment', was not a particular spark for collaboration since only Thomas was able to join Erin and Natalie in the end. However, the result of Thomas being in the field, and therefore IAI also generating on the ground knowledge seems to have helped bridge views with HSW. As Thomas explained, "It has helped have different conversations." He explained that in the past, they might have disagreed with HSW's views on something and wanted to put IAI's views "on the table to counter-argue but had no ammunition."
- Analysis and definition proved to be one of the strongest enablers and examples of collaboration. It was carried out in Erin and Natalie's offices both for suitability of purpose and as a neutral ground. The intensive session encouraged the extended team members to gain empathy for the same people, fall in love with the same issues, discuss, shape and clarify their understandings of foresters mindset, and work together towards identifying their needs. Crucially, it didn't just allow IAI and HSW to share a similar view, but it actually offered a different perspective to the prevailing HSW one at the time. As Thomas described, "HSW came with the

workplace perspective, we gave the more personal touch to the discussion.” It allowed IAI to “slowly try and change the perception of the problem — it’s not these people (foresters) that are the problem, it’s the context of their industry.”

- The ability to then share this knowledge through storytelling and specific documentation reinforced the willingness amongst the organizations to collaborate. The documentation itself, celebrated the collaboration as a successful outcome of the project.

CONCLUSION

As consultants the project felt like a ‘comedy of errors’. It also highlighted the strength of the role ethnography played. Despite the unfortunate events and false starts the ethnographic work was meaningful enough to make a big impact and turn this into a success. The fact that it did not run smoothly has cemented the author’s understanding that success can be more ambiguously defined. In this instance, a recommended project approach, i.e. to collaborate with another agency, became through the course of the project, one of the main purposes for the work itself. These changing drivers for a project’s purpose might be especially clear on an unintentionally long project such as this. We argue the practice and facilitation of ethnography by a consultant party played a strong role in enabling these two organizations to collaborate. We also acknowledge the role political and financial motivators played. Strong collaboration as an outcome in itself makes the project successful for both IAI and HSW. However, we believe the reason the project was successful goes beyond the internal politics of both organizations. The best opportunity for a successful intervention with forestry workers arose when the two organizations effectively worked together. Each organization had insights and strengths to offer to the initiative. The opportunity was ripe to combine these insights to provide a single message and proof of clear government involvement in this area. Forestry workers, as a result, can experience a clearly defined engagement program that speaks to them and suits their needs.

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NOTES

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1. Names of people and organizations have been changed for anonymity.

Case Studies 1 – Ethnographic Approaches in & for Organizations

Engineering Ethnographic Encounters to Lead to Better Project Results

JOSHUA DRESNER

Claro Partners

This case study highlights the value of taking clients through their own ethnographic encounters during a customer experience project. It demonstrates how taking key project stakeholders on fieldwork builds their empathy with their sales and service channels and end-customers, and creates a space for reflection and an imperative for action. The case study includes examples from ethnographic encounters and how they led clients to have a new understanding about the customer experience, and take action. It underlines the value of ethnography in business as not just uncovering insights, but as a process stakeholders should be involved in to lead to effective human-centered strategy and direction for a client organisation.

Keywords: Client experience, Customer experience, ethnography, strategy, automotive

ETHNOGRAPHIC ENCOUNTERS FOR STRATEGIC ACTION

A major US automotive company had recently boosted their sales considerably, but they had a problem. Their customer experience scores were low compared to their competitors. This was an indicator of wider faults which needed attention. They needed strategic direction to identify what was the cause of their problems, and to fix them.

Claro Partners won the contract to run this sixteen-week project in December 2014. Alongside their key client contact and project manager Veronica, who sat in the Customer Experience Insights department, they planned a set of activities to lead a selection of key stakeholders through a project to uncover qualitatively what was the customer's journey through sales, use and service and to translate these into innovation opportunities and design some short and long-term solutions.

This case study will highlight the value of client ethnographic encounters in business consultancy, and share some key principles and practice to ensure these encounters are effective and successful.

(Due to client confidentiality restrictions the client is referred to as Engine Autos throughout this case study).

THE CLIENT CONTEXT

Engine Autos was 'deeply siloed' (Tett: 2015). There were departments competing with others, contradicting KPIs, the corporate office was working at odds with the dealerships, and there was a lack of direction because of larger structural changes at the top of the organisation, which meant employees lacked an overarching vision of what they were trying to achieve. There was great passion in the company to create changes, but individuals'

enthusiasm for change was impeded by legacy processes and the scale their operation. There were many different brands, with separate customer bases and heritages.

A few years earlier they had established a quantitative approach to tracking the customer experience. They adopted a 'customer satisfaction survey' which was sent out to every customer after a purchase or service visit. This came in the format of an online survey, or a phone interview. In an attempt to raise standards this survey had been elevated in importance. Salespeople and service people in the company needed high customer satisfaction scores to earn their bonuses. But this led to people playing the system. Customers were being told to rate their salespeople high, and it meant that scores were meaningless as indicators of the real customer experience. People with bad experiences wrote long hateful comments, others clicked through to award high marks across the board. Ironically the survey itself became the most heavily weighted moment in the customer's sales or service experience. This process did not give the corporate office visibility into what was the real customer experience, and what were the specific areas that needed the most improvement, and they were frustrated. The existing reporting structure produced a lot of data, but not compelling actionable insight.

The stakeholders knew there would need to be changes to fix the processes that were creating poor customer experiences. They commissioned the project for a different approach to gathering insights about the customer experience. They valued that new narratives would emerge within the organisation by taking an ethnographic approach to assess their next actions. 'An organisation culture capable of sustainable innovation requires cultural alignment, but to change an organisation's culture, people must be motivated to think differently.' (Rejon 2009: 164). The project approach was planned to link the insights from ongoing quantitative survey results to compelling ethnographic encounters, to create this motivation amongst the client stakeholders and wider organisation.

PROJECT APPROACH

The team's approach set out to map the front-stage, what the customer experiences, and also the back-stage of the customer journey, the processes from the dealerships and corporate that support the customer journey. Both sides are critical as the organisational culture impacts the customer experience. The project was conceptualised to support the data from the surveys, to add a layer of narrative which would support senior management in reaching a point where organisational change would be compelling. Claro and Engine Autos agreed on four key deliverables.

- A 360° map of how customers experience corporate goals and measures,
- Illustrate the journey map with customers' pains, challenges and delights,
- Strategic direction for how to improve the customer experience in alignment with, business objectives, both short term and long term, and
- Explore industry and retail best practices.

The team of one lead Partner, one Senior Associate and two Associates from Claro purposefully planned project activities that would challenge stakeholders to see their customers, and their own organisation, with fresh eyes. It was important that the project

would provide them with experiences to see the impact of their day-to-day work on their customers and dealership staff.

The project adopted a classical anthropological approach that ‘makes the strange familiar, and the familiar strange.’. Social anthropologists from the academic tradition, such as the great Malinowski, pioneered long fieldwork expeditions. They travelled to far away places to do participant observation research, often returning with a greater understanding about themselves, not just the society they had been living in.

This project was conceived with that same mindset, to create experiences for stakeholders that would lead them to encounter another way of working and being, to reflect on their familiar, established modes of thinking and spark new ideas. As ethnographers working in a business and for a business, the team sought to translate the practice of a culture into a format understood by another. The emphasis was on making connections and patterns between what people say, and what they do, to take a holistic view that uncovers the contradictions in belief, action and narrative. The team set out to recreate the spirit of the ethnographic expedition, to deliver a client experience that would reveal insights about both the customers and their own company. The project sought to move corporate ethnography from being a research method to delivering insight with strategic corporate value (Depaula, et al: 2009:4). The project had an emphasis to design something new, not just observe and record the current experience.

The ethnographic approach to this project contained a variety of activities, and for the sake of orientation this article is organised along a ‘client experience journey’. The client journey included: pre-fieldwork, fieldwork – when the most significant ethnographic encounters occurred - and post-fieldwork.

PRE-FIELDWORK

Before any ethnographic fieldwork, researchers must prepare their research approach, their hypotheses and their equipment. Leading the client through these ethnographic expeditions also requires getting them prepared for going into the field.

Many of the project stakeholders, in sales, services, dealership training and marketing divisions had spent their entire careers in the auto industry, and winning over their confidence was initially challenging. It was important to answer questions and acknowledge early what outcomes they wanted from the project. From Barcelona, Spain, where Claro is based, the team ran ten stakeholder phone interviews with individuals or pairs of stakeholders. The department heads were able to get comfortable with the team, the project scope and the planned activities. During the calls they opened up in confidence about their challenges, and helped lay the groundwork for fieldwork focus areas. The team learned some of the specific terminology used within the company, and became familiar with their internal metaphors and department characteristics.

There was great emphasis put on making the outcomes of the project actionable. One member of the research team said, “I want to participate [in the project]. Measurement needs a context. The business reports just give numbers. We’re now looking at what does satisfy customers - not just metrics.”

In addition to these initial stakeholder interviews, the team received a mountain of documents from Engine Autos, including past projects, survey results and market trends.

They delved into the data and extracted the most relevant information for the project. It was valuable to demonstrate they had understood the material they'd been given by the client.

The first face-to-face touchpoint with the stakeholders was the Kick-off workshop on a cold, snowy January morning at a log cabin restaurant off the side of a highway. Fifteen stakeholders arrived for this off-site, eager to discover more about what was planned, and how the project would deliver results they could act on.

At the one-day workshop the team from Claro Partners demonstrated they'd been absorbed in the client's world, by running activities using the client's existing frameworks and understanding of their customers. The team took everyone through empathy building exercises, to imagine what would be the emotional stages to buying a new vehicle, to prepare them for the fieldwork encounters that were to come.

This first interaction with the client required them to suspend their normal routine. The meeting was in an unfamiliar setting, and working alongside people from across different functional areas of the company. The stakeholders were challenged to take a holistic, customer-centric perspective, not an engineer's measurement-focused approach. Another exercise centred around buying a new vehicle to force stakeholders to get into the customer mindset. It purposefully downplayed the financial factors, engine specifications and model customisations available to challenge how these stakeholders would otherwise characterise the purchase choice. The team also went into some detail about what would occur during research, and what role the clients would play if they were to participate in fieldwork.

Engine Autos understood that inspiration for strategic action does not necessarily come from monthly surveys. They felt the imperative to get close to their customers' lives, to be absorbed in their world – it was to be a new experience for many of them, to actually meet their customers. There was excitement and nervousness about the encounters ahead.

FIELDWORK

Claro set the clients' expectations for fieldwork early on. For the project to be effective it would be important to not just deliver insights from fieldwork, but also for Engine Autos to believe in the insights, feel a connection to the project process and feel ownership of the outcomes. It was commendable that ten of the twenty stakeholders were budgeted to go into the field and have their own ethnographic encounters.

The act of going into the field would allow the stakeholders to shape the direction of the research. By having them join, and have their own encounters with dealership staff and customers, their input would raise the quality of the research. They would be able to spot outlier behaviours, and add their industry knowledge in debrief discussions. An ethnographic approach to data gathering allows a team to balance focusing on the in-the-moment behaviours of people, and the longer term cultural changes (DePaula 2009:4).

As important as mentally preparing clients, there were also some practical steps to take. The clients were told to wear casual clothes for interviews, turn their phones off, travel with the team where possible, and arrive and leave customers' homes at the same time as the interview team. The stakeholders joined their prospective teams for a pre-brief meeting, and during interviews had a role, whether that was setting up the video camera, taking photos, or taking written notes in their own notebooks.

Clients were expected to be fully involved in the interviews, and also the debrief sessions afterwards – they were to be para-ethnographers. An ethnographic encounter isn't

just an interaction with another type of person, it's pulling out the insights and the synthesis as well. Fieldwork took place across three US cities; Jersey, Austin and Los Angeles, over the course of three weeks. In each location the team met with eight vehicle owners. They were a mix of customers, prospective customers, and competitors' customers. They included people with a mix of ages, income levels, ethnicities and household setups. They also visited two dealerships to speak with sales people, finance managers, service writers and mechanics. Over the course of the three weeks, 10 stakeholders joined, for an average of two interviews each. The experience was an exercise in listening, observing and reflecting.

There were three occasions from this fieldwork that underscored the value of taking corporate clients through ethnographic encounters.

1. The Internet Sales Manager

There is a trend for shopping to increasingly happen online as well as offline, and for people to blend their search across multiple devices over a long period of time. Engine Autos had responded by updating their marketing efforts accordingly. They have state of the art brand websites for each of their vehicles. However once the seller has been on the brand site, they have to switch across to a local dealership website to arrange a visit or enquire about a particular vehicle. This is when the customer experience transfers from head office to dealer.

In Austin the team interviewed the Internet sales director at one dealership to understand his experience of the brand sites and customer expectations. Diego was a Hispanic man in his forties, he had been in his position for six months and he was revolutionising how his dealership was closing sales. Although the dealership management employed eight sales consultants working on the floor, Diego had control over all the leads that came through online channels, and twelve full-time Internet salespeople. He was running the websites and email communications for that location and for four other dealerships across the city. His access to potential leads was huge, far greater than the sales consultants stuck behind their desks waiting for walk-in interest or making cold calls.

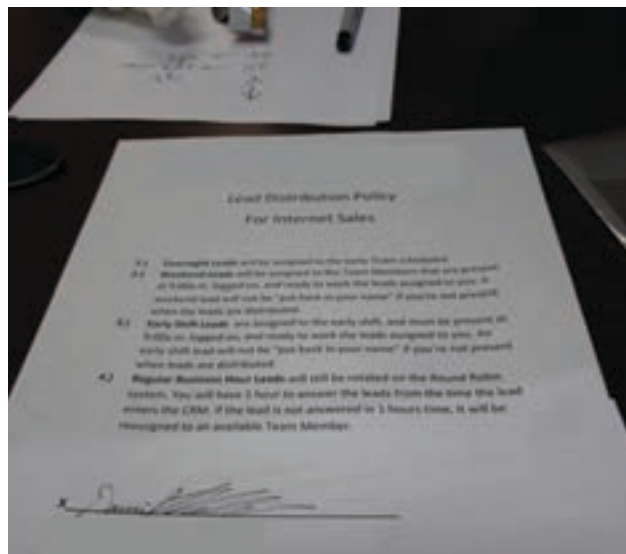
Joining on this interview was Paul, who's position at Engine Autos was in developing training. He was responsible for putting together the courses to train sales staff about how to close a sale, and knowledge of all the new vehicles. Diego's desk was packed with paper, car posters and family pictures. For forty minutes he proudly demonstrated what he'd been doing to improve the user experience, and to fulfill orders as efficiently as possible. He was clearly profit focused, but also had energy for improving the customer experience as a whole. He referenced many different initiatives his team had taken.

"We have a client concierge, which is basically a receptionist for the Internet department. So our customers have a secondary point of contact initially, and get them used to a very seamless handoff.... And get them familiar with our process and show them it's seamless. So when they go to our finance department the transition is equally easy."

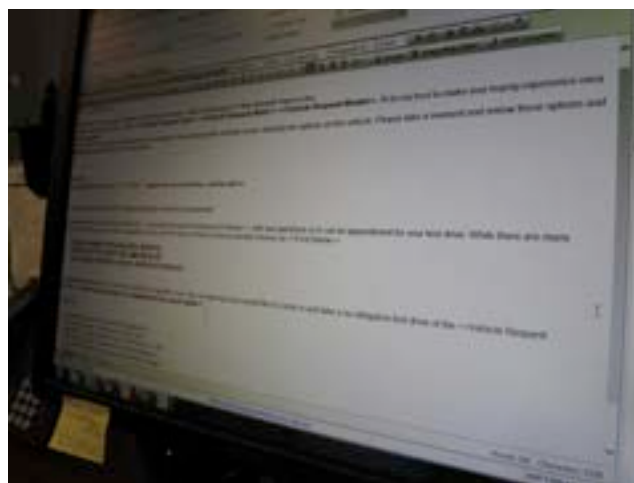
Another change was overhauling the banner images used in emails. People were reading emails on their phones, and therefore the slow to load large images were no longer optimised for this. He had overhauled the template for messages so that they were more personal. He had devised a system that was fair so that his sales team members were on a rotation to come in early to work so that they could pick up new leads that came in over night. His standards were high, for customers to receive an email reply in ten minutes, not three-four hours, which had been the norm before. All his sales consultants had a one-price

model so that negotiations online were only for the trade-in price and the financing model for the new vehicle. He had initiated a system where every salesperson uploaded their email exchange to the company CRM system, so that if they would leave the company a record of their email correspondence was kept.

Paul asked Diego some specific questions, and was fascinated by how effective Diego's Internet sales business was. He was copying a successful dealership in Idaho, which although in a remote location was making huge sales each month because of their Internet business. The encounter was a glimpse into the rapidly changing sales landscape. Paul's job was to focus on training the sales consultants on the floor. What Diego was demonstrating was that this model is being eroded away by changing customer expectations and progressive dealerships that have adapted their offers accordingly.



The contract internet sales people sign



The email template the sales team use



Diego at his desk

2. The Confused Customers

How much a customer pays for their vehicle is neither consistent nor transparent. Dealerships buy their stock from the manufacturers, but then they are free to price their vehicles at whatever level they want. The industry has its logic for keeping this system from a supply chain management perspective, but an unintended consequence is customer distrust and aggravation.

One of the customers interviewed was Grace, a single woman living in a suburb of Austin. She was about to replace her existing 4x4. With two stakeholders in the interview alongside us, Grace showed us how she had been customising the vehicle on the Engine Autos brand website. She said at the moment she was configuring certain trims, features and colours – the price changed with every addition. She was enjoying that part. What frustrated her was she knew this would not correspond to the price that would be available when she would visit her local dealership. “I just want a price!” she exclaimed as she sat on the sofa and showed us her laptop screen. From the beginning of her customer journey, marketing was telling her one price, but she knew it would not be available. She would feel the need to negotiate with what the dealership would want to charge because she had seen a lower price before.

In a short video clip recorded at the end of the interview, she reasoned this isn’t a standard way to buy a piece of technology. You normally know the price. The need to haggle at the dealership was a hassle. She enjoyed the search in general, and building up her knowledge ready for the dealership, but this was in order to prepare herself for the sales tricks, “I know as much about the car as they’re going to tell me.” She added, “Other than test-driving, there’s no other reason for going to the dealership.” The whole offline experience at the dealership was a necessary hurdle to pass, rather than anything else more positive.

One of the stakeholders that joined this interview was struck by how absurd it was for the customer experience to begin with a misalignment between brand and dealership, to knowingly create friction and anxiety, at a time when the customer should be falling in love with their choice. We had time and again heard salespeople share their frustration at having to explain the pricing system to irate, defensive customers who ‘simply wanted the price they saw online’. This encounter gave the stakeholder empathy with the customer as he could see the Engine Autos site itself was encouraging this kind of customer behavior. They were able to take the narrative of Grace’s experience into the next phase of the project.



Grace talking about her search

3. The Lemon

The newly appointed head of research at Engine Autos flew down to Austin to join the team for his first-ever ethnographic interviews. After a career as an engineer, he was coming to grips with research terminology, the rhythm of a day doing fieldwork, and interacting with customers for the first time. Alongside him, another stakeholder joined, a senior representative from Service, who normally worked managing the call centres.

Claro led a semi-structured interview with a man at his home about his service experience at a local dealerships. The three-hour interview was set up in a way to give the customer the opportunity to share his experience uninterrupted. There’s a power of sitting in a room and being forced to listen for a few hours. These stakeholders are often extremely time pressed, making multiple important decisions each day. The act of listening, absorbing and processing the customer’s experience should not be downplayed. This individual, Todd, had had quite an ordeal.

Todd shared his story of buying his car new in 2013. He noticed a few weeks later the cosmetic paneling on one side was coming off. He returned the car to the dealership where he'd bought it to be checked. They fixed it once, after thirty days at the service centre. But the problem reappeared. Three further times he had to take the car back. One time they took the car from him to get the work done, but when he returned ten days later to pick it up, they still hadn't fixed it.

He explained, "Why are you doing the same thing over and over again. Wasting my time and your time... We waited for months and months for the parts to come in. And I said, why is it such a hard time to get the parts? We've ordered them four other times. They come in two to three weeks."

The service department at the dealership blamed him for the problem, saying his driving had caused the fault to the side paneling. The dealership general manager was unsympathetic when Todd confronted him at the dealership.

"The last time I spoke to the service manager it just seemed like he didn't care."

He believed he had been sold a Lemon (a car which is defective from the factory), but Engine's legal office was dragging out the process. They had not replied to his letter in over four months. He showed the team all the files with the evidence of his correspondence, and the lack of response.

After the interview, the two stakeholders raced into action. This encounter shook them. Todd's experience had exposed poor customer service, disconnected communications among dealership staff, and between dealerships and the corporate office.

Their encounter in an ethnographic setting had made them aware not only of problems, but to empathically experience the emotional and financial impact that those problems were having on real customers, like Grace and Todd. They'd just been having coffee in this man's living room, and his problem was now their problem.

Having stakeholders from corporate head office join for fieldwork gave them the stories they needed to articulate the importance of getting the customer experience right. They had rich narratives as inspiration for taking action within their organisation – they were emotionally invested in the project. The client experience journey was having its intended effects.



Todd shows the team his car



Rich (Claro Partners) talks through the service experience with Todd

POST-FIELDWORK

Ethnography was not merely fieldwork, and the synthesis process – translating rich narratives into insights and then opportunity areas for change – it involved much further work, and new kinds of encounters for the clients.

Synthesis was an ongoing process throughout the fieldwork. After each interview, the clients were involved in debrief sessions, reading through notes, pulling out key observations, and sharing if there were new ideas or questions for further investigation. The client's presence was extremely helpful at this point. With in-depth knowledge of their own company, they were able to respond to assumptions, or answer technical questions about processes such as service recalls. It was valuable to understand how the clients made decisions, and what information was important to them.

After each week of fieldwork there was a conference call with all the stakeholders. The Claro team would share the project progress and initial insights, and provide time for stakeholders that had joined on fieldwork that week to share their encounters. This was important to reinforce the shared experience and the higher-level process the team was going through – suspending their normal mode of operating and thinking. It also firmly put stakeholders into the role of cultural translators. Big organisations need people to be able to interpret culture (Tett: 2015) so that new ideas can percolate to the most important decision makers from voices that are familiar. The process of having clients join on fieldwork and

share their experiences is more effective than having outside consultants report back their findings at the end.

After returning from fieldwork in the three locations, there were just a few weeks to synthesise all the data to prepare for a co-creation workshop. Veronica the direct client, joined the team for one week of synthesis in Barcelona. There were structured work sessions to map out the key pain points, delights and then the prioritised areas to share back with the wider team to decide on action. Having Veronica join for synthesis was invaluable for understanding which issues should be prioritised, based not only on customer needs, but also the internal politics at the company.

The co-creation workshop was planned as an opportunity for all the stakeholders to align on what should be the customer experience pain points to address immediately – and time to plan how they could work across functional areas to fix the problems. This also was time to surface the issue that the company was not working toward an agreed vision. They knew they needed to raise their customer experience satisfaction survey scores – but they didn't know what standard of experience they were aiming for.

In the workshop itself the clients had a moment of realisation. The experience of visiting customers, dealerships and highlighting the customer impact of internal misalignments had exposed some big gaps across the customer journey. It was significant that the outside consultants were not reporting back insights from research. Instead the group was discussing their different perspectives based on shared experiences and insights from fieldwork encounters.

The consultants and stakeholders ended the workshop in agreement on how to solve some specific critical pain points around announcing recalls and updating the status of service, as well as the issue of sales consultants in dealerships not completing their own sales until they had passed a certain training milestone. Working groups were formed to take further action. Significant as well, a majority of the key decision-makers were clearly onboard with the suggestion that the company needed a defined point of control over the customer experience.

CONCLUSION

This project emphasised the importance of inspiration from ethnographic encounters. The surveys, which were recording a version of customer experience, were not compelling employees to direct action. The rich experience of fieldwork – of encounters with dealership staff streamlining the online purchase experience, of customers purchasing a defective vehicle – had a powerful impact on the client organisation.

Over time the team's recommendations gained traction and were being acted upon. Videos from fieldwork, of customers talking about their experiences, were incorporated into dealer training, and there was a philosophical change in this training, from a step-by-step process interacting with a customer, to meeting them where they are in the process. The customer experience survey was modified with efforts to improve the text analytics. Also some further quantitative research was carried out to investigate the frequency of the pain points that had been identified.

The client's experience in this project had been purposefully crafted to be emotionally and intellectually involving. Taking clients through some best practices from fieldwork,

going through the process of connecting an encounter to insights, and then re-designing the customer experience based on these insights was effective and powerful.

Clients' memories of encounters they had will provide inspiration for action as they continue to work on the details of improving the customer experience. By elevating the experience of ethnographic encounters, Engine Autos gained new insight into their customers' lives, and also their own organisation. The project created the impetus for change that will propel them forward in the future.

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Case Studies 1 – Ethnographic Approaches in & for Organizations

Strategy as an Unfolding Network of Associations

TOM HOY
Stripe Partners

TOM ROWLEY
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This case explores a business strategy development project run by Stripe Partners for a London-based online healthcare company, Dr Ed. The first part lays out the details of the process: an intense four-day ethnographic research programme called the 'Studio' involving the Dr Ed senior management team. The second half reflects on the outcomes of the process one year on through a series of management interviews, and evaluates the contribution the Studio made in relation to the new business strategy. The evidence from the case suggests that the concept of strategy can be reappraised. From strategy as a static set of choices made at a specific point in time to strategy as an unfolding network of people, shared experiences and artefacts that is constantly being remade. The primary benefit of the Studio approach is its capacity to initiate, align and catalyse a 'strategy network'. Studios are effective because they combine ethnographic encounters with collective problem solving to produce rich, tacit forms of knowledge that engender shared commitment and understanding.

INTRODUCTION

Business Context

Dr Ed is an 'online doctor' service. Formed in 2011, their primary business is providing people across Europe (UK, Germany, France, Ireland, Austria and Switzerland) with simple access to common prescription medicines (such as erectile dysfunction medicine, contraceptive pills and asthma medication).

Dr Ed operates in an expanding market, the result of legislative changes across the EU which have enabled the remote prescription of specific medicines. Awareness levels of the service remain low, and to date customer acquisition has been driven by paid-for and organic online search. In the UK a number of well-known incumbents have used their brands to differentiate themselves online from new market entrants like Dr Ed. As the market has matured in the last few years customers have become increasingly price driven, accelerating the commoditisation of the market.

Amit Khutti, Managing Director and co-founder of Dr Ed, approached Stripe Partners in early 2015. He explained their situation: a successful business with ambitious growth plans coupled with high levels of industry knowledge, but an uncertainty on where to commit their energy and resources for the next phase of growth. An external consultant had helped the management team develop six potential strategic directions for the business, but they were unclear which represented the best opportunity.

Beyond sales and survey data, the management team had a limited understanding of their customers. The Managing Director felt that understanding more about their customers would help them set the right direction for the business. His brief to Stripe Partners was

simple “bring my team closer to our customers and in doing so help us develop a 3-year business and innovation strategy”

This case study lays out the subsequent ethnographic research process Stripe Partners facilitated and explores the impact it had on the Dr Ed business in the year since the engagement.

Background to Stripe Partner's Approach

Stripe Partners is a ‘global strategy and insight’ consultancy that specialises in ethnographic research. Since 2013 Stripe Partners has worked across a wide range of clients and sectors, encompassing brand, product and business strategy briefs. The guiding principle of Stripe Partners’ approach is one of pragmatism: retain and develop practices that result in significant client impact, and phase out others. As patterns have emerged across projects we have synthesised our experience into a coherent approach termed ‘The Studio’.

The Studio is characterised by three core features. First, it emphasises first hand client engagement in ethnographic research. Second, it encourages multidisciplinary groups to live with one another over an extended period in the field to the exclusion of all other work. Third, it privileges focused, goal-oriented, iterative, team-based activity.

The Studio approach has produced noteworthy results, including producing P&G’s ‘lowest cost per impression’ advertising campaign in history. But, until now, there has been limited analysis into how and why it works. In a paper for EPIC 2015 we explored the philosophical underpinnings of the Studio approach (Roberts and Hoy 2015). Despite the fact that the paper included an illustrative example from a project, it did not attempt to explain the underlying mechanisms that make it a successful approach to solving commercial strategy challenges.

The purpose of this paper is to explore how and why the Studio approach creates impact by exploring a particular case. The first half of the paper is descriptive. It introduces the business background and provides an overview of the Studio activity. The second half is analytical. In it we reflect on the outcomes one year on. From interviews with the Dr Ed team we outline the underlying mechanics of the process. The case study therefore represents a specific example of how and why ethnographic work conducted through a studio approach creates impact and value. However, we also argue for the more general applicability of the studio approach to strategic business challenges.

PART ONE: THE DR ED GROWTH STUDIO

Meet the Participants

The Dr Ed management team is diverse with a variety of backgrounds and skills. Amit is an ex-McKinsey & Co consultant and formerly Strategy and Planning Director in a major NHS hospital trust. David, Amit’s co-founder, has a background in Law. Louisa, the Medical Director, is a qualified Doctor. James D, Head of Operations, is a trained Pharmacist. Joe, Chief Marketing Officer, worked previously at another online healthcare start-up. Anita, Director of Product, has a background in technology and software development. James P, Marketing Manager, an experience digital marketer.



Studio participants from Dr Ed and Stripe Partners

Each participant entered the Studio with a unique perspective and set of priorities, which flowed naturally from their backgrounds and roles. A number of strategic directions had been discussed prior to the Studio each had specific advocates across this team.

The Stripe Partners Studio team included two Partners: Simon Roberts and Tom Hoy, and two consultants, Charlotte Hollands and Kat MacDonald-Taylor.

How the Process Worked

To date the management team had had very limited direct exposure to their thousands of daily users. Together with Stripe Partners, Dr Ed identified three user types which were important segments for the business: repeat prescribers of (1) asthma inhalers (2) medication for erectile dysfunction and (3) contraceptive pills. The management team believed that by understanding these core users they would be able to define the future strategic direction of the business.

Given the sensitive subject matter and limited database, Stripe Partners consultants personally called regular Dr Ed users to ask if they would be willing to become part of the research, and host up to three people at home. This process was time consuming, but a worthwhile way of establishing contact.

Meanwhile Stripe Partners rented a large apartment in Angel, North London, which would act as the HQ for the duration of the project. Stripe Partners selected the space because it could comfortably accommodate four simultaneous workshop sessions as the group would be working in small teams.



A Studio team discussing the morning's research

Stripe Partners prepared a fieldbook for each Studio participant, which included a detailed outline of the schedule, tips and tricks for conducting fieldwork, along with space to note down observations. Alongside this we developed a detailed fieldwork guide for each team leader.



The Dr Ed Studio fieldbook

Finally, Stripe Partners set-up a WhatsApp group which would serve as an ongoing space to share observations and experiences as teams dispersed on their fieldwork assignments each day.



Sharing experiences across teams on the WhatsApp group

The first three days of the Studio followed the same structure. The group split into four teams of three (two Dr Ed representatives and one Stripe Partners team leader). First, each team travelled together to a patient's home and spent three hours exploring their world – including, but not limited to, their family history, medical condition, healthcare interactions and use of the Dr Ed service. The Stripe Partners consultant led each research encounter, with Dr Ed representatives given clear roles to fulfil such as capturing images and video, or probing specific areas of interest.



Discussing product choices with a user

Second, each team spent the early afternoon pursuing a ‘mission’ that would shed further light on the user’s experience (for example, to get insight into the benefits of using the online service Stripe Partners briefed participants to attempt to register at local doctor's office / surgery).



Joe embarks on a research mission

Third, each team returned home and spent two hours discussing and capturing their key observations from the morning’s research and mission, facilitated by their Stripe Partners team leader.



A team 'download' session post-fieldwork

Fourth, the four teams gathered together to present and discuss their day's research. As a group, we then developed shared insights and initial implications for the business and its three-year strategy.

On the second night Stripe Partners hosted a dinner at the apartment where the group was joined by two executives from an online financial services business. The executives discussed with Dr Ed the parallels of operating as a disruptive business in a highly regulated environment and how they had put customer research at the heart of their business' operations.



Expert dinner with Nutmeg, an online personal finance business

On the fourth and final day the group used the insights from the previous three days to develop the three-year strategy. Participants started by developing the high level mission and vision for the business. Then we worked in teams to consider the implications for different functional areas of the business and to develop concrete actions plans.



Discussing the three-year strategy at the final debrief session

PART TWO: EXPLORING THE OUTCOMES

It's common at the end of an intensive strategy development process to create ambitious plans in the moment, only for the plans to dissipate as the reality of everyday business takes hold again. One year on we revisited Dr Ed and interviewed Amit, Louisa and James P to understand where the business was now, what impact the Studio approach had achieved, and to explore why.

The following section discusses the outcomes as they were reported in the interviews, and in doing so lays out a theory for how they were produced. The analysis seeks to 'trace the associations' (Latour, 2007) that were forged at the Studio in order to go beyond a linear understanding of how impact was created. To anticipate our argument, we suggest that rather than seeing business strategy as a set of static directives, it should instead be understood as an unfolding network of associations.

The Privileging of 'Hard' Outputs

One of the first questions to each of the interviewees was the same: "What's changed in the last year as a result of the Studio?" All three interviewees were confident that the Studio had made a significant impact on the business. This impact was initially framed in terms of tangible, hard decisions and results:

"We've distilled down the core strategy we developed in the Studio - the mission, vision and the four planks of our strategy"

"It's driving commercial value, although in only a year I don't know if it has dropped to the bottom line"

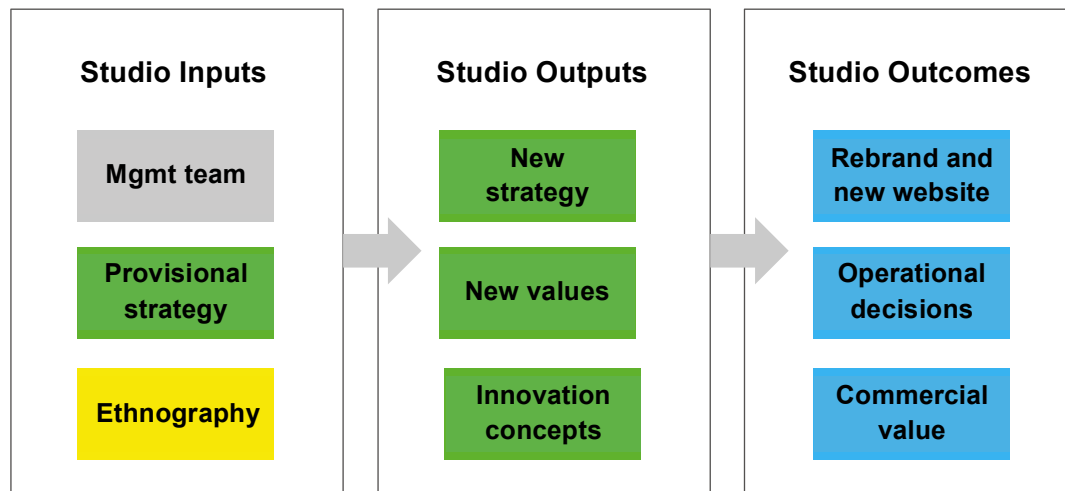
"We're implementing a new delivery service that will enable people to pick stuff up from 200 stores"

“We’ve become more focussed on actionable insights in digital marketing - using the jobs to be done framework”

The most clear-cut result had been the renaming and rebranding of Dr Ed. Entirely new websites and a new brand identity are currently being rolled out: “we’re in the process of relaunching all the websites – reflecting the trust and legitimacy needs [we identified in the Studio]”

The company rebrand is a major undertaking which involves teams from across Dr Ed and the dedication of significant resources. Amit was clear that he felt the company would not have undertaken such a significant step without going through the Studio experience.

When impact was first discussed in the interviews, a linear story was told of a clear set of inputs resulting in a clear, definable set of outcomes. The inputs included the existing hypothesis about what the strategy should be, combined with the ethnographic research. The key output of the Studio was the new strategy; a set of directives as defined in the Studio. The outcomes were then framed as the product of these directives.



The initial, linear story of impact

However, the causal links of some of these claims were not immediately clear. While many of the changes our interviewees pointed to had been outlined in the final Studio workshop session, these ideas had been initial, and sat alongside many other ideas that hadn’t become reality.

Equally noteworthy was the fact that the interviewees made links between the Studio and specific initiatives that hadn’t been discussed during the Studio. These were often tactical shifts, from a change to the way management meetings were run, through to sending team members out to conduct ethnography themselves. Nonetheless, they were attributed to the Studio process. As Louisa, Medical Director, put it: “I honestly think that countless things have changed because of the work with you...the whole way we think about what we do is different”

Viewing the Studio through the lens of a traditional innovation process, these claims could be discounted as loose, abstract or at best the products of happenstance. When

reviewing the tangible outputs of the studio and outcomes described, it is hard to make case that one led in a straightforward way to the other. The paper trail didn't add up. However, our interviewees were insistent about the impact. It seemed there was a deeper dynamic at play. Further exploration revealed aspects of the Studio process that helped to explain the associations and connections the interviewees were making.

Highlighting the Role of Tacit Knowledge

Reading Amit, Louisa and James' comments again it is noteworthy how they represent the significant outcomes of the Studio. The language they deploy disassociates themselves from the changes they describe. The strategy documents, patient posters and other tangible outputs become agents that, once committed to paper, carry forth the value of the Studio into the wider business.

The follow-up interviews with the team revealed that it was not just the documentation that was making the impact. For example, in the weeks following the Studio the management team shared user stories and insights with the wider business. Stripe Partners designed user profiles for this purpose, but the meetings themselves failed to inspire the team to take action: "we presented to people every Wednesday afternoon where we talked them through...some people didn't find it powerful...how it was presented was a problem."

All three interviewees noted that, when sharing patient insights from the Studio with the wider business, it was difficult to truly convey the content and meaning of their experiences. In fact, there was anxiety that talking about the research directly could alienate an audience who had not shared in the underlying experience. Louisa commented that "I bring it up a lot [with the other doctors] – maybe too often. To the point they get annoyed with me."

These frustrations highlight the distinction between explicit and tacit knowledge. As Michael Polanyi famously observed "we know more than we can tell" (Polanyi, 2009). Studio participants were struggling to share the richness of their personal insight because much of the nuance is inexpressible, contingent on set of underlying first hand experiences to which those who had not participated in the Studio could not relate.

It appeared it was not just the formal 'outputs' of the Studio that were driving change across the business. The formalised user profiles, vision and strategy documents were useful reference points, but in practice it was the Studio participants themselves who were acting out and acting upon the learnings from their shared experiences.

The evidence here somewhat repudiates the work of Nonaka and Takeuchi, who popularised the idea of tacit knowledge in business contexts (1995). They argued that breakthrough insights are acquired through first-hand experience, a hypothesis that participation in the Studio process seems to support. But their second claim, that tacit knowledge can be made explicit through metaphor, codified, and then internalised by the wider organisation (the 'knowledge spiral'), is not clearly supported by the case of the Dr Ed studio.

The interviews demonstrate that the tacit knowledge acquired was not simply transformed into metaphor and then integrated into an organisational 'knowledge spiral'. Rather it has been manifested in the everyday actions and practices of participants who embody this new perspective. It is the consequence of these embodied actions, not the codified outputs nor the symbolic transfer of knowledge to non-participants that was instigating change. Louisa described her embodiment of the outputs quite literally,

“everything from a marketing campaign to how I speak to a patient on the phone...my tone of voice... that’s based on what we know our brand now is”

Although elegant, Nonaka and Takeuchi account of tacit knowledge seems inadequate in explaining the richness and complexity of the knowledge acquired, and therefore oversimplifies both its translation and application.

Situating tacit knowledge in a network of associations

If we think about Dr Ed’s emergent business strategy as “a web of relations that makes and remakes its components” (Law 2007), then a more nuanced analysis begins to emerge.



The Studio instigated this ‘web of relations’ by arranging a set of actors around a particular challenge or problematization (Callon 1986) - namely the need to create a three-year strategy. The nature of these actors is diverse: some are people, some are written artefacts, some are shared stories from the ethnographic encounters. The important point is that they only make sense in relation to one another. Seen in this context, the project outcomes are a product of this network of associations reproducing and amplifying themselves over time (rather than the product of a simple linear process of strategy development, formalisation and execution).

The network - let’s call it Dr Ed’s Business Strategy - has produced long-term value because it remakes itself beyond the environment of the Studio. Each participant returned to their specific part of the business (be it medical, pharmaceutical, marketing or strategy) and made everyday decisions informed by this shared underlying network of associations forged at the Studio.

One example that draws out the distinction between this emerging concept of ‘strategy as a network’ as opposed to ‘strategy as a document’ is Dr Ed’s shifting approach to customer delivery. The ethnographic research revealed the complexities of delivering sensitive

products to the home. One customer declared that he wanted Dr Ed to become known as the 'Uber of healthcare' and make access to these products truly discrete and seamless.

At this point, the Nonaka and Takeuchi would suggest our job as researchers is complete: we have identified our metaphor. Dr Ed is the 'Uber of healthcare'. This is the idea that will convince our client of the importance of getting delivery right. But as we will see in the next part of the story, metaphor is not enough. People need to see the complexities first hand in order to grasp the nuance and become committed enough to truly make change happen.

Initiating the Network

Viewed through the prism of 'strategy as a network' rather than 'strategy as a document', the role of the Studio becomes clearer. It is effective because it successfully initiates, aligns and organises a new network of associations. In this sense the Studio plays the same role as the researchers who corralled the scallops, scientists and fisherman in Callon's famous study of scallop fishing in France (1986). How did the Studio initiate, align and catalyse the network? The interviews with the participants revealed several different dynamics at play.

a. The creation of a private, shared language to describe the network

Louisa felt that the intensive, team-based approach of the Studio helped to produce insights and other knowledge artefacts collectively.

"Moving from intensive info gathering, to [eating] lunch and other challenges, and then an afternoon of really reflective, contemplative...to me it was a brilliant way to work because you got stuck in and then came back and share...it felt like a really special sharing time – the patients talked about how they felt too...because you take on their emotions"

It seemed that the regular rhythms of each day, with in-depth team-based research followed by reflection, sharing and implication building, had created a corpus of language, stories and artefacts imbued with a meaning that only Studio participants truly shared.

"[By] experiencing it first hand and then talking about it together...you create stories, you create shorthand, you create shared language, you create ideas that are linked to something that you've just done, to real people and physical things"

The 'shorthand' that Amit describes is embedded in the language of everyday business a year on. Now when the management team discuss a plank of the strategy or a value, it does not exist independently at an abstract level, but provides an instant shortcut to a rich, concrete network of shared associations and meanings from the Studio. Louisa puts it like this:

"We don't talk specifics but when we mention a value we know it's there because of the time we had together... there's a feeling there's concrete research and experiences that back up what we do everyday"

In this sense the Studio network is remade everyday by Dr Ed. Ongoing interactions between the network mean that the shared reference points are reapplied to new situations as they arise. The textured understanding of participants enables them to authentically

recreate the network over time, in a way that is mutually coherent. By contrast if Dr Ed had taken a 'strategy as document' approach this more static form of knowledge would have become detached from changing circumstances, open to a wider range of interpretations and therefore outcomes.

b. The practice of immersive team-based ethnography promoted empathy

It was not just meeting customers, but working in a structured way, facilitated by expert researchers, that produced a deeper, anchored set of insights and implications that had the power to endure.

"Your role was important because you helped us turn things concrete... otherwise we would have just said 'that felt good, that felt fun' – we needed people to steer the session...to pull it into something concrete"

The compressed, guided process also helped to keep the team on task, cocooned from the interruptions and staccato rhythms of everyday life in the office. They felt that this distancing from the office and immersion in their customers' worlds enabled them to arrive somewhere new as a team.

"The compression is important - you're relating it back to the company but you're not thinking about your day job – the spreadsheet you need to complete...you're not distracted...you can get to clarity...you pack a lot in and you get somewhere...you'd process it less if you did and then left it, did it and then left it...you wouldn't absorb it...you wouldn't spend time to work it into something useful for you (personally)"

There is also a sense that this intensive experience increased empathy across the team. By conducting ethnographic work together, the data becomes a point of shared connection. The team was able to understand how their different personal perspectives and their functional roles were shaping their own, and each other's, responses to their research experiences.

"Before a marketing team would have pushed their agenda, now they understand the importance of the clinical side...everything is now more infused with responsibility"

Over the course of the Studio the group met with just twelve Dr Ed customers. One of the anxieties the management team had about the approach was this sample was too small. How could you build a new strategy on such a small sample size? But on reflection the team agreed that it was more compelling to speak directly with a few people, rather than commission an agency to research twice as many independently. As Louisa commented, "if you talk to one person and what they say is powerful, you have to listen to it...in that sense a small number is never irrelevant."

c. The embodied, emotional understanding acquired through the research

Interestingly the word 'emotion' featured heavily in each of the interviews. There was something particular about the process, about confronting customers directly, that differentiated the understanding they had acquired from more static forms of information

and knowledge acquisition. Amit contrasted the emotional understanding he had gained through the Studio with customer insight that had been presented second-hand:

“[a supplier] shared some customer segments... they say ‘hey this is Jane, she’s the typical 35-year-old woman, who has two kids, and shops here, and blah...and you’re like I don’t remember Jane, or really care about Jane...it feels two dimensional, it is two dimensional... in these companies when they say ‘what does Jane think?’ but they don’t really know...it’s just a couple of bullet points...it’s abstract... when I think of my asthma guy, I really feel it, it’s more of an emotion”

By contrasting the ‘bullet points’ of the segmentation with the ‘feel’ acquired through the Studio, Amit is distinguishing between propositional knowledge and embodied understanding (see Roberts and Hoy, 2015). While Amit only actually met three customers face-to-face over the course of the Studio, these encounters, and those shared by other Studio teams in-situ, helped participants develop a textured ‘feel’ for their customer’s world. Importantly, because their experience is multidimensional, this feel is “sticky” and can flex and adapt to new (business) situations as they emerge. The bullet points, on the other hand, exist in a relative vacuum and can only be interpreted literally and, therefore, narrowly to the environment they initially addressed. For Amit and other members of the team, the customers they met become touchstones to which they could continue to return to draw inspiration and guidance as circumstances changed.

d. The commitment generated by the experience

Another important aspect of Amit’s observations is revealed by the word ‘care’. When it comes to making change happen within organisations, truly caring can be the difference between starting an initiative and finishing it. Bullet points did not motivate Amit to put himself on the line in the way that the Studio process did. For example, let’s return to the complex change the company is undergoing to improve customer deliveries:

“[the experience] made it feel real - I now know that delivery wasn’t just important but really important. And more complicated than we thought. It’s so contextual how people think about delivery...we saw when we got it right people really loved it”

In making the distinction between information and knowledge Nonaka and Takeuchi highlight the role of commitment: “Knowledge, unlike information, is about beliefs and commitment. Knowledge is a function of a particular stance, perspective or intention” (1995: 58). By instigating commitment, the Studio helped to ensure the nascent network of associations would continue to be remade when the participants returned to their day jobs.

The significance of commitment is also demonstrated in one of the biggest decisions to emerge from the Studio: to change the name of the business from Dr Ed. Amit and his co-founder David had coined the name Dr Ed and were personally attached to it. For several years other members of the management team had suggested the name was a problem, but it wasn’t until the Studio that Amit was open to an alternative:

“It’s not easy to hear...David and I came up with the name 5 years ago...we don’t care about the design, but to rename...we got to that point at the end of the Studio...we were like ‘oh my god no one likes the name’. That was a big emotional place to get to for us personally...”

By confronting ‘concrete’, ‘physical’ situations, in which customers demonstrated genuine distaste, Amit and David became less committed to the Dr Ed name. Following the Studio Joe, the CMO, ran a series of tests on Google to back up the argument for changing the name with quantitative data. Amit was now open to the findings, and this lead directly to the current rebranding.

CONCLUSION: BUSINESS STRATEGY AS AN UNFOLDING NETWORK OF ASSOCIATIONS

In his classic article, Michael Porter characterises strategy as the need to make difficult choices. He argues “with so many forces at work against making choices and trade-offs in organizations, a clear intellectual framework to guide strategy is a necessary counterweight” (Porter 1996). However, the evidence explored here suggests that an intellectual framework is not enough.

Porter characterizes strategy as a linear, analytical process that produces a static set of written materials outlining the agreed direction and set of decisions. Strategy is, in theory, independent of the people, context and environment in which it is conceived. In this view, the strategy document could be shared with an equally competent management team and the same outcomes would be achieved. Strategy development becomes a science, the products of which recede into a ‘black box’ (Latour 1987), thereafter usable by other qualified business ‘scientists’.

However, as the evidence has demonstrated in this case study, the range of outcomes are often contingent and not the result of a linear process. They are the product of an ongoing and complex interaction of people, experiences, artefacts and decisions that plays out over time. In this sense strategy can be seen as an unfolding network of associations, not a static, disembodied document.

If we stop thinking about ‘strategy as a document’ and start thinking about ‘strategy as a network’, then this reframes how we think about effective strategy. At the centre of this sits the question of knowledge management. In the ‘strategy as document’ paradigm, it is assumed that formalised knowledge is infinitely transferable. In the ‘strategy as network’ paradigm, it is assumed that knowledge is contingent on participation in the network.

As Stewart Allen explains, knowledge is produced in networks, and therefore not fully transferable between them:

[When] we read knowledge as an emergent phenomenon performed between a range of heterogeneous actors, rather than an entity transferred between individuals across space, we are in a better position to consider the different actors that shape the outcome of knowledge-transfer projects. Knowledge in this sense is transformed and transmuted between different actor-networks rather than transferred as a distinct unit. The form of knowledge that emerges is contingent upon the actor-networks through which it is performed. (Allen 2011)

This helps to explain why participants in the Studio struggled to communicate the nuances of the strategy to people who were not part of the process. The ‘form of knowledge’ they had developed was predicated on the non-replicable network produced through the Studio process.

Viewed from this perspective, the Studio can be understood as a vehicle for initiating, aligning and catalysing a network of associations. By recognizing strategy as a network, the

approach helps to focus the ‘web of relations’ between actors. In this light, the distinction between a good strategy and bad strategy is not just its formal content. It is also the quality of these relations, and how coherently the network reproduces itself over time. As soon as relations break down, so does the coherence of the strategy.

The ethnographic research at the heart of the Studio is a critical ingredient, contributing to the network a set of common experiences and insights which strengthen it. The form of knowledge which is produced in the process becomes the foundation for the strategy that emerges. People and outputs become the carriers of the strategy, but only if momentum is maintained.

The Dr Ed strategy is considered successful to date partly because these relations have remained active, strong and coherent. The fact that a senior, cross-functional team engaged in the Studio seems important. If a more junior team had been engaged with little organisational authority the network may have lost steam. Important too is the small, entrepreneurial nature of the business, which has enabled fast, flexible decision-making. This raises questions about how transferable the approach is to larger organisations.

On closer inspection, however, it is less a question of scale, and more a question of whether components of the network (the people and shared resources) have the capacity to deliver the strategy. If the strategy is too ambitious for its components, then relations will break down and it will cease to exist. The trick is getting the right mix between ambition, people and resources. The Dr Ed strategy was ambitious within the context of the organisation because it involved the most senior people in the business. A strategy engaging people with different positions within an organisation needs to reflect those positions.

Prioritising the multiple components of the network also puts our role as ‘strategist’ or ‘researcher’ in context. Rather than an omniscient, objective agent, once removed from everyday business, the strategist becomes another actor with a particular set of skills. Their contributions within and ‘translations’ (Latour, 2007) of the network should not be favoured when accounting for it. Rather the strategy should be defined, understood and evaluated in relation to all its contributing components.

Perhaps the most interesting contribution of the Studio approach is that it invites us to open the ‘black box’ of strategy. In doing so it helps us reappraise what strategy is and break down the false distinction between strategy in theory and strategy in practice. Instead of smoothing over the inconvenient contingencies of strategy in practice, the Studio highlights these dynamics and seeks to control and influence them to produce more successful and predictable outcomes.

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Disrupting Workspace: Designing an Office that Inspires Collaboration and Innovation

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Hitachi America's R&D, comprised of five technical laboratories, opened the Center for Social Innovation in January, 2016. When the new office project emerged, the R&D group used the opportunity to reflect on and strengthen collaborative practices, organizational culture, and our customer engagement approach. We conducted an internal ethnographic study to investigate how space was used in our previous office, and based on our findings designed a new office space to facilitate collaboration and innovation for our group.

INTRODUCTION

The idea of using space as a way to inspire people, influence behavior, and facilitate collective action is by no means novel. Spaces specialized for activities involving multiple individuals have historically been built to support the complex decision-making and task performance required by human social life, and have since evolved in sync with our ever-changing ambitions.

Frederick Taylor is credited as the first to design a “modern” office space in the early 20th century. Taylor was very much inspired by Henry Ford’s factory design, and focused on efficiency; with desks in a perfectly lined formation, he literally brought the assembly line to clerical work. Over the years that followed, workspace evolved to be increasingly more segregated to accommodate growing specialization, resulting in more individualized, private compartments: cubicles (Frederick, 2014). More recently, we have seen trends to remove walls and adopt a more “open” layout. With this conceptual shift, workspace has been receiving renewed attention as part of the powerful organizational mechanisms that generate innovation.

In Silicon Valley, workspace has recently garnered a high level of interest. In addition to unconventional hiring practices and generous perks, large corporations in Silicon Valley leverage their office spaces for organizational success. Many highlight open layouts (as opposed to cubicles), setting a workspace standard for admirers and competitors alike. At the heart of the enthusiasm around workspace design lies the notion that workspace can be generative, even essential, for creativity and productivity. This conceptually connects workspace design and organizational revenue, positioning workspace design as a strategic move toward company success rather than merely a matter of capacity and aesthetics.

In workspace design, one thing many researchers seem to agree on is the positive impact of face-to-face and informal interactions (Waber, Magnolfi & Lidsay, 2014; Pentland, 2014; Kraut, Egido & Galegher, 1990; Kraut, Fish, Root, & Chalfonte, 1990). This is hardly difficult to imagine; informal and face-to-face interactions can engender distinct connections

and opportunities for critical information exchange, collaboration, networking, problem-solving, resource allocation, and more. While face-to-face interactions may be hard to *assign* to employees - especially knowledge workers, who tend to enjoy a relatively high level of freedom in structuring where and how they work - they *can* be facilitated by space design and its amenities. An environment, when designed carefully, can both encourage and inhibit certain behaviors.

That is far from saying, however, that workspace design is “the” solution for firms seeking improved innovation or collaborative practices. We often use words like “innovation” and “disruption” to refer to technologies that effectively change our lives for the better. The stories of innovation and disruption are often told in a simplified linear progression, originating with a couple of young entrepreneurs, often highly educated Caucasian males, with a single bright idea that blossoms into a business worth billions. The “garages” that many companies are said to have *started* from – most famously HP, Apple, and Microsoft – have become cultural symbols of entrepreneurship, and have built a compelling cultural narrative of the triumph of “lone pioneer” innovators. Yet, as Audia and Rider (2005) argue, the crucially defining elements of their subsequent success can be traced back to these individuals’ experience, assets, knowledge, social connections, and confidence – all born and/or nurtured in their prior working experience in high profile organizations, far before the “garage” came into the picture. As compelling as the “garage myth” may be, it is not true in a literal sense.

Innovation is a long term process, involving a meticulously orchestrated flow of individual and collaborative effort, organizational processes, and sizable resources ranging from cutting-edge tools and technical experts to the organizational culture that fosters every element and step; a space is only one aspect of that. Allen and Henn (2007) explain: “[i]nnovative ideas seldom come full blown from a single source, but from a variety of sources. An organization succeeds with innovation when it makes it possible to share information and then integrate knowledge into what becomes the innovative idea.” Workspace is not a silver bullet, but an important part of the orchestrated process that inspires innovation.

Organizational growth and change, however, require nearly as many elements as the innovation process itself: commitment, energy, resources, and, above all, opportunity.

In January of 2016, a North American subsidiary of Hitachi, Ltd. - Hitachi America, Ltd. (HAL) - opened the Center for Social Innovation in Santa Clara, California. The Center brought together five Hitachi America R&D laboratories specializing, respectively, in big data analytics, automotive technology, IT platform systems, network systems, and user experience design. Instead of entirely leaving the design of this space to architects, contractors, and movers, our R&D group decided to take this unprecedented opportunity to reflect on and strengthen collaborative practices, organizational culture, and approach to customer engagement.

R&D, RESEARCH AND DEVELOP THYSELF

This year, Hitachi celebrates 106 years of business. The company’s group consolidated revenues exceeded 88 billion dollars last year, and it employs over 330,000 employees worldwide. The company’s commitment is to resolve societal challenges through innovation; its core values are sincerity, harmony, and pioneering spirit. All of this, most

employees could tell you, but if asked casually at a social gathering nearly all struggle to answer the simple question: “what does Hitachi make?” We make many things that allow cities and businesses to function – everything from construction machinery, automotive technologies, to data storage hardware and medical equipment. But the most iconic Hitachi innovation is probably the bullet train, which has served over ten billion people in their fifty plus years of operation without a single collision or fatality.

At Hitachi America Limited (HAL) Research and Development, we work with customers in a vast array of major industries: IT, mining, healthcare, and automotive, to name a few. Each lab member has highly specialized training, but day to day, we work as generalists - we bring our horizontal expertise to solve problems in different industry verticals. The flagship analytics developed by our data scientists for IT, for instance, are recalibrated to address algorithmically similar challenges in healthcare. Social scientists and interaction designers offer insights on how users interact with technologies and environments in all the industries we serve.

In the past, Hitachi was focused on products – technologies that helped address specific sets of problems at home, in cities, and in the world at large. While that commitment still remains strong, our focus has been redefined to include the connections *among* things - linking conventionally segregated infrastructural systems, allowing information exchange between systems and sub-systems, integrating critical data from a large number of sources, and fortifying information actionability with data analytics.

Automotive technology is a perfect example. Cars today, and increasingly into the future, are equipped with sensors, analytics, and the ability to autonomously respond to objects and environment. The mechanical excellence that historically set Hitachi apart has to now come with connective competence and analytic precision. Hence, it is critical that our automotive researchers work closely with specialists in data science, IoT, IT, user interaction, and so on. There are many interdependencies to consider in any given project, and human safety is at stake in most of the industries we serve. Technical specialization and a “silo” style organization may have been efficient in the past, but it creates vulnerability in the present context.

This shift has drastically reshaped relationships and our approach to innovation with customers. We need their knowledge in identifying, understanding, and designing for interdependencies to build solutions carefully calibrated to their specific challenges. Therefore, they are in every sense invaluable contributors and partners in the solution design process. We conduct customer-inspired research, and innovate not just for our customers, but *with* them. When the idea of a new office dedicated to our group emerged, we wanted to leverage workspace to facilitate and improve our co-innovation approach: to evolve from an R&D department into a Center for Social Innovation.

RESEARCH METHODS: INTERACTION DESIGNER + ANTHROPOLOGIST = DIY ARCHITECTS

It started as a thought exercise. The lab manager of the User Experience Design lab in the R&D floated the idea of using the principle of “discover & design” (our data-based, user-centric design approach) in designing the new office. Internal employees knew our own use cases, challenges, and culture intimately - an absolute luxury when compared to other projects, where we typically only manage a glimpse of how users operate through interviews

and observation. As for design, of course, we eventually needed to hire real architects to materialize the design into architecturally sound plans and details for construction. But we were determined to create a research-based office design on our own even before selecting a firm.

As an interaction designer and an anthropologist, we had no experience or expertise in architecture; with hope and skepticism, we began.

Methods: The Power and Limits of Studying Your Own

We decided to take an ethnographic approach for two reasons: 1) we wanted to take an inclusive approach to designing the office, and 2) we lacked knowledge on how diverse our work styles and demands were. We began with a literature review to organize our research, but an additional researcher took over and continued the literature research for the entire duration of the design process, even after data collection.

Although there is no shortage of studies relevant for workspace design, as an anthropologist, it felt nearly impossible to account for the many variables that ultimately influence workers' productivity, creativity, and innovation. The whole range of work styles, generations, business types, use cases, etc. is involved in past studies; the extent to which the findings from these studies can be generalized was hard to assess. This was equally challenging for the designer, who wanted to base the design on as many clear use cases as possible with a focus on what really worked for us, rather than give into the peer pressure of what others value in their workspace. Yes, Google has a spectacular campus, but we are not Google. The literature research was mainly used to inform ourselves of the conceptual framework, key issues, and debates involved in workspace design.



Figure 1. Interviewing an informant in his cubicle

Our research data came from interviews, observations, and map exercises. All members of HAL R&D were notified of the research and asked to participate on a voluntary basis. With senior management's support, lab managers were strongly encouraged to offer their input so that the final office design would meet their operational needs. The study was conducted mainly in the previous office in Santa Clara, CA, and in our automotive lab in Farmington Hills, MI. We prepared a themed interview guide for interviews, but interviewees were given freedom to determine the course and content of the conversation. We were interested in five major areas:

1. **Spatial niche:** Where individuals worked, socialized, and engaged in other activities in their workspace.
2. **Network:** Whom individuals collaborated, socialized, and engaged in other activities with.
3. **Customer engagement:** Where and how engagement took place, and challenges to those activities.
4. **Conceptual framework:** What workspace, collaboration, and customer engagement meant to team members.
5. **Hope & vision for the future:** What would our work be like in 2018 and beyond?

Most interviews were conducted in the individual cubicles of the interviewees, with some walk-along activities as they explained what spaces they used. Interviews were not audio-recorded to maintain an informal tone, but with interviewees' permission, we photographed their space and anything else discussed with special interest. We also recorded spaces and objects by drawing them during the interview, in order to preserve specific references to specific objects or amenities.

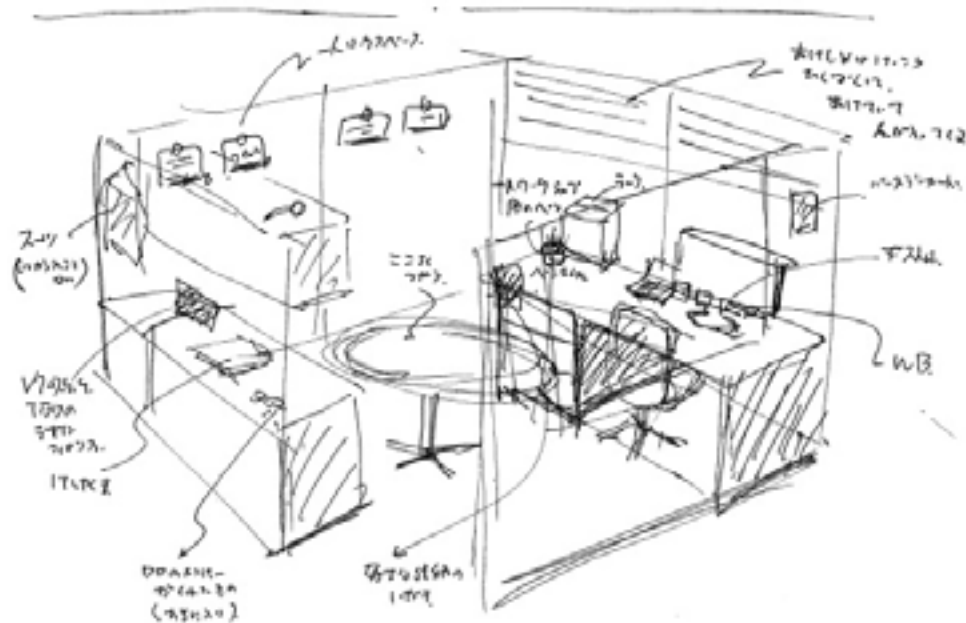


Figure 2. Recording the space manually to add specific references

During each interview, we presented the floor plan for all floors of the current office (two separate buildings with two floors each). Using a marker, interviewees were asked to draw which spaces they used, such as their own cubicle, conference rooms, cafeteria, and restrooms, and routes they used to get there. We wanted to determine the overall pattern of traffic between individuals and between labs.



Figure 3. Tracing informants' movement and activities in the space using floor plans

Our informants were also asked about their experience engaging with customers. It is important to explain here what we mean by “customers.” Our customers are organizations, both Hitachi group companies and others, who partner with us to develop solutions for their business problems – typically operational problems that impact millions-of-dollars-worth of cost, and human health and safety to a great extent; for instance, the dense, complex operation and management of a city subway system.

We asked our informants about where and how they communicated with customers, their access to appropriate amenities for customer visits (e.g., conference rooms, projectors, catering, demo space, etc.), and anything else they felt either facilitated or intervened with productive discussions with customers in an entire project cycle.

We conducted observations in common spaces such as break rooms, recreation rooms, the cafeteria, and patio spaces as well. Observations were performed sporadically during the first three weeks of the project to understand how and when common spaces were used and what type of activities they supported.

We took extra safety measures to ensure that data were anonymous in this study. We wanted to prevent any specifics about collaborative formations in our organization from impacting any employees' reputation, relationships, or perceived performance. Going in, we had very little knowledge of who was supposed to be working on what with whom, nor what information would favorably or unfavorably bias managers about ongoing projects. With the final recipients of the research study and design deliverables being senior managers, who

supervise most of the informants we talked to, we wanted to be careful about data management: we wanted to avoid inadvertently assigning blame to anyone.

Removing personally sensitive data for this study was much more difficult than in external client projects. Informants, researchers, and “clients” were all internal, which meant a lot of information – anything a group member could quickly identify or associate with – needed to be hidden to protect the identities of our interviewees. Quotes and information offered by individuals who either felt comfortable with or even requested to be on record were noted as such in the database. Photos, interview records, maps, and reviewed literature were all entered into Dedoose for coding and analysis.

When conducting ethnographic studies for customers, we love serving as a fresh set of eyes – cutting through the clutter in the messy context to offer a level of domain expertise, intellectual depth, and clarity that in many ways, only third party observers can bring to the table. But we were no impartial observers in this case. Most of our informants had either never worked with us before, or conversely, closely worked with us as fellow problem solvers for customers. Having our analytical eyes turned on them, however, raised some eyebrows. Simple prompts of “why?” or “tell me more” might index genuine curiosity in a context foreign to the observers, but asking “why” of those close to you – people you see every day at work – can register as passive aggressive criticism.

Social science 101: context matters.

RESULTS: OUR KEY FINDINGS FOR WORKSPACE DESIGN

The physical distance between workers has dramatic impact on productivity and collaboration (Allen, 1977; Kraut, Egidio, & Galegher, 1990; Kraut, Fussell, Brennan, & Siegel, 2002). In a seminal research project, Allen (1977) showed the inverse correlational relationship between physical distance and communication in a large R&D organization, with information exchange between employees completely plunging as distance reached only thirty meters – a curve later known in the literature as the “Allen curve.” While the overall takeaway of the study – the negative association between distance and human interaction – is intuitive to most, just how quickly interaction deteriorates and almost completely ceases at thirty meters is remarkable.

As tenants in our sister company’s building – a campus comprised of two bi-level buildings with an outside patio and recreational space in between – our labs were divided by sizable distance: far more than thirty meters. Unless we had specific meetings or were headed to the cafeteria or gym, we rarely travelled between the buildings. Taking a short walk in between was refreshing, but not spontaneous travel for most. The division was not by choice, but by necessity; as the organization has grown quickly since 2012, we occupied whatever space was available. The labs constantly moved and reconfigured to accommodate new members.

This meant our workspace was, for most, not a single space, but a collection of “neighborhoods”: approximate groupings of work areas and amenities, each serving its own group of employees. The neighborhood was clearly marked by some landmarks, as one informant explained, “I don’t go far. I don’t go past the executive conference rooms. There’s no one I know beyond that.” Most people had their favorite conference rooms based on proximity, amenities, and aesthetics, preferred bathrooms, go-to break room, and regular

entrances, exits, and parking areas of their choice. In effect, they had an extended “personal space” where most, if not all, work day needs were met.

This was certainly efficient and comfortable, but it created geographical silos that rarely overlapped. Even common areas failed to connect people. We had no metaphorical “water cooler”; we had *literal* water coolers, but there were too many – they were everywhere. Unless you went out of your way to visit to an “exotic” break room, you never saw anyone other than your neighbors – or anyone at all.

The face-to-face interactions are said to be productive for organizations (*see* Waber, Magnolfi, & Lidsay, 2014; Pentland, 2014). Even with an abundance of technological options for communication, interaction via phone and emails still follow the same pattern; their use is positively associated with physical proximity (Allen & Henn, 2007; Waber, Magnolfi, Lidsay, 2014; Kraut, Egidio, & Galegher, 1990). Clearly, this is not to be taken to mean remote communication does not work; it only means that the power of such technologies to fully replace face-to-face interaction should be, and is being, challenged.

Needless to say, just having a dedicated office for our organization was going to impressively increase face-to-face interaction, but there were several additional space-related findings that influenced our subsequent design:

1. **Work continuity:** Many individuals spent a large portion of their work hours in conference rooms, meeting with colleagues or customers. Since conference rooms were limited and hard to reserve, finding a large enough space for attendees was a quest. Moreover, compared to a cubicle, where the occupant had control over work materials, conference rooms needed to be emptied out after each meeting.

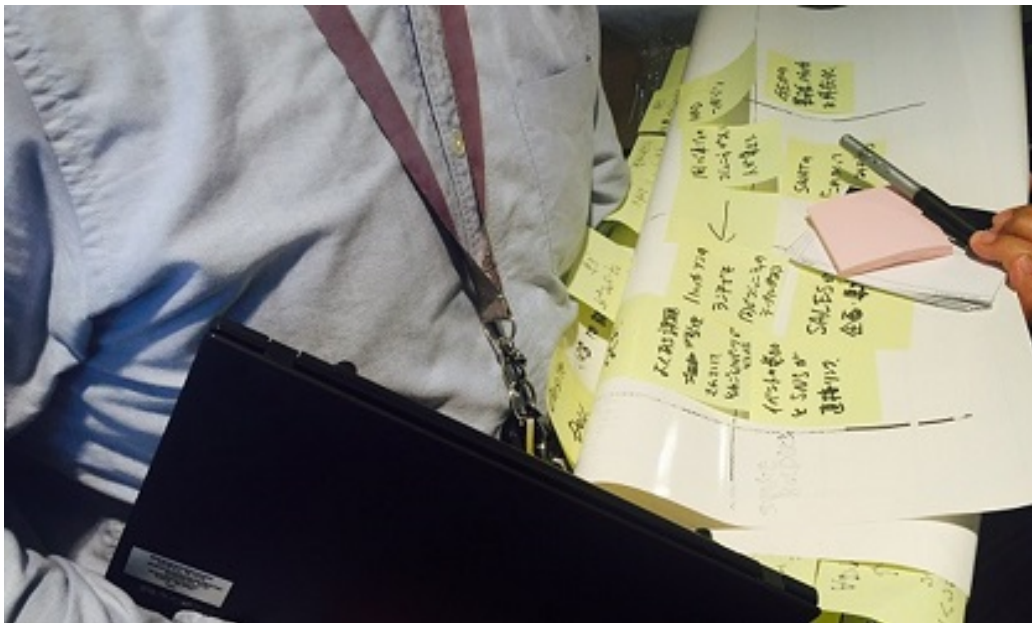


Figure 4. Informant carrying a lot of materials to and from conference rooms

Moving between rooms was not too disruptive, but preserving and transporting work-in-progress materials was. Photos were often used to preserve the progress at the end of the meeting, and physical materials with notes were transported back to individual work areas, only to be brought to another conference room once the group's work resumed.

2. **Work visibility:** During an interview with multiple researchers at one point, one particularly frustrated researcher told the story of his quest to find a domain expert to help with his project. "There's always someone who has answers to your questions in Hitachi. You just don't know who," he explained. Then, another researcher chimed in, utterly amazed that he never knew this project was even happening; he had inherited a wealth of materials from another researcher last year that solved the very problem in question. Three people had been working on the same problem over the course of a year, and none of them were aware of the others' work. As this example illustrates, lab members knew there were experts with crucial skills and knowledge in the organization, but were at a loss for how to locate and engage them. Outside formalized meetings to learn about others' work, visibility of work and expertise in general was limited: researchers were often unsure or unaware of fellow researchers' abilities, particularly outside their respective labs' boundaries.

This posed a problem for customer engagement: customers are rarely interested in only a single field of expertise. Since we are an R&D group, we have, by default, a number of technologies in development; the more exposure work receives, the more potential for innovative contributions to that work from a diverse array of experts. Even experimental technologies that may not reach the general market could prove invaluable in meeting a given client's needs; without visibility, we were failing to leverage our internal strengths.

3. **Informal interactions:** Social activities such as meals, sports, celebrations of colleagues' milestones, etc. tended to be organized within each lab, not across. This was exacerbated by the physical distance dividing the labs, but there were logistical reasons as well. Members of respective labs shared more than a workspace; they also tended to move in sync in terms of schedule, both throughout the day and throughout the year, opening up shared opportunities for informal interactions. Because chance encounters with those outside our own labs were infrequent, these interactions were often ineffective in advancing relationships beyond a courteous greeting. In turn, we observed that snack food and smoking breaks did present opportunities for impromptu conversation, with some reporting that it led to collaboration on projects.
4. **Sacred cubicles:** In contrast to collective work in conference rooms or other "public" spaces, what people called "focused work" was typically done in their own cubicles. Being researchers, most of us did intensive reading, writing, and most importantly, thinking in the comfort and solitude of our own cubicles. The dichotomy between private and public was superimposed on cubicles and the rest of the office. Often stocked with personal comfort items, familiar references, favorite tools, etc., a dedicated private space served as a sacred space to rejuvenate and

regroup for many of our colleagues. This directly contradicted the trend toward an “open” office setup, and presented a challenge to adopting the popular “open” style workspace for our group.

5. **Innovation space:** The previous office was equipped with impressive space reserved for meeting with customers – a space typically referred to as Executive Briefing Center (EBC) in many technology companies. As beautiful and comfortable as the space was, it was designed mostly for sales presentations, leaving other key activities of ours such as prototyping, demonstrations, simulations, and usability testing hard to perform. Researchers brought in monitors, equipment, sensors, cameras, and servers to rooms reserved in advance to show demos to customers, which presented a number of logistical challenges, not to mention safety, each time. We also lacked space dedicated to learning about customer challenges in-depth, and to ideate with them on possible solutions. In ideation workshops, designers created a make-shift workshop space out of a conference room by covering the wall space with journey maps, ideation canvas, etc., all of which had to be photographed, removed, and transported after.
6. **Facilitators:** There were a few individuals who did an exceptional job of connecting and encouraging people to collaborate. They were not managers, but were well connected to people regardless of technical expertise or lab affiliation, finding opportunities for collaboration in day-to-day activities and actively connecting people who could benefit from each other’s expertise. They were also cheerleaders, bringing a positive and optimistic energy to the group, charming others into wanting to work together. We called these people “facilitators.” The idea of key individuals maximizing productivity, performance, and communication has been discussed by other researchers: Lewin’s (1947) notion of “gatekeepers” and Pentland’s (2010) “charismatic connectors” are good examples. Facilitators contributed significantly to their organizations by filling in the gaps evident in our space, our organizational processes, and our culture, bypassing these hurdles and fostering an environment for collaboration. And they did so without responsibilities or recognition attached.

COMMUNICATION: THE POWER OF CONCEPTS, METAPHORS AND SYMBOLISM

As this was an internal research project, we had to be careful how we discussed our findings. The challenge was how to discuss change without sounding critical of the status quo; our audience was, to a greater or lesser degree, responsible for many of the structures and styles of work we were proposing to change. Hence, framing our findings and the internal conversation to follow was almost as crucial as the space we designed. Because a countless number of stakeholders across time zones and language were involved in the office project, we needed the content to be particularly clear and consistent, minimizing potential misinterpretation. Through the deliverables we prepared, we aimed to foster a sense of ownership; if this solution was going to lead to real and lasting change, it would require engagement, excitement, and sincere commitment. We used concepts, symbolism, metaphors, and a lot of visualization to anchor the conversation with senior management.

Concepts

First and foremost, we conceptualized workspace as a *tool* to for our business objectives, and consistently communicated it as such. Bakke (2007) calls this “strategic workplace design” – the idea of designing a space as a catalyst for organizational processes and its success. Conceptualizing the workspace as a tool ensured that our time was spent figuring out *how* to support each critical activity in the space, making for goal-oriented conversations. Once conceptualized as a tool, it was also easy to imagine both spatial and non-spatial implications. This steered conversations away from personal preferences and redirected discussion to how the space would aid in achieving our business objectives.

Another concept that required clarification was that of privacy – a Western concept originally so foreign to Japan that there is no Japanese word for it. A fair amount of workspace design literature touches on the debate over open vs. closed office design, with each approach posing its own unique, context-dependent problems and benefits. While the open office approach offers proximity, collaboration, and face-to-face interactions, it also comes with the documented drawbacks of noise and other disruptions (Kim & De Dear, 2013). And perhaps most importantly, our colleagues expressed a strong affinity for the notion of individually partitioned cubicles for solitary work.

Cangdon, Flynn, and Redman (2014) redefine privacy in a way that was crucially relevant. They argue that privacy, traditionally described as a spatial feature, is really about “the individual’s ability to control *information* (what information others need to know, both personal and professional) and *stimulation* (any sort of disruption).” This inspired us to think about privacy not only in terms of individual workstations, but as a range of work style options that office design could support, effectively leading us to focus on the ultimate goal of “privacy” rather than specific means to achieve that goal. As a famous quote by professor Theodore Levitt at Harvard Business School goes, “People don’t want to buy a quarter-inch drill. They want a quarter-inch hole.”

Symbolism

Bakke (2007) explains that symbolism can play a key role in office design, anchoring and organizing the context during the process. The actual spatial details of office design can be very complicated. We wanted to offer a symbolic concept to serve as an organizing and guiding principle in our discussions with all stakeholders: to bring the coherence to the process, as Bakke suggests.

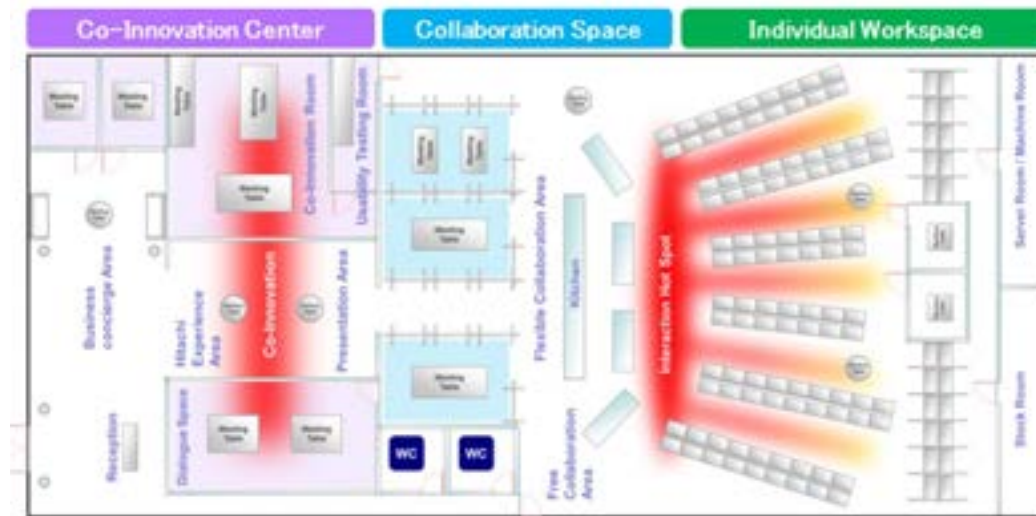


Figure 5. Early concept of the office with three distinct spaces: co-innovation customer area, collaboration space, and individual workspace

Hitachi's symbol is a tree. Hitachi has run a tree-themed TV commercial in Japan for decades which has become somewhat of an advertising icon in Japan. In it, there stands a single, wonderfully lush tree against a backdrop of blue sky. A hypnotic song comes on, asking "What is this tree? There's something about this tree. It's a nameless tree." The tree symbolizes the growth, resilience, and versatility of Hitachi. Many Japanese employees were familiar with "the tree" before they ever knew about Hitachi as a company. It is an image we hold near and dear to our work, and it is a concept that conveys positive meaning for us all.

In search of a metaphor that captured three key activities that led to our organizational success: technical expertise, interdisciplinary collaboration, and customer co-innovation, we together brainstormed and tested many random concepts, before finally reaching the tree – the Hitachi tree. If the roots underground were our technical, solitary work behind the scenes, the trunk was the collaboration with customers that led to the flowers and fruits of our technology solutions.

The tree became our core design concept for the new office.

Metaphor

If the tree helped us ground our findings and design, we still lacked a means to explain the transition from innovating to co-innovating. We wanted to communicate the importance of promoting collaborative work internally to support successful co-innovation effort. Ultimately, our capacity to offer superb solutions to our customers increasingly depended on our abilities and willingness to synergize between multiple domains of expertise. We wanted to communicate this with an engaging, positive tone, without blame on the current process. To provide a clear but accessible way to illustrate our point, we used a nerd-friendly metaphor: the Justice League vs. the X-men.

The Justice League was a group of established heroes who came together to face foes too great to handle alone. They built an orbital space station, the Watchtower, and enrolled

more heroes. The goal was to monitor global disasters and dispatch heroes as needed. Teams were assembled for the disaster – the project – but members were often strangers; they might have run into each other in the Watchtower cafeteria, but they had established careers in separate cities, even separate parts of the globe. Heroes were recognized for individual performance on particular missions, inadvertently encouraging competition.

The X-Men were organized completely differently. The original X-Men were mutant teenagers recruited by Professor Xavier, a powerful telepath. Their world was dangerous for mutants; alone, each was vulnerable to kidnapping, persecution, and secret research programs. Professor X gave them a safe haven – the School for Gifted Youngsters – but more than that, provided them with a common purpose and identity: as the X-Men, they trained to save other mutants and promote understanding between mutants and a fearful public. The team lived, learned, played, worked, and trained together in the Danger Room, where they faced all manners of simulated challenges *as a team*. In battle, they covered for each other's weaknesses and vulnerabilities by leveraging every team member's strengths.

For a long time, technology experts in Hitachi functioned like heroes of the Justice League. They brought their in-depth expertise, and tirelessly improved on the technical specs, driving our products bigger, faster, and better. We produced patented technologies, generated publications, and conducted highly domain specific research projects, and we were historically evaluated on the basis of these metrics. But the expectations were changing because the world was changing. As one of our informants eloquently described,

The concept of research is going to evolve from one based on the number of reports, patents, technology evaluation to that of finding business opportunities and tackling complex social problems. We can't keep doing the same research methods for every problem. Being creative means questioning our approach every single time. Workspace needs to accommodate that.

The world we work in is becoming more like that of the X-Men, posing challenges which require a more united and creative response.

IMPLEMENTATION – HOME WRECKER, HOME MAKER: CREATING TRANSFORMATIVE SPACE AND CULTURE

The issue of physically being scattered would be resolved almost on its own. Having our own space as an R&D meant that we would consolidate into one floor of the same building, which was a huge step in the right direction. That was still far from encouraging regular, “natural,” informal encounters and sparking conversation, however. Everyone's work had to become more visible and accessible. It also had to be easy – even fun! – to stumble upon others' work.

Hitachi Tree Materialized: Workspace Built on Three Areas

First, based on the tree concept, we divided up the entire space into three different sections: individual workstations (roots), collaboration spaces (trunk), and co-innovation areas (flowers), respectively.

Roots: The individual work areas were comprised of offices, workstations, and internal conference rooms. Each workstation became smaller than our previous ones, and the

partitions were a good few feet shorter or removed altogether, facilitating visibility. To alleviate the issues of disruption and noise, we scattered several small pods that fit 1-3 people for solitary work. These spaces cannot be reserved, but are readily available for anyone in need of individual, focused time, private phone calls, or impromptu meetings with just a couple of people.



Figure 6. Unreservable "phone booth" for solitary work or small group meetings

All the senior management offices along with conference rooms of various sizes were given glass walls to provide visibility without compromising auditory privacy. Many of the walls in the workstation area became either glass or equipped with writable film to encourage spontaneous conversation to turn technical at any time.

Trunk: The collaboration areas consist of project rooms, different from conference rooms in that they are reserved and dedicated to short-term, intensive projects. Because they are reserved for longer periods of time, project members can leave knowing their work in progress will be preserved for the next day. For highly confidential projects, each room has a shade that can be pulled down, but these rooms too have glass walls – again, promoting the visibility of our shared work. We also equipped one of the project rooms with one of the iconic innovation essentials - a ping pong table.

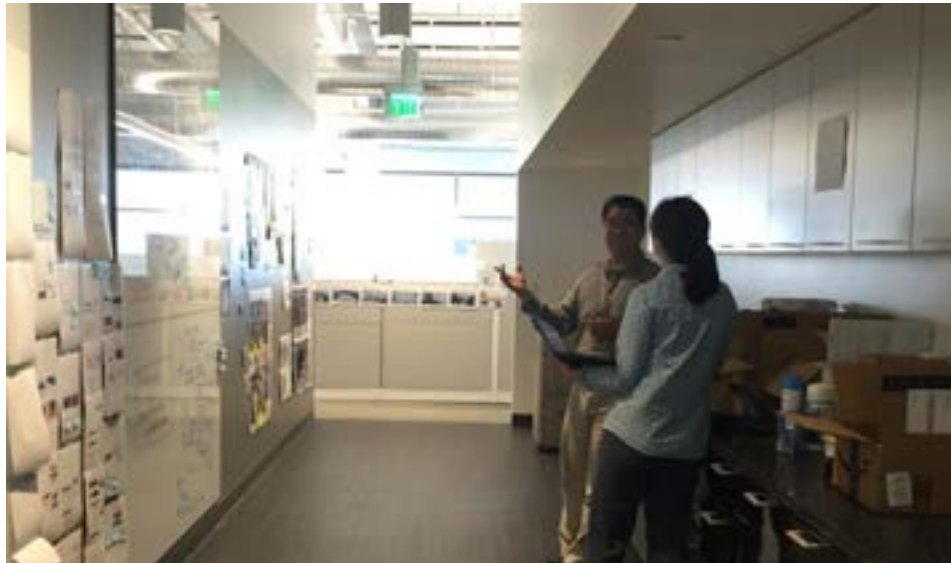


Figure 7. Photocopy area as work area: utilizing everyday activities as conversation starters and chance to be exposed to others' work.

Flowers: The co-innovation center is where we meet with customers. Here we designed facilities that allow us to engage customers in specific tasks to co-innovate: 1) foresight workshops; 2) understanding customer challenges; 3) prototyping; 4) simulating solutions; and 5) testing solutions. We wanted to build spaces to support our specific activities, graduating from all-purpose conference room setup. Our demos and work-in-progress technologies are showcased in the same area, offering an opportunity for visitors to browse and potentially find inspiration.



Figure 8. Co-innovation space with built-in design thinking tools

The foresight and prototyping room was given an octagon shape, symbolizing “all directions” (all “eight sides”) in Japanese, and was built to stand as an independent architectural object floating at the center of the co-innovation area. To create movement and flow, demos are displayed on the wall of this structure; visitors have to physically walk around to see our work. As they progress from ideation to prototyping to simulation, they use different spaces designed for each step.

The tree: All these three spaces are connected via a “townhall” space, the best real estate on the floor: a spot where all foot traffic converges, with plenty of sun, light, and a view. All the amenities that bring people together – coffee, espresso, snacks, bar-height tables, bright and comfortable furniture – are concentrated here.



Figure 9. Townhall area that includes collaboration space and kitchen/dining area

The townhall sits adjacent to individual workstations, collaboration spaces, and the co-innovation center. The collaboration spaces all face the townhall with glass walls, allowing passerby to peek in and register what is being worked on – and for those inside to peek out and join activities in the common space. Being the brightest spot with an unobstructed view through floor-to-ceiling windows, it was designed to be a natural people magnet.

Imagining Users' Perspectives

We imagined three key user groups for the workspace: employees, managers, and customers, and considered how the space would benefit them and help them achieve their goals. We sketched three separate journey maps to describe their hypothetical experience in this space, in order to ensure their respective goals would be met. This allowed us to both see and communicate to the management every aspect of the space not only from our own vantage point, but the others who stood to benefit from improved design.

From an employee's perspective, the space provides a lot of flexibility and control over how and where you want to work. You can either work at a workstation or in a pod when you want to be left alone, but you can also work with others in a more informal setting in the townhall dining area, or strike up conversations with whomever is passing by. As you sit in the townhall, you can see into the project rooms, watching the progress of others' projects, and walk in to ask questions or propose suggestions. If a spontaneous conversation turns into something that you want to take notes on, there are writable walls everywhere. You almost always run into someone while getting a cup of morning coffee. Engaging with customers in the co-innovation center is easy, with all the equipment you need to advance the conversation – showing demos, prototyping, to usability testing.

From a senior manager's perspective, the space provides plenty of visibility, and you are in the center of office life. Your office is glass-walled, allowing you to have private conversations while staying in touch with office traffic and letting others see when you're available. The only thing that's turned *away* from the glass wall is your monitors, making it possible for you to work with confidential information without the fear of others being able to peek through. Your offices are centrally located within the workstation area near high-traffic conference rooms. From a security stand point, the co-innovation center and its facilities, concentrated in one space, offer tremendous ease for managing different levels of access. Sharing the center's work in progress is easy: simply walk visitors along the project rooms, letting them see what sparks their interest.

From a customer's perspective, the space allows you to get to know the organization and what's in the works. Rather than being cooped up in the conference room all day, physically being in the space provides many opportunities to stumble upon innovations: either physical materials or the people who work on them. From sharing input about your industry and business challenges to testing the solutions you've built together, you have a chance to move forward in the full cycle of the solution in the space. The spacious townhall area provides an opportunity to get out of the conference room and connect with people in a less structured manner, chatting casually with researchers who can leverage insight to help you achieve your goals – a much needed change of pace for visitors.

Software Considerations

Allen and Henn (2007) explain that there are three structures that influence the network of communication in a technical organization: formal organizational structure (i.e., org chart), physical structure (i.e., workspace), and informal organizational structure (i.e., relationships between people). Notice, space is only one of the three. As we collected and analyzed our data, it became quickly evident that our research extended well beyond the bounds of space; much of what we wanted to see in the new space was concerned with things outside the impact of space alone.

As an interaction designer and researcher, we often make a distinction between hardware and software in our work. The distinction is not as literal as it might sound, as in a computer (hardware) and the applications (software) that run on top of it. We tend to refer to anything physical as hardware, and the rest as software – interdependent components that need to work in sync to succeed. The workspace design in terms of spatial amenities was a matter of hardware, but we knew that the best case scenario required software considerations as well. The design of the workspace might be the best it could be, but how

we used the hardware – the operation – had to be determined, tested, and improved continuously. Just like in other hardware and software projects, software is often more urgent to upgrade.

Because after all, putting a large, open space kitchen in the middle of the office to incentivize gatherings is not the same as people actually taking the time to get together. Availability neither equals invitation nor participation. Ensuring users use the products as intended is often an essential design challenge in itself.

For improving face-to-face interactions and informal interactions, building the concept of legitimacy into the design was absolutely critical. Fayard & Weeks, (2007) argue that in order to effectively encourage a particular interaction, the interaction must be and feel legitimate – it must be socially appropriate to engage in the action given the affordance and limitations of the space. Who has the right to use which space and when is an important determinant of social action. This social meaning must be crafted through both space and practice; it was one thing to build the space the way we did, but we had to make sure the interactions we designed for actually *felt* legitimate.

Thus, we spent a significant amount of time discussing with the senior management *how* to use this space not just today or tomorrow, but for years to come. The townhall, especially, was an exciting but also risky experiment for our group; nothing was going to be worse than leaving a beautiful open space for collaboration unused. It was necessary to socialize employees to know the townhall was open and available for informal interactions and collaboration.

But valuing and encouraging inter-lab conversations had to be built with a cultural tradition. We began hosting Friday afternoon happy hour in the townhall, inviting all members to get together with over food, drinks, and music. This was the very first inter-lab, regular tradition that we started. Friday being the least busy day of the week, as it is Saturday in Japan, it is legitimately low key for people to participate. At the same time, organizationally, it presented a regular and predictable opportunity to meet new members, check in with each other, follow up on project progress, and to have fun. In no time, labs started to volunteer hosting duties, and the hors d'oeuvres served increasingly reflecting everyone's dietary restrictions and preferences.

In addition to a new tradition, one of the most powerful software insights from this study was the presence of facilitators. As mentioned in the results section, facilitators are well-connected and well-liked individuals who were making a significant contribution to collaborative activities. They served as “hubs” in the group, and successfully played expertise matchmakers for individuals who may have never found each other. This was particularly invaluable within Hitachi where there is a strong cultural custom of mediating any new relationships with someone who knows both parties. Finding a collaboration partner is often not matter of you finding the person, but of being connected to someone who can introduce you to the right people. Facilitators were doing exactly that, though hidden in plain sight, until this study.

We speculated that over the years, these well-connected individuals would be even more valuable in disseminating knowledge and information, socializing new members, and perhaps most importantly, bringing a positive can-do atmosphere to our challenging projects. This inspired us to rethink how we communicate, learn, and innovate as an R&D organization. What if we strategically positioned these facilitators in certain spots in the office to stimulate more collaborative conversations? How can we improve the organization-wide learning by

selectively developing facilitators? And what additional resources and support do they need as the group grows in numbers, technical diversity, and client load? We are yet to experiment with these ideas, but the very presence of these facilitators alone was eye-opening and encouraging, opening up possibilities for the future.

A New Life in the New Office

We moved in only several months ago. Our journey to transform the way we work is still very much underway. At our R&D group, everything is work in progress, including how we innovate. If anything, the new space taught us that we were even *more* different than we thought. Faced with the same problem, we employ wildly different perspectives, expertise and tools, but we see this as an opportunity to augment each other's superpowers. Informally, the researchers and designers in the new office report an increase in interdisciplinary collaboration, increase in informal interaction, and increase in the quality and ease of working with customers.

In addition to the workspace amenities, the move itself, disruption of routine, presented an excellent chance to try new things; people are open to exploration. With our pioneering spirit newly charged, we tried things we never did before. We created a documentary style film about our center, started hosting meet-up groups in our co-innovation area, and even partnered with a local high school to mentor students interested in innovation and design. The creative and expansive energy is flowing in the space.

At one Friday happy hour in our townhall kitchen, a group of engineers, scientists, and designers sprawled around the table with snacks and drinks. We built a wireless mp3 player. Just like that. Others started chiming in with more ideas – a cloud-controlled coffee machine, a parking spot detector with image analysis technology, a motion-sensor visitor check-in interface. We could add data analytics to them too – why not?

Since then, several researchers and designers across the labs informally decided to pursue one of these ideas: they are actually building a parking app. Our multi-tenant campus is still being built, and until the parking structure is complete at the end of the year, the competition for spots will remain high. Since the alternative parking is across the street, finding out there are no spots in the designated parking can be annoying. So a few people thought it would be fun to build a solution for it, much like the way we typically do for our customers. They reached out to other experts to help out, and they also got onboard - our very first unsponsored, completely spontaneous inter-lab collaboration project. As of now, another group of researchers is teaming up to hack into our faulty coffee machine. As diverse as our technical expertise may be, at the very core, we are united by our nerdy passion to solve problems.

CONCLUSION: "WE ARE R&D. WE TRY STUFF"

For us, this was a rare opportunity to be part of the entire process of researching, designing, and implementing a solution, from beginning to end, and even reap the benefits of what you designed day to day. And what's more, the legacy of the study lives on; even months after we moved, we still look back at our findings and insights, and talk about what else we can do – what new methods, new tools, and new practices we can experiment with.

As part of the office move project, the initial plan was to measure the impact of the new office on our productivity, ideally before and after the move. Hitachi has wearable sensor badges similar to ones used in studies by Pentland (2014) and Waber, Magnolfi, and Lidsay (2014), and that are used to measure the “happiness” of individuals working together in groups in a work setting (Mochizuki, 2015). We have been considering ways to use this technology to measure our interaction within the office. But the challenge is operationalizing what we consider to be “success” in our organization. While informal interaction or face-to-face interaction may be associated with productivity day to day, our end goal ultimately is to deliver outstanding solutions via co-innovation process with our customers. And we are still trying to figure out the best way to measure this, using these badges in a hybrid approach with ethnographic methods.

The Bay Area is blessed with many architectural firms that specialize in workspace design. Many of them, including ours, are utterly superb and highly knowledgeable of the wide range of space-related challenges; they have no doubt helped countless organizations in Silicon Valley succeed through design. The reason we decided to invest our time and resources to design our space was in no way related to these firms’ design capabilities. Rather, we were committed to the idea of building our own spatial solution to our operational challenges, not adopting the “right” or trendy design.

More than anything, the most valuable asset we gained from this project is our collective attitude about change. We got to redirect the spirit of innovation inward to reflect on and improve how we worked. And we have grown empowered with the concept of change, and inspired to keep moving. “We are R&D. We try stuff,” we say. And there is no better way to be reminded of this than to walk into the workspace we built. Together.

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NOTES

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Case Studies 2 – Emergent, Underserved & New markets

Plus Size Fashion: What Happens when Stereotypes, Fueled by Popular Culture, Creep into a Retailer's Business Decisions?

MEG KINNEY

Bad Babysitter

HAL PHILLIPS

Bad Babysitter

This case demonstrates the power of video as a data collection tool and a storytelling approach to the presentation of research findings. Fresh Produce Clothing specifically selected Bad Babysitter as a consulting partner for their expertise in video-based ethnography and narrative style of delivery. The case begins with contextualizing a business with an imperative to evolve and an organizational culture that was not aligned. The locus of the debate was the Plus Sized shopper – a consumer segment that put interpretation of hard data by headquarters at odds with impassioned anecdotal inputs from the field. Video offered a visceral way to get past conjecture and “bring her into the room”. The primary benefit to the brand was the immediacy for translating learning into actionable insights and consensus on the way forward. The revenue impact was dramatic: leadership took a 180-degree turn from phasing the Plus shopper out to investing in her.

BACKDROP AND BUSINESS CONTEXT

Fresh Produce is a women's clothing brand with a devoted base of shoppers who enthusiastically embrace the brand hallmarks of relaxed fit, effortless style, and bright coastal motifs. At the time of this study, their casual wear was sold online, through select retail partners, and in approximately 30 company-owned brick and mortar stores scattered across the Southern U.S. in warm weather climes and warm weather destination cities.

The company was founded in the late 1980s by a young man and wife team who struck gold with an impromptu idea to sell brightly colored T-Shirts on the streets of Los Angeles during the 1980 Olympic Games being staged there. The instant success of their designs compelled them to start a legitimate wholesale business designing and selling T-Shirts to independent tourist shops in coastal towns. T-Shirts led to shorts. Shorts led to skirts. Skirts led to dresses. And so on.

The wife, who had studied fashion design, decided to take over the business and build a retail brand. She moved the business operations to Boulder, CO but retained much of the manufacturing in downtown Los Angeles. Fresh Produce was conceived as a women's brand with the vision “to lend style, inspire confidence and add color to our customer's lives”. To this day, the tagline “Live life. Enjoy Color” remains as the calling card for the brand. The name Fresh Produce was created as a visual reference to vibrant color as well as to imply an ever-changing inventory.

The roots of the company proved to be a major business challenge as Fresh Produce sought to expand its direct retail presence. The company culture was shaped from the wholesale business where sales projections were based on orders placed by the tourist shops. Equally, the tourist shops represented a very uneven revenue stream due to the extreme

seasonality of resort business in the towns where shoppers were used to finding Fresh Produce. The business had been built on “snowbirds” who come from the North for warm weather during winter months. Every year they would return and stock up on an entire Fresh Produce wardrobe.

Shortly before this study, the woman who founded the company decided she was ready to retire and wanted to sell. She had grown Fresh Produce into a \$38M business with a devoted following of snowbirds and locals who spoke rapturously online about the clothing (these women are affectionately referred to as “Freshies”). Add to this, there was also a fairly devoted base of Fresh Produce store staff that supported brand equities around being a joyful and approachable place where women were celebrated. These dimensions bore out as important brand attributes in previous primary brand research.

Early discussions with investors revealed three concerns that were hampering the sale price of the company despite the brand being so beloved:

1. Due to the “snowbird” shopper, the core consumer segment was women aged 45-64. Investors were concerned about what the long-term growth strategy would be once these shoppers quite literally “aged out”.
2. The extreme seasonality was problematic. Investors wanted to see efforts made to adjust the assortment for a more traditional four-season retail revenue stream.
3. There was still too much reliance on wholesale business (approximately 65% of sales). Investors wanted to see the direct retail business eclipse wholesale numbers.

Each of these concerns demanded leadership talent that did not exist at Fresh Produce. As a result, a CEO was hired as a bit of a growth hacker to find new revenue, streamline financials, and improve the sale price. A new CMO was hired to cultivate a new/younger shopper and to get the e-commerce and digital content game up to par with other national women’s sportswear brands.

At the time of their arrival in 2013, a modest revenue stream was coming from a handful of styles produced in Plus sizes that were haphazardly available. Depending on the manufacturer, most styles would arrive in only straight-sizes (0-12 or 0-16) yet other orders would include a handful of garments in Plus sizes (most typically deemed sizes 16 – 3X). These garments either ended up merchandised in the back of the store by Clearance Items in a small section called Extra Fresh, or, they were sold online. Plus sizes were never promoted; shoppers found them on their own.

This limited inventory was approximately 7% of total company sales. From this figure, 10% came from online purchases and the balance was unevenly distributed across the retail stores owing in part to the inconsistent supply and assortment.

Based on the expense of maintaining this random Plus inventory in the stores, and the organic sales of Plus items which required no marketing spend, the CEO decided to migrate their Plus items to be exclusively online. He believed that these garments were occupying valuable retail footprint and square footage that should be reallocated to more fashion-forward, younger styles in straight sizes that could attract a new consumer and mitigate the investors concern. To him, Extra Fresh appeared as a peculiarity of the supply chain.

Organizational Fallout Calls for a Pause

“She’s not our core customer” and “her clothes cost more to make” became the rationale when the move to pull Plus from stores was announced by the CEO at the Annual National Meeting with store managers. This announcement was met with unexpected and unanimous outrage from store staff (who even threatened mutiny!). The founder pressed pause. This was a move to drive business, why were the managers so upset? What connection existed between the Plus shopper and the brand since marketing was never directed at her? Why were Plus women shopping there and how had they found the brand?

After the national meeting, the CMO tasked his staff to conduct an audit of the Plus offering from competitive casualwear brands. He also began to do more specific social listening with Plus women across various content/social platforms.

A key takeaway from this initiative was that Plus shoppers generally accept, but resent, being “stuck in the back of the store”; which happens both literally in bricks and mortar stores and figuratively in online retail user experiences. Fresh Produce was no exception here. Competitive specialty retailers like Chico’s, Talbot’s, and Lands’ End all seemed to sidestep their Plus offering in some way. For example, no dedicated Plus section in stores; no Plus navigation online; no Plus models or merchandising – all despite social media posts from larger Plus sized shoppers. The big box fast-fashion retailers like H&M and Forever 21 were moderately more accommodating to Plus but aim for a much younger demographic.

Another key takeaway was that the Plus shopper tends to shop anywhere as well as up and down the age demographic of a store regardless of her age – from Forever 21 to Lane Bryant. This learning was echoed in conversations with store managers who plead with leadership not to eliminate Extra Fresh Plus sizes in the stores because “she has nowhere to shop”.

Armed with a bit more of a backdrop around the emotion from store managers, the CMO hired Bad Babysitter who specializes in video-based ethnographic research. He was seeking data and counsel that would help navigate the conflict between the CEO’s business direction and the store managers’ willful protest.

MEETING THE PEOPLE BEHIND THE BRAND

Upon arriving for a daylong introduction to the staff at headquarters, the ethnographers were able to make many immediate observations:

- The executive team consisted of men and women, none overweight
- Located in Boulder (a city known for fitness), the office provided all manner of healthy lifestyle benefits for employees (eg organic snacks, bike racks, etc)
- There was only one Plus size employee (who reported to the CMO)
- There was a large banner painted on the wall in the main office work space declaring “Every woman deserves a pretty dress”

Throughout the day, the ethnographers held informal meetings where various mid-level managers shared their responsibilities as well as their own personal take on what had happened at the Annual National Meeting. This included managers in merchandising,

sourcing, designers/buyers, wholesale sales, HR/training, customer service, operations, and field services.

One-on-one meetings were also conducted with the executive team. Below are verbatim comments about the Plus shopper from those discovery meetings:

“She likes our clothes because they are loose; she wants to hide her belly”

“Our stores are in coastal towns, but large women don’t like the beach”

“She would rather try clothes on at home away from thin women”

“She finds her size in the store, but goes home to purchase online”

“Larger women aren’t as into fashion as regular sized women”

“I think larger women like to dress in color and that’s how she found our clothes”

The last meeting of the day was a one-on-one conversation with the founder. She reiterated how surprised and bothered she was by what happened at the national meeting. She underscored her desire to empower her new team and to address the business challenges that had been laid out to her. But most emphatically, she conveyed that she is a person who believes in mindfulness and the power of intention. This directive formed the backbone of the brief: help Fresh Produce declare and execute an intention with the Plus Size consumer so nothing ever feels haphazard or like an afterthought for the brand. If Fresh Produce was going to sell Plus garments, then it should do it with intention.

FRAMING THE RESEARCH

In a subsequent work session with the CMO, the ethnographers pointed out the conviction that headquarters staff had around the Plus shopper in the absence of any proprietary primary data to support it. This conjecture had, with no malice, become an organizationally accepted perspective. This became the starting outline for a loose research brief. Fresh Produce still did not know exactly what it was looking for, but the CMO believed that this shopper “needed to be brought into the room”. He was fairly open-ended on what that looked like; he just knew that organizational alignment was imperative for the brand to move forward.

There were limited resources (time and money) to study both the online and offline ecosystem in-depth as discreet experiences. Rather, the CMO decided to focus a qualitative research effort on understanding the Plus shopper’s more general experience finding fashion as a Plus woman. The research objectives centered around three areas of exploration: understanding the signals and markers for how she appraises positive (or fruitless) shopping experiences; how does she categorize various clothing retailers who “embrace Plus”; how do Plus women relate to the brand promise of Fresh Produce.

Advance Preparation

As a way to situate them in the Plus fashion marketplace, the ethnographers undertook a bit of ad hoc research to inform the research design and focus. They conducted secondary research to locate and describe the cultural point in time that America was in with regard to obesity and size relative to fashion, popular culture, and body image.

First, the ethnographers investigated the actual Plus fashion offering in the marketplace. This involved store/website visits to competing brands (Chicos, Talbots, Old Navy, H&M, Mod Cloth, Forever 21, Zulily) as well as dedicated Plus brands (Lane Bryant, Torrid). Informal social listening was done on the cultural conversation around size on women's fashion blogs, fashion magazines, and social media. The ethnographers also became familiarized with the emerging feminist Body Positive movement (#BoPo).

The store visits set the stage for understanding the assortment, merchandising, presentation, and availability of on-trend Plus clothing. The social listening painted a picture of cultural debate around size -- everything from obesity, runway models, discrimination, vanity sizing, advertising, and projected ideals of sexuality.

All manner of fat shaming and stereotypes of Plus women as sloppy under-achievers were encountered in comments sections of articles. Cultural bias created by the fashion industry and advertising was a prominent theme. Communities of outspoken body activists were publishing stories of baby step body positive advancements within fashion – a size 10 or above model [here](#) and [there](#), Melissa McCarthy ([here](#) and [here](#)) on the red carpet, Tadashi Shoji couture for Plus ([here](#)).

A cultural tension appears when the perpetuation of female body ideals square with the hard data of obesity in America. Over one-third (35.7%) of Americans are considered obese (a BMI of 30+). What is considered healthy, attractive, and normal has become distorted depending on what you read and who the messenger is.



Jes Baker: Body Positive activist who participated in our study.

Research Design and Project Methodology

Working in collaboration with the CMO, the unique challenges and opportunities for video to “bring her into the room” in an intimate and personal way were discussed. Using video as a primary data collection tool has many clear advantages: it captures environments, facial expressions, body language, and subtle non-verbal communication that would otherwise be difficult to describe through words. Something as important as a long sigh, or a hesitation, is an important detail that is lost without quality audio. Equally, video allows the participant to “show” her life. In order for it to be as effective as possible for such a sensitive subject, Bad Babysitter took extra steps to enroll participants as co-creators in the telling of their own story. This cooperation realizes its full potential if the ethnographic filmmaker is able to make the technology “disappear” and put the subject completely at ease.

However, the most often overlooked craft of video-ethnography is the editing. Video becomes the language that conveys the meaning and the humanity. Because this study was a fairly open-ended exploration, it was especially important for the ethnographers to discuss how they would respectfully contextualize each participant as an individual, while providing a broader Plus Woman narrative. Video editing adds an additional layer of analytic integrity and authorial control. Cutting and pacing require a conscious balance between faithful reportage and storytelling production values.

Data was collected in four ways:

1. A pre-work workbook that each participant completed individually. The workbook included a promotional code to visit the Fresh Produce website, shop, and buy. Participants recorded feelings about shopping for clothes and their Fresh Produce online experience. They also created collages to represent the media’s portrayal of women and beauty ideals.
2. In-home one-on-one/dyad interviews that lasted between 2-3 hours and took place over a light meal (photographed artifacts were also collected in home). A friendship group was also conducted with 5 Body Positive women. During the sessions, an exercise was conducted using photos of so-called Plus models from size 12 – 28. Participants were asked to project their feelings onto the models and to provide improvised commentary about the photographs.
3. Shopalongs at the Fresh Produce store.
4. In-store observation. This would be a critical piece to gain insight into the store managers relationship with customers and the more sensory part of the Fresh Produce brand experience.

In the end, over 50 hours of video were analyzed, 15 hours of store observation was conducted, and 17 workbooks were coded.



From the workbooks, this is a collage of media messages that Plus size women “call BS” on.

Recruiting the Participants

The CMO selected three markets based on store sales: Tuscon, AZ; St Augustine FL; Naples, FL. In-store observation also took place in every location.

The ethnographers elect to do all recruiting themselves. Lists of prospective participants were culled from permission-based emails to Fresh Produce customers, in-store invitations to the study, and social media channels.

Some unanticipated considerations emerged during the recruiting process. Despite measures taken for sensitivity, the ethnographers encountered a healthy skepticism around the intentions of the project. At the onset, they were collecting data on what language comes off as direct and honest and what sounds like careful obfuscation of the fact they wanted to talk to women *because* they were overweight. This led to a heightened concern around sensitivity.

The final sample included 17 women aged 27–67 and size 14–3X. The friendship group represented the youngest women and they self-identified as “body positive” – they are proud of their size and take an active stance against fat shaming. Due to the mistrust encountered during the recruiting, the approach was adapted to encourage the women to talk openly about their size. There was a mother/daughter session. There was a session with two best friends, a session with a Plus fashion blogger, and a session with a Plus dress designer who creates bespoke garments for young women as a type of social entrepreneurship.

It is necessary to earn participant trust up front before an ethnographer shows up with a camera. It bears mentioning that neither the interviewer (a female) nor videographer (a male) are Plus sized people. Based on the hurdles in the recruiting process, the ethnographers debated whether their weight and having a man on the team would compromise how open the women would be willing to be. After so much effort to create “safe space” would our

Plus women feel betrayed to discover that the ethnographers were not Plus sized? Or that one was a man? It is not standard practice to reveal an ethnographer's demographics to make someone comfortable. However, there is an additional level of intimacy that attaching a microphone and pointing a camera brokers. Ultimately it was decided that to make an issue of their average size was precisely that – making an issue.

SEEN, HEARD, AND SHARED ON VIDEO

Findings were delivered in a multi-media presentation in Keynote. Embedded in the presentation was approximately 90 minutes of video vignettes edited into a storytelling narrative which integrated photographs and workbook artifacts from the fieldwork.

This is a summary of what was seen and heard in the research documentary:

The women we spoke with agree that fashion publications and advertising perpetuate a distorted body ideal. A size 8 model is considered “Plus”; a size 12 model is lauded on the runway as a cutting edge event. While this absence of a true representation of size doesn't stop a Plus size woman from imagining herself in the latest dress, it does play into larger pop culture tropes about money, sex and power. A common theme in the childhood memories of these women is that Plus size girls learn from an early age that it's the skinny girl “who gets the job, gets the boy...and becomes successful”.

The Plus shopper is keenly aware of the assumptions made about her lifestyle and the media inferences that “fat girls” are unhappy and ashamed of their body.

Beyond these media images, our subjects identified the assumptions about Plus women thrust upon us from the weight loss industry. The weight loss industry is a key culprit in painting Plus as a market that is in flux – women who will start spending on fashionable clothing once they lose weight. It is a multi-billion dollar industry based on selling a sort of deferred happiness and postponed self-acceptance predicated on reaching a goal size.

The presumptive logic is: if you are large, you surely want to be small. This culturally conditioned belief that a Plus woman is uncomfortable with her size and wants to change creates a paradigm that suggests she is in flux and as such her fashion sensibility is too. Consequently, a very limited supply of fashionable Plus clothing is even manufactured. Plus women must often settle for baggy “mumus”. The misperception that she wants to hide her body “under a tent” feeds the cycle of stereotyping.

There is a literal dearth of selection for her. This realization came to light through the ethnographers pre-work and through the in-home interviews. Participants showed us garments they purchased even though they didn't like them because they were afraid they might not find anything in future trips (in one case, the garments still had the tags on). But perhaps most powerful was the data collected during the shopalongs and in-store observations. Repeatedly, the Plus women would briefly peruse styles at the front of the store and then make a beeline to the back of the store. She scans the straight-sizes to see what's on trend but is relegated to the limited inventory in the Plus section. Often, a Plus sized woman is forced to buy what is available, versus what she actually finds cute. The Plus section typically lacks in merchandising, is not maintained, and often cramped compared to the rest of the store. This holds true online as well – navigation to Plus sections are separate and many times the presentation and photos are “stripped down” versions of the main page where straight sizes are shown.

Sizing interpretations are all over the map. Plus models are either thin women in too large garments or big women in “apologetic” poses that don’t properly show how the garment moves or drapes. This makes it incredibly difficult to know if what you see in the catalog is what you are actually getting, let alone how it might actually fit on a larger silhouette.

Further, her clothes are often made of cheaper fabric and shapeless patterns. Key details like pockets or zippers are often missing as a way for a manufacturer to manage cost of goods. In the shopalongs, the participants repeatedly pulled examples of a straight-sized garment off the rack to compare it to the Plus version of the same garment. They were quick to point out differences in attention to tailoring, sexiness, detailing, and structure. In one instance, a participant noted that there is no cashmere for big girls. Another participant showed a particular pair of Capri pants offered in straight and Plus size. The straight size had a zipper, was thick denim, and rolled up legs with buttons; the Plus size had a drawstring, was flimsy cotton, and had no detail on the legs. Same garment name, same price, different quality.

This shortage of supply and style inspires a certain doggedness in some Plus women; they become skilled searchers who will look anywhere and everywhere for clothing. They find garments and modify them in some way. For others though, the process quickly becomes de-moralizing and they find themselves settling for ill-fitting clothes, in colors they don’t like, and in outdated styles. This creates a circular false demand in the marketplace. Manufacturers cut corners and play things safe based on what sells, but garments sell because there is limited choice and defeat.

For the Plus sized women in this study, they indicated they would continue to tolerate the insult of having to walk past “the cute trendy clothes” in the front of the store if only *some of the same garments and fabrics were offered in her size*. She simply wants what everyone else has – a sense of belonging and inclusion that comes from dressing in style and looking put together.

A final, important summary point to the shopalongs and in-store observation is that the ethnographers saw firsthand a particular sisterhood between Fresh Produce store staff and Plus shoppers. Repeatedly, the ethnographers witnessed sales staff enthusiastically offer things that “might work” and try in vain to help the Plus shopper leave the store with something she actually wanted. Plus women were greeted by name in some cases; it was not uncommon for straight-sized regulars to bring their Plus friends to shop.

Regardless, the brand behavior at the store level was genuine testimony to the brand ethos that “every woman deserves a pretty dress”. It became evident to the ethnographers, that herein lay the rub at the national meeting between home office and the field: headquarters had become disconnected from the shopper and the deeper, more demonstrative emotional equities the brand had to offer. Store staff intuitively felt that removing Plus from the store would erode the optimistic and positive spirit of the brand translated through actual customer interactions.



The quintessential “mumu” for Plus size women is boxy, shapeless, and often an outdated floral print.

Echoes from the Secondary Research

During the initial in-person introductions in the field (after weeks corresponding by phone and email), the ethnographers reiterated that they were there to listen, learn, and capture whatever the participant wanted to share about being a Plus woman. From the very first home interview to the last shopping trip together, what Bad Babysitter witnessed was incredible candor and a demonstrable personal imperative to de-stigmatize women of size. This simple observation ran parallel to what the secondary research intimated: there is a cultural current underway for women who want to “take back” body image from mainstream media.

Analyzing the Data

The analysis yielded a half dozen themes that provided an organizational scheme for the client to unpack the findings in a linear, step-by-step manner. From these themes, five key insights were derived.

The themes provided specific topic areas to workshop:

- Fit and fabric are key equities that need to be sharpened
- The model is a critical piece
- There is a cuteness chasm
- Plus just wants what skinny girls have
- Inclusion and diversity cue relevance
- The BoPo tipping point is a business tipping point

The insights provided a more textured and conceptual basis for both strategic and tactical implementation:

Insight 1: Plus women are all on a spectrum of self-acceptance that influences their lens for evaluating models and clothing – they are looking for the confidence in models that they struggle to have everyday.

Insight 2: When clothes feel sloppy or baggy, they play into the stereotype that fat people are lazy, underachievers who don’t care about themselves.

Insight 3: Big girls feel marginalized by society, making them feel separate and invisible. They believe that boxy or “tenty” clothes are fashion and culture’s way of keeping her down.

Insight 4: Plus girls have a habit of deferring happiness because they've been brought up to believe that it truly happens once you lose the weight. This makes them defer spending and their enjoyment of clothes (but what they really want is to look good *now*).

Insight 5: Her antenna is always up for anything that signals inclusion. Big girls just want the same sense of belonging that can come from dressing in style and looking put together.

REACTIONS, RECOMMENDATIONS, AND MOBILIZING

At the close of the presentation, which included some very emotional moments triggered by participant testimonial on video, the room was silent. Not only had the leadership team seen and heard from an under-served consumer, they sensed that they were inadvertently marginalizing Plus women in their own stores through disparate products and shopping experiences.

The CEO was the first to speak and he simply said, "I had no idea". The room shared his sentiment. Then, the founder stood up and acknowledged that the brand's values had not been lived up to. She called upon the CMO to lead a cross-functional team to figure out a way to determine what the impact on business would be if the Plus woman was approached *with intention*.

At this point Bad Babysitter shifted into a consulting role to help make the insights actionable. Together, it was agreed upon that a Pilot Test would fulfill the founder's request.

This involved re-imagining the garments themselves. Eight garments that were popular in straight-sizes but not available for Plus were selected for the Pilot Test; these Test garments would be made available online and in every company-owned retail store.

Then, themes and insights from the research were used as a lens to critically evaluate, end to end, the Plus shopper's experience along the path to purchase. Each touch point was an opportunity to create new value for the Plus shopper.

- How can Fresh Produce sharpen the equities of fit and fabric without losing the relaxed vibe? How do they avoid playing into stereotypes with fit? How do they give her what skinny girls have?
- How do they get the model right? How can they signal inclusion? How can they celebrate the Plus woman without pandering to her size?
- How can they help her feel good now? What tools does she need to feel like she's getting the size right the first time?

The client acted upon these specific recommendations from Bad Babysitter. A task force team was formed and the Pilot Test garments, marketing, and training was ready to roll in a short four months:

Design: Re-cut the patterns for the Plus body (vs the standard of scaling up by simply expanding the pattern).

Sourcing: Instruct the supply chain to source the same fabric and detailing used for straight-sized garments (vs the practice of sourcing cheaper fabric and omitting detail to manage cost of goods).

Photography: Hire a true Plus model and photograph her wearing her true size. The consultants developed a set of guidelines that were provided to the photographer to coach

him to avoid “apologetic poses” and direct the model to “own her size”. Accessorize Plus in the same way straight gets accessorized. Integrate the Plus model in active lifestyle scenes that include traditional models.

In-store Merchandising: Include a Plus mannequin with straight-sized mannequins in window display. Move Test garments up closer to front of store.

Marketing: Re-write copy to be more specific about fit and how the garment is intended to drape. Call out the Test garments with an icon that leads them to dedicated online content describing fit.

Customer Service and Store Personnel Training: Provide staff with information on how to guide the shopper to figure-flattering fits and accessorizing.



Fresh Produce designers re-cut the pattern of a popular dress for the Pilot Test.

SOCIALIZING THE LEARNING, IMPACTING THE BUSINESS

After the initial presentation to the leadership team, the presentation was subsequently given to the entire headquarters staff as well as marketing agency partners. Video provided a shared vocabulary and visualization for employees to discuss. When customers are brought to life in video-ethnography, clients are able to internalize and communicate not only how the research makes them think, but also how the research makes them feel. It creates an easy repeatable way to workshop the learning.

In just 60 days from the launch, sales of the Test garments were up 500%. Overall Plus sales rose 9%. A CEO that was going to scale back and limit the Plus offering ended up investing in the Plus shopper, including Plus models in every look book, and integrating Plus in the store experience.

Almost immediately after the launch of the Pilot Test garments, social media channels saw quantitative lift and qualitative feedback from Plus and non-Plus women praising the initiative. Customer-service reps tracked and reported key fit questions and garment returns and were able to rapidly improve service levels. These reps also shared feedback from elated customers; comments were proudly printed and pinned to the walls in the company lunchroom. And critically, the store managers felt listened to and empowered to make their store a place where all women were celebrated equally.

Prevailing stereotypes, reinforced by popular culture, can blind a brand to real market opportunity. Fresh Produce found a younger segment in Plus and another local shopper to help offset the snowbird tourist business. Sales were up.

Not only did Fresh Produce discover an under-served woman with money to spend, the brand earned a halo of progressive relevance through size diversity. In 2014 they found

themselves at the vanguard of some tipping points for the Body Positive movement in the broader popular culture. They were able to now join the larger conversation among women.

Perhaps most important, was the organizational alignment throughout the company culture. The CMO forwarded multiple emails exalting the energy and excitement that the launch had created internally. And for his part, he shared his pride that everyday when he sees the mantra on the wall that “Every woman deserves a pretty dress”, he knows the brand is living up to.



How Plus was merchandised before the research (left).
Applying the learning to create a new presentation of the Plus woman (right).



Our recommendations were aimed at creating new value at every touch point from pattern design to merchandising to purchase.

Meg Kinney and **Hal Phillips** are the founders of Bad Babysitter, a new breed video-based research and strategy practice that put a human face on the numbers. We combine ethnography, storytelling, and business acumen to deliver consumer insights through documentary-style videos that give leaders critical and unprecedented understanding of the people they serve.

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- Proprietary data from the client: competitive analysis, competitive e-commerce analysis, sales and transaction data

Case Studies 2 – Emergent, Underserved & New Markets

Have You Heard? Using Place-Based Ethnography to Construct a Word-of-Mouth Campaign in the Bottom of the Pyramid

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The “bottom of the pyramid” concept has promised companies that they can simultaneously create wealth and social impact when serving the world’s poorest customers. In reality, companies have faced multiple challenges when trying to acquire and retain customers in the “bottom of the pyramid”. This case study captures the journey of one such company that is operating low-cost private schools in slums and remote villages in an African country. Despite delivering a solid educational quality, the company was facing retention issues, and was struggling to maintain a healthy student population. Leadership diagnosed that a word of mouth marketing campaign would be important to increase acquisition and retention; but it did not know where to start. By designing a place-based ethnographic approach, ReD was able to gain the customer centric insights needed to design a new value proposition and engagement model that tapped into and leveraged word-of-mouth social dynamics.

INTRODUCTION

There were barely two weeks left until the school year would open. Pacing back and forth in front of a classroom, David, a principle for a school in an African country that was part a company that managed a chain of low-cost private schools in the area, could not understand why enrollment numbers were down. The classrooms’ mud walls and wooden chairs were certainly not fancy but well made and usable, and far better than what comparably priced schools were offering. Because of recent exam scores, he also knew that his students were outperforming those enrolled in competitor schools. So why then, he wondered, were parents choosing to send their children to private teachers in dilapidated huts instead of to his superior facilities and better performing school?

David was not alone. Questions like this reverberated across the company. Despite investments in teacher training, improved lesson plans and teacher performance, and quality school structures the company was not doing as well as it expected. It was confident that it had the best competitive offering – superior quality at comparable prices – and had the student grades to prove it. Furthermore, every decision the company made relied on extensive customer surveys and pilot testing. But after five years of operation, they were not seeing the level of growth that they expected or that the data had predicted. Why was this the case and what could be done to alter the tide?

This case study is about a journey of one company and its efforts to go back to the drawing board and develop a deep understanding of its customer – low-income families – in order to increase customer acquisition and retention. Applying a corporate ethnographic approach, a research team led by ReD Associates (hereafter referred to as the research team

or the team) used a qualitative research approach built on place-based ethnography to lead a project for Star Education in order to gain the customer centric insights needed to design a new value proposition and engagement model that tapped into and leveraged word-of-mouth social dynamics. While this case on its own is interesting, what makes it particularly compelling is that it illuminates a larger issue: the lack of customer insights and marketing approaches designed specifically for emerging markets.

A STAR SOCIAL ENTERPRISE THAT HAD LOST ITS TOUCH

The company, hereafter referred to as Star Education, operates private schools in low-income countries where they offer an attractive value proposition to families living on roughly 2 dollars a day: access to a quality education. The reason why such a simple value proposition resonates is because in the slums and poorer villages where these families reside, public schools are characterized as being poorly equipped and managed as well as supplied with tenured public school teachers who are known to abandon classes, lack sufficient training, and even accost parents for bribes and extra tuition. Within such a context, private schools increasingly enroll a much bigger share of primary-school pupils (*The Economist*, 2015). While middle and upper class parents have traditionally been the main customers for the private school market, the growth of low-cost alternatives have given low-income families more educational choices. That said, this growing industry is not without criticism. Low-cost private schools are available, but their quality is questionable and they are often unregistered, which means they are not regulated. Because of this they are often criticized for employing untrained teachers and/or hosting students in hazardous conditions. Star Education, however, sought to fill a gap in the low-income market by providing private schools with facilities that, while humble, were safe and reliable; teachers who were well trained and followed a standard curriculum; and an overall management system that adhered to a strict schedule. All this at a competitive fee.

Without a doubt Star Education has a unique business model. In order to sustain the low cost it has an ambitious growth model as well as a strict top-down standardization of facility building, marketing, operations, and training to ensure quality. It's focus has been largely on education quality – early pilots, students' performance in the standardized exams were very positive while their English speaking and writing abilities, often cited by parents as their biggest consideration, were remarkably better than their peers at competitor schools. The company's innovative approach and pilot results attracted external funding as well as customers. Indeed within 5 years of its launch, the company had an impressive growth rate and was reaching its targets.

While growth was prioritized it was done so with some caution. For example, teachers were constantly required to input data on their own work and on student performance, to ensure that operations were being managed as designed while parents were frequently called and surveyed for satisfaction. In addition to such research, Star Education invested as much as it could into marketing efforts that could reach a large audience: posters and banners in villages to promote its schools, spots on the radio and TV to showcase pupil performances, even printed vests emblazoned with the school logo that motorbike drivers could wear.

But after the first 5 years of growth, customer acquisition and retention began to show cracks. Though the company was still opening schools, enrollment at new facilities were much lower than what Star Education's data projected – and what it needed. Even in

schools that had been under operation for a few years, drop out rates were increasing, churn rates at places reached 30% the student population. In response to the crisis, Star Education ramped up customer research and marketing. More fliers were circulated, campaigns were launched, stickers were given out - and yet nothing seemed to reverse the tide. The company was stumped at a new direction for marketing, and requested help from us. From survey research and literature review, they had a sense that word of mouth marketing was highly effective in the communities, but how should a word of mouth campaign be designed? Whom should it start with, and how can it be cost-effective?

Taking on the case of Star Education, it's important to recognize that this company was (and is) not alone in its struggles with this market. In fact, retaining a large enough segment of customers in order to stay profitable is a common challenge faced by companies operating in the bottom of the pyramid (Simanis 2012).

THE BOTTOM OF THE PYRAMID MARKETING CHALLENGE

Star Education is part of a wave of enterprises that have excitedly invested in the African bottom of the pyramid market. For the past 10 years, many economists and entrepreneurs have broadcasted the emergence of Africa as the next global business destination. Of course, there is wide variation in activity and context across the continent, but a general trend towards optimistic investment is evident, driven by observations of growth in size and attractiveness of the consumer market (McKinsey 2012). No longer is Africa seen merely as an attractive destination for its natural resources, its emerging consumer market is now key to driving foreign investment (Bhan 2014). Business' enthusiasm to reach not only middle class Africans, but also consumers at the "bottom of the pyramid", largely followed the pioneering work of C.K. Prahalad, who, in his 2004 book *Fortune at the Bottom of the Pyramid: Eradicating Poverty through Profits* argues that all segments of the economy are potential economic agents. There is untapped purchasing power, and therefore profits to be made, in the bottom of the pyramid. Selling to the poor can be both profitable and can contribute to reducing poverty (Prahalad 2004).

But finding success at the Bottom of the Pyramid has not been as easy as Prahalad promised. Companies such as Star Education are confronted with a range of infrastructural and social challenges when attempting to understand and market to their customer, such as the prevalence of the informal trade and services, of cash transactions, and a lack of marketing support services. Together, these barriers mean that the standard value propositions, data collection and marketing methods that companies have fine tuned over the last 50 years in the West may not be applicable here.

Marketing is a critical function for BOP players because as has been noted by HBS, in order to operate a sustainable business, companies need to make up for lower profit margins by having very high volume and penetration – often 30% or more consumers in an area. This formula is largely based on the success of Hindustan Unilever in selling Wheel brand detergent to low-income consumers in India. Star Education in fact, also adopted this same strategy. However, this pressure to scale places an incredible challenge on the firms to not only achieve universal awareness rates but also convert huge numbers of customers scattered across slums and urban centers and successfully retain them. As a result, many well-meaning businesses have failed because they could not sustain profits in low-income markets (Simanis 2012). For example, Procter & Gamble invented a water-purification powder called PUR for

bottom-of-the-pyramid markets, but it was a commercial failure. It's now distributed by a philanthropic enterprise. In 2007, household-products giant SC Johnson launched Community Cleaning Services, a BOP business aimed at creating employment in Kibera, a sprawling slum in Nairobi, Kenya – but because profits were hard to come by, the project was eventually spun off into a nonprofit (Gunther 2014).

Is, then, the dream of serving at the bottom of the pyramid a mirage, as Karnani and others have proclaimed (Karnani 2007)? Many progressive companies believe that the work is not over yet, but that companies just need to find the right strategy for doing business with the poor instead of relying on standard business approaches, in order to follow through with the vision that Prahalad had painted. Following that vision, companies must find unique value proposition that keep customers coming back, and also build behaviors and routines that are deeply a part of people's everyday lives and social context (Simanis 2012). In terms of marketing, that means companies cannot rely on standard marketing approaches such as the one Star Education had been employing (flyers, posters, etc.) but must seek to develop a word of mouth strategy. As Prahalad himself wrote, among the poor, the best way to establish connections is through personal interaction: "Word of mouth is the single most important broadcast mechanism... People in the community tend to have very close-knit ties within the community that again reflect the importance of social capital. Anything good or bad spreads effectively through the word-of-mouth channel" (Pralahad 2004). In Star Education's case, several executive leaders had also come to suspect that the mass-market marketing tools it had been employing (radio spots, flyers, posters, etc.) were perhaps not as effective as it had hoped. Though this idea may not be new to theorists, successfully implementing it in an organization is different challenge all together, as it requires a company to completely let go of its existing assumption in order to embrace a new approach grounded in an understanding of the customers in the bottom of the pyramid. This classic struggle was evident in Star Education as well: while many in the leadership suite sensed that the core assumptions were wrong, and a new approach was needed, it was unclear where to begin.

LET'S GET REAL: IDENTIFYING ASSUMPTIONS

Applying a corporate ethnographic approach, ReD's research team was immersed in the client context for 3 weeks during which it spoke with staff at different levels in the organization, as well as conducting discourse analysis of Star's marketing materials. This allowed the team to get a deep understanding of the internal assumptions on the customer world – and why they were facing a drop out issue. Speaking to the staff, the team found that there was overall confusion and anxiety about why the marketing materials they had put effort into creating were not working. Underlying that frustration were two core historical assumptions that defined the company's existing engagement strategy with parents:

1. *Parental awareness would lead to both recruitment and retention. Therefore, marketing strategy should prioritize mass-market coverage.* As mentioned previously, the company's marketing activities include a wide variety of mass-market tactics intended to raise awareness and prevalent in low-income areas. For example, the range of tactics tried in the first half of 2015 include: signposts, micro-billboards, wristbands, performance reports, newsletters, robocalls, billboards, and door-to-door flyers. As more awareness was assumed to lead to customer growth and retention, surveys

would predominantly focus on measuring awareness.

2. *School choice was seen as a function of rational, measured parent evaluation on student performance compared to price. Therefore, marketing materials were designed to give information on student performance.* Information featured on the materials would include its internationally designed curriculum, superior facilities, and small class size. When surveys showed signs of wrongful information or rumours about the school, these were interpreted as a result of lack of information and more information was given. Parent-teacher conferences and other interactions with parents also focused on giving functional information: on students' performance, school growth, or tuition and other matters.

Understanding these assumptions, it was clear why the company had been making the type of decisions on marketing that it had. Within the organization, however, there were increasing voices questioning these assumptions. These voices claimed that in terms of strategy, word-of-mouth should triumph mass-market coverage. In terms of content, they questioned the rational approach, and argued in favor of more emotional coverage. These leaders' intuitions were very close to the core arguments that Prahalad made. But where could they go from there? What Prahalad's work failed to synthesize is how does one actually run an effective word of mouth campaign, especially given that Star Education serves thousands of villages and slums, and in total have millions of clients. Who should the word of mouth target? How would the word spread? What moments are the most important? And what message would be the right one?

DESIGNING A PLACE-BASED ETHNOGRAPHIC APPROACH

In light of these challenges in building a word of mouth campaign, the research team proposed to use an ethnographic approach that focused on understanding rural and urban communities where the schools were based. Firstly, in contrast to traditional market research, employing ethnographic deep dives would allow us to go in without a hypothesis, free from the industry orthodoxies. This would allow us to identify what messages would truly resonate with people. Secondly, ethnography allows us to understand not just individuals but the entire communities that they live in. An understanding of how to influence communities as a whole, and what narratives are part of that community. Lastly, ethnography allows us to deeply imbed ourselves in the lives of people to understand how their daily routines and habits are formed. This allows us to identify critical moments where word of mouth can target people.

Before our work, other researchers have employed ethnography in an attempt to understand the bottom of the pyramid. Their lessons and findings all spoke to the importance of taking ecology approach and investigate daily habits when considering business implications in emerging markets. N. Rangaswamy and S. Yamsani explore the evolution of mobile Internet in an Indian slum by linking the development of digital geography to the social one bounded by the slum's physicality. To understand the "slum" as an ecology, Rangaswamy and Yamsani conducted investigations in two waves. In the first wave, they interviewed political leaders and shopkeepers around the community in addition to observing daily life, in order to gain a contextual understanding of community life. In the second wave, using the contextual understanding gained, they conducted more in-depth

interviews with teenagers – the focus of the mobile investigation (Rangaswamy and Yamsani 2014). Johnsen and Helmersen similarly stressed the importance of using ethnographic interviews and observations to contextualize customer life when doing business casing for mobile telephone products (Johnsen and Helmersen 2009). Both of these applied ethnographic cases had an end goal in mind: a broader mobile strategy. The mission for this project, on the other hand, was more tactical: a strategy was needed to drive word-of-mouth. This meant that the research team needed to understand how exactly stories travel throughout the community's space, what physical nodes and actors are the most important for marketing. How does the physical interact with the social to carry on community narratives? Place has often been a missing actor in research on small businesses, but for our context, it was vital to understand the key individuals, entities, and initiatives in communities, as well as map their relationships to each other (Kaplan 2014). While place is often an element of research in ethnographies concerning the bottom of the pyramid, in our case, it no longer merely served a value of adding context. Our ethnography, instead of focusing on individual-actors, would take place-based approach.

The research team selected 7 communities where schools were located to study. In each of these communities, through observations and snowball interviews with families, the team mapped out in detail:

- Important narratives that had emerged in the community within the past 6 months and how they had spread and grown, in order to understand what makes an important narrative
- Influential leaders who drove conversations and narratives in the community, especially narratives that would influence school choice. The team identified these leaders through community members and asked to conduct ethnographies with them, in order to understand their lived experience, how they formed opinions, and spread them.
- Influential sites in the community where people would often learn about new information or spread new narratives to others
- Competitor schools in each community and what were narratives defined them and were influencing parent choice

In addition to community mapping, the research team also conducted 31 deep dives with families in Star Education's target market. Such an exploratory approach led the team to really immerse ourselves in the community: visiting schools, giving speeches at local events and organizations, attending weddings and funerals, and, ultimately, developed close bonds with families. It was through this approach that 3 key insights emerged and stood in contrast to the way the company saw and interacted with its customer world, pointing to a new direction for marketing.

FINDINGS THAT FUEL 'WORD OF MOUTH'

Three findings – each presented in contrast to a client assumption – helped reshape the way Star Education thought about their customers and pointed to a new direction for customer engagement.

1. **Parents' school choices are driven by their own sense of achievement.** While Star Education had assumed that parents' decisions were mainly based on student performance and cost, in fact, neither were the most critical factors in reality. Firstly, all schools in the area boasted very similar results-based value propositions, and for low-income parents who do not have much education themselves, it was very difficult to distinguish one school's quality from another. The research team observed parents making the decision to pull their children out from one school to another without looking at the child's grades, or despite its performance. Cost did not seem to be a major factor, either, as tuition between schools was similar and parents were willing to borrow or dig deep into their pockets if they perceived a school to be "worth it".

What actually mattered the most for school choice was whether the school's reputation and interactions helped parents feel that they were "making it". In the poor communities examined, many of which had been devastated in the past by drought or violence, it was very important for families to feel that they were on their way up in the socio-economic ladder, that they were "making it". "Making it" could mean three things. It could mean being respected and admired in communities. It could mean being financially capable and not worried about tomorrow. It could also mean being modern and having progressive values. With the income families had, aside from basic living expenses, priority was given to expenses which could help the family feel that they were "making it": i.e. investing in nice furniture to earn social respect, or starting a family-run business. Sending one's child to a respectable private school helped parents achieve all three signs of "making it": it could help them feel they were making a modern choice, it made them proud that they could invest in the tuition, and it made them feel that they were making a modern decision. A good school was a school that had a community reputation for having parents that "made it". Therefore, the research team suggested that Star Education transition from a performance-focused value proposition; to building a reputation as the strongest symbol that parents can choose to show themselves and others that they are 'making it'. But how can this reputation be built? That is the question explored in-depth in the following finding.

2. **Parents assessed schools as they would a social group, and therefore reputation is built through daily personal interactions.** While Star Education viewed itself as a large international company, in small communities, parents did not see it in the same bucket as major national banks or global NGOs. Rather, schools have always been a part of the communities' social fabric, and personal interactions with the school staff are important for parents to feel confident that they are validated and have made the right choice. When these personal interactions are too rigid or transactional, as they had become for Star Education's schools, parents lose confidence that this is the best option that can bring pride for their family. It does not matter if the school has the best facilities or grades. In fact the research team saw again and again that parents would pull their children out and spread bad reviews to others if their interactions with school staff were negative.

With this finding in mind, the research team sought ways to turn the existing daily interactions between the school and the parents – i.e. the grades that the

children sent home, the moment that the parent comes to pick them up after class, the annual parent-teacher conference – into an interaction that validates the parent and builds their trust to the school. Building marketing into daily engagement was cheap as Star Education could leverage the existing assets and routines it already had. All ReD needed to do was help adjust the design of existing materials and created guidelines for staff in order to make each engagement one that could build trust.

While improving everyday interactions was key to improving parental satisfaction, relying solely on parents' organic word of mouth can take a long time. Star Education needed a more aggressive campaign strategy, and it needed to find the right social group that could be its brand ambassador. Through the research, the team found that women involved in microfinance groups were the ideal group because they cared deeply about children's education; they formed the narrative around education in the community; and were incredibly influential.

3. **Women are main drivers of education, and women's savings groups are key to educational narratives.** In Star Education's surveys, men were often cited as the main decision-makers about education in the family. Yet in reality, the research team found that women were the ones who followed their child's progressions, tracked scores, and constantly discussed with others about school choice. At a wedding for example, the team observed that while the men's tables navigated to discussing local politics, women's gossip revolved around school management and reputation. Women were the ones making decisions about education in the household – with their husbands (if they had one) either rubber-stamping, or absent. Not only making decisions, many women were financing that education too, having been empowered in recent years by savings groups that gave access to cash for investments.

Visiting these savings groups, the team realized how influential they had been for female empowerment in the local communities, and for school choice. It was through these groups that women were learning from each other about the modern economy and workforce. It was through these groups that women were getting access to funds. It was through these groups that women could also feel that they were "making it". Education was frequently a topic in these groups, as women would give advice to each other on school choice, and best options for financing for fees.

The research team very quickly realized that mothers were the best brand ambassadors for Star Education schools, and existing women's micro-finance groups were the best way to spread the narrative outwards to other women. Therefore, that team suggested that Star Education should make the celebration of mothers a core component of marketing. Furthermore, it should seek to recruit and elevate leaders of these micro-savings groups to become customers and cultivate pride in them so that they can help spread the narrative. Lastly, the schools could also establish local partnerships with these local women's groups in order to work on shared issues of concern (such as children's extra-curriculum) and to create positive narratives about it in the community.

TRANSLATING INTO IMPACT

This approach had fundamental impacts on Star Education's approach to its customer world. First, this place-based approach enabled us to land on a powerful new value proposition for Star Education that was built upon their schools serving as the strongest symbol of success and "making it" for parents. Yes, "making it" is certainly aspirational and has an important distinction in that it does not signify a more successful future but rather a more successful now.

With the value proposition in place the engagement principles had to ensure that they delivered on the experience of success and ultimately drove word-of-mouth. A key part of this was using every potential parent-teacher interaction, however small (i.e. a greeting in front of the school yard, a letter home) to remind parents that Star Education is a symbol of "making it": that they have made a great choice, have joined a socially-respectable club, and that their children are quickly progressing. By doing this more and more parents would be compelled to talk about Star Education with their friends and family. This, in turn, would drive a positive and progressive narrative about Star Education schools.

Another key engagement principle was to focus on building relationships with influential women. By targeting mothers and the various groups they operate in – e.g. savings, church, etc. – Star Education identified a critical partner in the communities where they operate. By successfully engaging women, especially influential women who have high social and cultural capital in their communities, Star Education found that it had a group that would naturally promote school pride and cultivate a positive narrative about the school within the larger community. In other words, it not only gave a boost to word-of-mouth efforts but it also gave credibility to Star Education.

On a broader level, while the above describes key impacts from insights gained in the field, this approach also shifted Star Education's marketing strategy as a whole – meaning that while carrying out traditional marketing activities (such as outreach campaigns) are important they are rarely enough. As a company that provides schools it operates in the social impact field. When this happens a company is not just merely selling a product but rather it becomes a key participant in the local social fabric. This not only requires a deep understanding of the target community but also a more holistic take on marketing- one that is better understood as engagement which combines the art of telling and selling with the art of building and maintaining relationships with community members who are critical partners. This is how to get people engaged in a cause and connect to them in such a way that they will choose your product, again and again. While it is still too early to conclude whether these new strategies will have an impact on retention and acquisition; Star Education is embarking on the next chapter of its growth story.

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Case Studies 2 – Emergent, Underserved & New Markets

Finding a Voice in Opiate Addiction: Identifying the Role of Caregivers in the Recovery Process for VIVITROL

GAVIN JOHNSTON

InTouch Solutions

Opiate addiction is a significant public health crisis. In the past year, it has become a hot topic at all levels, including the political realm ahead of the presidential election. Triggers, treatment options and restrictions, the criminal justice system, and costs to society are all part of the discussion but the cultural milieu in which addiction occurs is poorly understood. This was a significant problem for our client, the maker of a monthly injectable that inhibits the ability of an addict to get high. Our client, basing their marketing strategy entirely on quantitative data, realized that they needed to get a deeper understanding of addiction and the roles caregivers, friends, and family play in the treatment and recovery cycle. Our team convinced our client, who was inherently nervous about executing qualitative work, that in order to create a meaningful marketing plan, they needed to understand the complexities at a deeper level than data could provide. Working with the client and our design teams we executed an initial ethnographic pilot study to identify the best avenues for reaching the audience and providing information that would have an actual long-term impact on the success of treatment. Over the course of a month, our team combined participant observation in three US cities with the caregivers of people battling addiction (some of whom had lost) with in-depth interviews that incorporated a series of semiotics techniques.

The end result was a completely new strategy for the client. A new campaign was developed, new messaging channels were identified, and a clear three-year road map was developed to help them change the conversation and expand their reach. Perhaps as important, the client's entire perspective on addiction and research changed, leading to developing a plan for further research in a broader range of settings.

BACKGROUND

Opioid addiction is increasingly becoming a talking point in society as the rates of dependence, incarceration, and abuse climb. Typically, treatment choices have been somewhat arbitrary and haphazard, driven by the structure of the criminal justice system, a range of philosophies that are often grounded in assumptions rather than data, and individual needs (Faupel, Weaver and Corzine, 2014). Suboxone and methadone, both of which are addictive, are the most common medications prescribed in medically assisted treatment (MAT) protocols. They are well known, have a large amount of marketing dollars to put behind them, and are comparatively cheap (\$4 per pill on average vs. \$1000 for a monthly VIVITROL injection). Unfortunately, they also have high rates of abandonment over time, leading, in part, to relapse (Raikhel and Garriott, 2013). In addition to MAT protocols, most addicts typically go through either a treatment center or Narcotics Anonymous (NA), or both. Unfortunately, there is no standard practice for in-patient treatment and so they can range from faith-based processes to standard twelve-step program. As with the most common MAT protocols, there is an extremely high rate of

relapse. Patients frequently feel isolated and out of place in these settings, caregivers have a limited role in the treatment process, and because of insurance limitations, patients are often released after detox without any kind of meaningful treatment plan (Manufo, 2006). Rather than addressing the system as a whole and the roles of various actors within it, treatment options tend to target health care professionals (HCPs) and patients exclusively.

Two key strengths for VIVITROL are that it is 1) non-addictive and 2) requires use only once a month, rather than as part of a daily regimen. The result is that rather than focusing on the physical treatment day to day, the patient, the HCP, and the caregiver can focus on the underlying causes of the addiction. The drawbacks, however, are that it is costly and the HCP administering the drug needs both certification and new equipment to store it. From a marketing perspective it's largely a matter of name recognition – Suboxone and methadone have been the standard for years (Koetzle and Hartman, 2011). HCPs and patients alike are very aware of the drugs, as are most people in the criminal justice system and treatment center industry (Carr, 2012). That said, VIVITROL has received strong interest from patients and HCPs alike when they learn about the treatment option, but they are only one part of the treatment cycle. Marketing efforts had come to something of a standstill, but the VIVITROL consumer marketing team believed that there was a substantial strategic opportunity to activate caregivers to help support the key business objectives of increasing demand and improving continuity of care.

Based on the limited involvement many caregivers encounter in the treatment process (Yardley, 2012) the team hypothesized that an activated and engaged caregiver could be a pivotal force in helping opiate addicts into and through the treatment cycle and a champion for getting them on VIVITROL once they understand the efficacy and non-addictive properties. Additionally, they believed that the caregiver would be able to add clarity and sound perspective to counteract the addict's compromised state throughout the addiction and treatment cycle – from problem denial through the fragile early days of recovery.

Since marketing research dollars had been primarily focused on consumers and HCPs, the team lacked research data to support this hypothesis. Again, awareness and conversion among HCPs and patients had largely plateaued. Alkermese, the company owning VIVITROL, hoped to grow sales by as much as 7% over the next two years and needed to broaden their marketing efforts. Adding to the need to break new ground was the very real problem that there are other non-addictive treatment options in the works and the company estimated a two year advantage before these other products were introduced to the market. That meant securing a strong brand presence before the competition exploded.

So, deeper saturation, increased brand awareness and affinity, and developing a messaging strategy that could speak to a broader group in a contextualized manner, regardless of channel, meant needing to understand the social, cultural, and psychological dynamics of addiction in a broader sense. Given the lack of research among caregivers, they opted to start the research process with broad caregiver ethnography research to allow for the research process to organically reveal insights and opportunities that could then be further tested through focused qualitative and quantitative studies.

Well aware that we could not possibly address every problem in the addiction treatment cycle, we realized we would need to focus our efforts and keep our goals limited to a few key areas. Our objectives were:

- Understand the relationship between addicts and caregivers over time
- Understand needs, wants, pain points and patterns for caregivers
- Uncover triggers, motivations and barriers in the treatment journey
- Identify points of influence within the treatment process

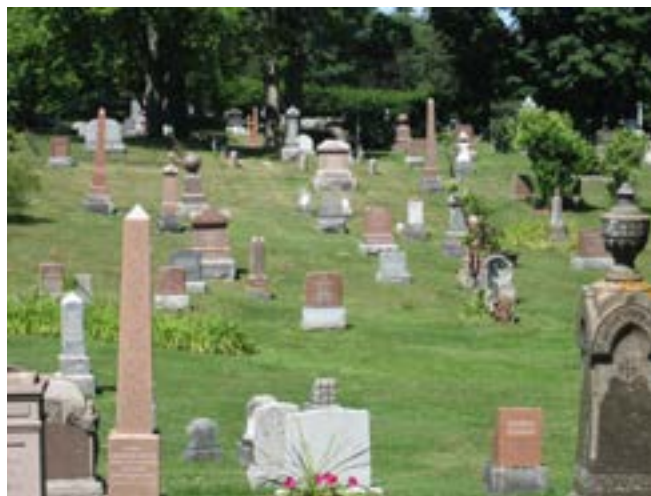
METHODOLOGY

Our research team worked directly with the VIVITROL stakeholders on the study design, objectives and target profiles. The field research itself consisted of traditional participant observation, in-depth interviews, and elicitation techniques.

The questions and observations during the fieldwork focused on the histories and current practices of caregivers in relation to the addict, the culture of addiction, and how their lives had been shaped during the addiction cycle. Participants were given free reign to direct the conversations and places we visited. Questions asked during the in-depth interviews were more structured, though still open-ended, and focused more narrowly on the addiction and treatment journeys. Both processes were intended to uncover information and contradictions about early childhood, identifiable and potential triggers, substance types, lifestyle and emotional impacts to addict and caregiver, past and current treatments, perception of addiction before and after personal experience, perception of treatment landscape, emotions experienced throughout the addiction and treatment journeys, and current statuses of addict and caregiver.

INTO THE FIELD

The caregivers we met were a broad mix in terms of age, relationship to addict, education level, income level, current addiction mindset, depth of knowledge about addiction, presentation. The addicts to whom these caregivers were connected varied, as well, in terms of addiction trigger, age, addictive substance(s), current addiction status (using, in treatment, recovered, passed away), employment status, previous/current use of MAT and motivation



level for helping themselves. As we prepared to enter the field, we had no idea how open our participants would be about such a sensitive subject, but it quickly became evident that they wanted to tell their stories. What we assumed would often be 2-3 hour visits in homes quickly turned into all-day sessions that involved visits to support group meetings, going through old photo albums, and even a visit to a grave.

ADDICTION AS A WAY OF LIFE

Every entry point into addiction is unique, but there are generally signs along the way (Page, 2010). Caregivers rarely recognize problem signs before addiction spins their lives out of control:

“I found out that David [her son] had a problem when I got a call from the hospital. He’d overdosed after he bought heroin from someplace downtown. He was an addict but he was still competing on the track team. It was a total shock when I got to the hospital and he told me he’d been driving in to town to buy heroin for over two months.”



Once we entered the field and began to get to know our participants, this issue emerged again and again – by the time they recognized the signs, the loved one, whether a child, a spouse, a sibling, or a friend, was in serious trouble and the caregiver was forced to jump in and learn about addiction, treatment, etc. and an unrealistically fast pace. In addition to being caught in a state of “catch up”, resources were as varied as the people accessing them. As one participant told us as we flipped through a photo album with pictures of her son (he had recently relapsed for the fourth time and was in a jail awaiting release to a treatment center), “Each treatment center, each doctor, each person

giving you advice has their own agenda. It’s methadone or Jesus or some bullshit twelve-step program. You don’t know where to turn and you’re scrambling to put things in order.”

It’s also worth noting that where participants lived and what was considered acceptable or expected in relation to drug use had an enormous impact on how addiction was perceived. The higher the income, the more inclined caregivers were to see addiction as something that could be battled and compartmentalized. Because they had greater access to treatment and information, their role became much more like a job with specific times and steps that could be applied. The lower the income, the more likely the caregiver and his/her network was to rely on guesswork. Dealing with addiction, domestic violence, arrest, etc. became part of an ongoing process throughout the day. They generally had far fewer resources and simply didn’t know where to begin in terms of information. The result was that they often were reliant on social media, blogs, and the conversations they had with friends for advice rather than medical websites, input from treatment professionals, or drug manufacturers. This group also generally had a much more resigned view of the drugs and drug abuse. It was simply part of the reality of growing up poor or lower middle class – drug use was almost inevitable and accepted as long as it was kept in check. Conversely, middle

class and upper middle class households immediately went into crisis mode and treated both the drug and the addiction as something to be overcome and driven out of their lives. It wasn't part of the fabric of daily life, but an intrusion into it.

Ultimately, how the addiction was triggered, the type of relationship the addict and caregiver share, the genders of the actors, and the duration of the addiction journey all factored into how caregivers perceive and address the addict, the addiction, relapses, treatment and their own involvement throughout each stage. Personal history, regional cultural norms, and access to resources all work together to define the roles each actors adopts and how they search out and respond to battling the addiction. The result is that treatment becomes a long-term series of events, with no sense of an end point. As one of our participants told us, "It never stops. It never will stop. Not until she's dead or I am."

Addiction eventually becomes a way of life, not just for the addict, but for the people helping manage it. It defines every waking moment. It leads to the irrational, the ugly and the destructive becoming the norm. Manipulation, codependence, guilt and desperation are the lenses through which both addict and caregiver view everything. Rationalizations and justifications run rampant to defend behavior by both addict and caregiver. Caregivers exacerbate the problem by allowing themselves to be guided by feelings rather than logic.

GUILT WITHOUT END

There is a spectrum of caregiver guilt. For many, seeing the addict's life out of control is better than seeing them dead. Having the addict alive, even with the addiction and codependent relationship, means they are in this together, while the addict's death means the guilt is the caregiver's alone. Caregivers spend their time shifting from one type of guilt to another and constantly doing things to alleviate this guilt. The sense of guilt was generally broken down into early childrearing failings, missing the signs of addiction, and post-addiction treatment relapses. There was a constant need to pinpoint a single moment where things went afoul and the addiction "began" or "returned". This constant sense of guilt leads to an inability to help forge a clear course of action, with the caregiver rationalizing the addict's behavior and enabling their actions.

"I think I just hit a point where everything we tried failed and I couldn't stop blaming myself. I couldn't move forward, I couldn't do anything. He's been dead for almost two years and I still can't help blaming myself. Two years of therapy and I still blame myself. I'm his mother, I was supposed to protect him. I don't know what happened that he got hooked on this poison, but I can't shake feeling that I could have prevented it somehow at the very beginning."

Two significant issues arise because of the constant undercurrent of guilt. First, caregivers neglect to realize that they themselves need help. The extreme stress they live with on a daily basis drives them to focus solely on the addict. When they do talk to other people about their situation, they often edit it. Several caregivers indicated that our interview was very beneficial to them because it allowed them to unload to an unbiased, uninvolved third party. Their lives are defined and taken over by addiction through no choice of their own. They become so focused on alleviating guilt and surviving the chaos that they often ignore their own needs.

Second, they see each new low point as a personal failing. Rock bottom is not a singular event, and it means something different to everyone. There are several rock bottoms for the addict and for the caregiver. Each person can experience subsequent rock bottoms, each of which is lower than the previous one. And with each new low point, the caregiver tends to look at what they should have done differently. The problem becomes internally focused, the sense of guilt becomes more firmly entrenched, and the cycle of treatment and relapse become that much more normalized.

CHANGING DUTIES



Obviously, this constant cycle of rationalization, guilt, and manipulation eventually becomes too exhausting to manage. Consequently, roles change and a spectrum of caregiver involvement emerges. Often, addicts have more than one caregiver over time and responsibilities are handed back and forth between people involved in helping in treatment. These are generally immediate family members or significant others,

though extended family members and friends can and do fill in when no one else is willing or able to assume the duty. Multiple people are actively involved during the discovery phase of addiction, but as the addiction's duration grows longer, the role of primary caregiver switches hands. Caregivers detach due to frustration, anger and feeling overwhelmed, then tend to resume a more active role once they have either had time to mentally regroup or if a major issue happens with the addict. One participant told us, "I just couldn't keep doing it, I had to hand her off to her aunt when no one else wanted to deal with it anymore. You just get so worn down."

It was clear that those with parent, child or sibling relationships to the addict felt elevated levels of obligation and commitment to be and stay involved, as compared to spousal and significant other relationships, but burnout is a constant problem. Treatment and recovery involve a series of on-again, off-again activities. Often, the same things are attempted over and over, resulting in a repetitive addiction-treatment cycle. This leaves caregivers hopeless, surrounded by a never-ending cycle of using, treatment and relapse.

In order to give the information structure and make it more manageable, we broke the relationships and their associated behaviors into categories:

- **Parent/child:** Parents are most likely to stay for the duration of their child's addiction and treatment journeys, no matter how long it spans. Manipulation, guilt and enabling were very prevalent in these relationships.
- **Child/parent:** Children of addicts are often on one end of two extremes. Some seem to feel an obligation, born out of allegiance and guilt, to stand by their parents throughout the course of their addiction and treatment journeys. This scenario is most likely when the parental addiction begins during or after the child's teenage years. Alternately, children who grew up with addicted parents seem to have more

anger and resentment toward the parents for robbing them of a normal childhood. These children have higher tendencies toward also becoming addicts, ending up in relationships with addicts, and suffering from psychological issues such as anxiety as adults. They tend to deal with the addiction in a more detached manner and are fueled by resentment for being “forced” into taking on a parenting role with their own parent while they have their own adult responsibilities to tend to. Guilt, obligation and resentment were very prevalent across all child/parent relationships.

- **Sibling/sibling:** They feel obligated to be in it for the long haul, but their primary motivator is often alleviating stress on their parents. They repeatedly switch back and forth between levels of involvement with the addicts. Resentment was prevalent in these relationships, driven often by an ongoing battle for their parents’ attention beginning as early as infancy and lasting through adulthood.
- **Marriage/dating:** These relationships consistently showed an accelerated timeline from initial meeting to moving in, getting married and having children. The acknowledgement that they had a choice to leave and abandon the relationship was more evident than in other relationships. The couples’ children are both key motivators and barriers to leaving the relationship. Codependency, enabling and violent behavior were most prevalent in these relationships.

A WORLD OF CONTRADICTION

Caregivers are learning to cope with new hard truths. They are bridging the gap between how they once perceived addiction and realities of addiction. However, contradictions abound and while they may talk about “the disease” in very rational tones one minute, they quickly fall back to myths, misperceptions, and their own personal hurt the next. They cannot reconcile the addict’s self-focused, “I’m only hurting myself” view of addiction and the greater, more devastating impact it actually has. In broad terms, caregivers were divided on whether addiction is a choice, a sign of weakness, an environmental issue or a progressive brain disease. Some thought of it as something that began as a choice and ended up as a dependency or brain disease.

Regardless of how they perceive the disease, the net result is that both addicts and caregivers create and cling to assumptions and theories in order to explain, rationalize and justify the addiction, triggers and irrational behaviors displayed by themselves and each other. As an example, one participant said, “I read it’s partly from all the stuff they put in food now. It alters our chemistry and makes us more likely to get addicted to stuff.” People believe addiction is genetic, or that the addict has a “void” he/she was trying to fill, or that it all stems from a single tragic event, etc. This behavior, this rationalization and reliance on urban legends as a source of information, continues as the addict/caregiver relationship dynamic turns codependent (Yardley, 2012). And it sets the stage for the caregiver and addict alike to feed off of each other’s drug mythos. But within all the misinformation and urban legends revolving around addiction, there is an opportunity to meet people where they are actually seeking answers.

Knowing this would mean taking an approach a communication and marketing that was outside traditional processes. The result is that messaging doesn’t always appear in places the audience frequent or is overly scientific in its voice. But in addiction, there is a plethora of misinformation that either has to be combatted outright or has to be acknowledged in the

marketing mix. Rather than running from the myths that surround addiction, we chose to build from them and meet people directly in the places they were encountering these myths. By tapping directly into the sources that often foster behavior that perpetuate the cycle, it's possible to change perceptions and break through contradictory behavior earlier.

As time passes and relapses occur, manipulation and guilt become the foundational cycle by which the relationship functions. Caregivers try to make sense of the situation in rational terms when all behavior is irrational and beyond a person's control. The new normal is marked by chaos, erratic behavior and emotional turmoil. And while they crave some sense of stability, they are unable to put a plan into action. Caregivers often verbalize nostalgia and longing for life as it was before the addiction. They may want to resume activities and experiences they shared with the addict before the addiction, or they may just want to be free from the emotional turmoil they constantly experience now as a result of the manipulation and guilt cycle. Regardless of how they express what they want to the relationship to be, whether focused on the past or projecting into the future, they are often unable to formulate a way positive way forward.

The outcome of all this is that caregivers start hoping for miracles and begin grasping at straws. Treatment perception is driven by speculation more than reason, and caregivers put faith in single solutions rather than thinking about the system of recovery in its entirety, and so the addiction treatment cycle is perpetuated.

KEY INSIGHTS

You can't solve every problem and you can't address every issue. With that in mind, we needed to refine the wealth of information into something the client and marketing teams could grasp and act upon. While there were a number of areas we could explore, we chose to boil the findings down to four central insights. Knowing that our goal was to find new growth opportunities outside of HCPs and patients (again, awareness and sales had largely flattened), establish brand awareness, and develop brand affinity, we chose to focus on areas where they were most primed to be looking for information. With that as a starting point, we defined mindsets at these stages of heightened stress and what caused the situation (relapse, an overdose, an arrest, a domestic dispute, etc.). The other piece in making our determinations was to define times and situation wherein they were most primed to act. Caregivers actually have a tremendous amount of influence on every actor in the addiction cycle, whether it's the patient, the doctor, or the judge. They have little direct power, but these other parties will frequently defer to their input about treatment since ultimately, they are the ones, for better or worse, responsible for much of the treatment.

As we developed our key insights we also had to be aware that our client and internal audiences (creative teams, UX, account management teams) needed to be able to glean the central message of each at a glance. Whether we were talking to the CEO or a new copywriter, the goal was to provide simple, clear, thematic ideas that could then be used to drive innovation sessions, creative brainstorming, and strategy sessions. On a more self-serving note, we also meant for them to build curiosity and drive the people reading them deeper into the findings. Particularly in advertising, there is a tendency to dismiss anything seen as too academic. "Too academic" is code for "more than 100 words". So getting teams to dig deeper into the information requires breaking down information into bite-sized pieces they

can easily digest. With that in mind, our presentation, full report, and strategic framework centered on the following:

INSIGHT #1: Caregivers unknowingly use feelings instead of logic to navigate their way. Feelings tend to dominate the Caregiver. They struggle to keep a pragmatic view of the world and situation. Educating themselves about addiction is coupled with the harsh realities of the addict's behavior, further muddled by the baseline understanding they have developed about how addiction works.

INSIGHT #2: Caregivers are aware, but not knowledgeable of, available treatment options. Stabilization for the addict is paramount. Thus, the treatment journey is approached with preconceived notions, lack of/too much information, and skepticism. Everything is the same in the eyes of the caregiver. They need a trusted resource.

INSIGHT #3: Rock bottom is not a singular, defined event, and it means something different to everyone. Not every rock bottom is a point in time where the addict decides "it's time to get clean", but it is a time when messaging has the greatest opportunity to break-through to the caregiver. Life changing events (i.e. emergency room, incarceration, divorce, etc.) are where caregivers are most receptive and likely to take action.

INSIGHT #4: Caregivers need treatment, too. Caregivers often don't seek help for themselves. Their lives are redefined and taken over by addiction. They become so focused on alleviating guilt and surviving the chaos that they often ignore their own needs. This chaos can cloud their minds so much that it becomes a barrier to them seeking out solutions. Caregivers benefit from the stories and experiences of those who come before them. Addiction is a spectator sport – until it happens to you.

Armed with four strategic insights as our creative pillars, we were able to conduct a number of workshops, each with a different audience and outcome in mind. Based on the outputs of the workshops, we crafted brand messaging specific to caregivers, tools to help move them from awareness to sale to advocacy, and lay the groundwork for a year-over-year marketing approach.

OUTCOMES AND NEXT STEPS

As a result of the research, our team was able to work with the client to develop several caregiver pilot programs in hopes of reaching the caregiver audience and driving more patients to trial. Based on our findings, we worked across multiple marketing, brand, and distribution teams within their organization to craft a three-year roadmap and marketing ecosystem reflecting all of their existing and future message delivery channels. All of this would strategically lift incremental brand awareness, market penetration, and sales. The caregiver initiative has centered on three basic areas: content, search, and support programs. Caregiver content was developed to fall into three overarching categories: Inform, Support, Readiness. "Inform" was designed to begin with brief, pithy video and text that called out specific addiction myths and countered them. As users interact with the content they are provided with richer, more detail material about treatment types, addiction as a disease, and

specific details about VIVITROL. We also included infographics and gamification elements (e.g. quizzes) to keep users actively engaged. “Support” content included user-generated content and secure, online support groups where caregivers could interact, share their experiences, and seek advice. This content was curated with the intent of giving users a sense of ownership and long-term connection to the brand. Finally, “Readiness” content focused on helping caregivers determine where they and the addict were in the addiction recovery process and how the company might help move them along the path at a quicker pace and with a higher rate of success. Because relapse is the norm and addicts average five attempts before breaking free of the addiction, our goal was to help people determine 1) if abstinence was a likely outcome, 2) what barriers stood in the way, and 3) what treatment type would be most likely work. Once a caregiver completed the assessment, he/she would be directed to a physician locator and/or treatment program that would reflect the addict’s and caregiver’s needs.

The new content has been a great success. Site traffic has doubled, inquiries about medication access have grown by 30%, and prescriptions have increased by 9%. Additionally, shares of caregiver-focused content in social media has been over 200% greater than was initially projected and organic search traffic has nearly tripled. Rather than focusing exclusively on doctors and patients (or potential patients), the content is designed to help caregivers find resources (doctors, lawyers, and support groups) that will help them. The majority of the content centers on psychological and social needs of this group rather than treatment and the results have been extremely positive. In addition to impacting the bottom line, caregiver dialog on the site has grown to over 2000 participants and referrals to support groups has become the number two activity after learning about where to get access to the medication.

Caregiver paid search has taken center stage. By recognizing that caregivers are frequently the driving force behind treatment management, VIVITROL has been able to tailor their messaging to caregivers at different stages of the addiction cycle, the number of times the addict has been in treatment, and the catalyst for seeking treatment (e.g. arrest, hospitalization, or intervention).



Caregiver support programs were tailored to the cultural norms and access to treatment of specific regions. So, the Boston area, for example, is designed around the fact that the criminal justice system is now focused on addiction treatment, has greater access to public transportation, and has a higher percentage of doctors trained specifically in addiction treatment. Southern Ohio, by contrast, tends to lack the support systems needed to ensure access to care, has a criminal justice system based on punishment and release, and has fewer HCPs trained in addiction treatment. For much of the Southeast, drug sales are a significant income, the result being that in addition to addressing the problems of addiction, we had to design content and messaging that acknowledged we putting some people out of business. Based on region language, economics, how drugs treatment was perceived, etc. we developed a strategy that applied a two-pronged approach – national marketing focused on the benefits of the drug in terms of case management and relapse prevention, and guerilla-esque marketing that was tailored to eight regional plans (New England, Midwest rust belt, Southeast, Central states, Northwest, California, Southwest, Atlantic states). The result is that's each program is adaptable to the process of addiction treatment per the area and the specific obstacles caregivers encounter in each.

CONCLUSIONS

Going forward, we will be working with VIVITROL to refine marketing and advertising based on how the medication performs in the market. We also anticipate doing further research, qualitative and quantitative, to gain a deeper understanding of addiction, the roles of the people involved in its treatment and management, and how to address the subtle challenges of treatment messaging. Based on the data the client will be able to measure the successes and shortcomings of both individual campaigns and the long-term strategy of the VIVITROL marketing efforts.

Gavin Johnston has over 19 years brand consulting, strategic planning, and consumer research experience, with 16+ years experience in digital research & planning. His expertise lies in uncovering insights for strategic cross-channel marketing and design applications. He has conducted research and strategic development projects for a broad range of clients including Bayer, Chrysler, Ford, Kellogg's, American Century, Kashi, Gatorade, GSK, Kimberly-Clark, Edward Jones, SAP, Cars.com, MillerCoors Brewing, H&R Block, Hostess, Eli Lilly, Motorola and Sprint.

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Case Studies 2 – Emergent, Underserved & New markets

#GoingEthno in the Indian Bureaucracy

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Based on experience of working in the Department of School Education, Government of Haryana on a Management Information System being built to reduce administrative workload on teachers and bureaucrats, this case study describes how ethnography was used to understand and address the problem of technology adoption in a large bureaucracy. Ethnography helped the Department in framing the problem of adoption as one of lack of adequate Digital Literacy within the organization and in developing strategies to address it. Digital Literacy workshops were conducted to improve broader Digital Literacies in the Department, which improved literacy levels by 48%. For ensuring sustainability of this initiative, the Department instituted a continuous Digital Literacy program, which will support the adoption of multiple technology projects in the future.

Keywords: Management Information System, Technology Adoption, Bureaucracy, India, South Asia, Organizations, ICT4D

INTRODUCTION

Federal, state and local governments in India deliver critical public goods and services to over one billion people. In the summer of 2015, India's prime minister announced the state's ambitious "Digital India" program¹, incentivizing federal, state, and local governments to use Information and Communication Technologies (ICTs) to efficiently and transparently deliver these services. But the Indian bureaucracy is yet to completely modernize its own operations and build staff capacity to deliver services. Numerous ICT enabled e-governance initiatives have been implemented in India so far, but only a few of these have succeeded in achieving intended outcomes. While academic anthropologists have explained that these failures are a result of lack of deep understanding of the users (citizens) and their context on part of the governments (Sreekumar 2007; Arora and Rangaswamy 2013), we do not know a lot about how ethnographic praxis could help improve the implementation of e-governance initiatives in the public sector in India or preventing such projects from resulting in eventual failure (Sreekumar 2007). This case study draws from the experience of International Innovation Corps (IIC)² Fellows working for the Department of School Education, Government of Haryana in India, on increasing the adoption of a Management Information System (MIS) aimed at reducing administrative workload on teachers and bureaucrats across the state. The Fellows used ethnography to understand the problem of adoption by framing it as one of lack of adequate Digital Literacy in the organization. Subsequently, ethnography helped the Fellows to enable the Department to devise long term strategy to improve adoption of this large scale, public sector e-governance initiative. Using thick description

(Geertz 1977) of the Department work and engaging with academic literature, Fellows were able to make necessary recommendations to the Department so as to increase adoption of the MIS. This case study shows how ethnography is not only helpful, but in fact indispensable to government organizations in successfully using ICT to deliver critical public services.

E-GOVERNANCE IN INDIA

Digital India is a flagship programme of the Government of India that aims to make India a digitally empowered society. It was launched on July 2, 2015 by the Prime Minister of India. Through this programme, the Indian Government intends to create digital infrastructure, digitally connect rural India, extend e-services to remote parts of the country and digitally empower its citizens.³

In Digital India, two initiatives are worth noting- the National e-Governance Plan (NeGP) and the National Digital Literacy Mission (NDLM). The NeGP focusses on making government services easily accessible to the public through e-service delivery outlets (electronic booths) across the country. As a result of which, the government initiated a slew of e-governance projects to ensure efficient, transparent and reliable electronic service delivery to its citizens. The NDLM scheme imparts computer skills to Indian citizens across the country. It trains people to use mobile phones, tablets etc, send/receive emails and search for information on the Internet. An eligible household can nominate one person from their family who is then enrolled under this program in a nearby Training Center/Computer Service Centre (CSC)⁴

Such efforts by the Indian government are not a new phenomena. Electronic Governance, commonly referred as the e-Governance, has been a priority as early as 1977 (Sreekumar 2007). However, in the past such e-governance projects started by the government of India have mostly failed to achieve their intended outcomes (Sreekumar 2007; Arora and Rangaswamy 2013). For example, when the government in Karnataka state of India started digitizing land records so as to achieve higher transparency and efficiency, it was found that digitization actually increased corruption in the system and that it actually led to concentration of land in certain market players (Benjamin et al. 2007).

HARYANA STATE'S QUALITY IMPROVEMENT PROGRAM

Haryana, one of the smaller states in Northern India, has over 15,000 government schools, with 2.7 million⁵ students and 125,000 staff members.⁶ Over the past decade, the Government of Haryana has implemented a range of initiatives to improve access and equity of public schools in the state. However, learning levels in public schools continue to be lower than learning levels in private schools⁷. As a result, even though overall enrolment is rising in Haryana's schools, the enrolment is shifting from government to private schools⁸. In order to address this problem, the Department of School Education, Government of Haryana entered into a partnership with a premier management consulting firm in August 2013. With help from the management consulting firm, the government developed a comprehensive plan to improve Learning Level Outcomes (LLOs) in the state⁹. This transformation plan, referred as the Quality Improvement Program (QIP), consisted of initiatives to measure LLOs, orient the

Department work towards improving academic quality, and address school-segment specific issues. The initiatives focused on improving monthly assessments, revising textbooks, teacher training, maintaining Pupil Teacher Ratio¹⁰, improving school inspections and monitoring process and bridging the grade level gap in classes one through five.

While these initiatives focussed on school level interventions for improving quality of education, the Department decided to develop a Management Information System (MIS) to aid the bureaucracy in taking every day decisions based on accurate data. The MIS was initiated to develop an integrated data infrastructure that would become the single source for all information for the data required by the Department. It was aimed to reduce repeated data requests by Department from schools so that teachers get time to focus on teaching rather than administrative work. The MIS would have ready availability of authentic data with simple data collection processes. The MIS would have in-built capability to generate predefined reports as well as the flexibility to produce ad-hoc customized reports as and when required. In addition to this, the Department also sought to redesign some of the key administrative processes (like staff appointment, staff transfers, promotions etc.) with the end goal of making these processes more efficient.



Figure 1 Current stack of file that MIS aims to replace with computer generated reports

Until the conception of the MIS, the Department did not maintain a centralized repository of data about schools, students, and employees in the state. As a result, before any decision was made, the Department staff would send requests to individual schools and teachers to put together reports regarding the numbers of students in various categories¹¹. Such a workflow would result in inaccurate data and introduce inordinate delays in decision making. The Department would get different numbers from different sources and on many occasions the Department just would not be able to get in touch with the concerned school representative in time. The administrative work burden far exceeded the academic work burden on the teachers, so much so that the consultants and government speculated it to be

a major reason for low learning level outcomes in Haryana. This presented a need for the Department to not only relieve teachers from unnecessary administrative work, but to also aide the bureaucrats in making every day decisions backed with sound data sources, and in general enabling the Department to become a data driven organization. The Department hired a technology vendor to build a Management Information System from scratch with help from the consulting firm and additional funding from the Michael and Susan Dell Foundation (MSDF)¹².

ETHNOGRAPHY IN THE INDIAN BUREAUCRACY

It was anticipated that the adoption rates of the new MIS would be low and hence the Department felt a need for employing innovative adoption strategies from the get go. In anticipation of the challenges, the Department along with the MSDF brought in IIC Fellows to help the Department increase adoption of the MIS. The IIC team's mandate was to, "...improve the utilization and effectiveness of an [Information Technology] (IT) platform for tracking school resources, personnel records, and student performance, among other parameters..."¹³.



Figure 2 Conducting interview with superintendent of one of the branches in the Department

In order to fully understand the problem and the reasons for low adoption, the IIC Fellows spent two months studying the end users. These users were mainly headquarter and block/district¹⁴ office staff- branch¹⁵ superintendents, computer operators¹⁶, data entry

operators, block and district officers and Directors. The Fellows chose to work with these interlocutors as against (or in addition to) teachers and principals because the office staff were identified to be the eventual end users of MIS reports.



Figure 3 The Department complex is a set of two interconnected 6 storey buildings

Before addressing the problem as one of low adoption as identified by other stakeholders, the team decided to conduct their own evaluation of the current status of MIS implementation. The Fellows met with various Department staff, attended monthly project meetings and conducted interviews across the Department to arrive at an independent understanding of the situation. The Fellows developed an understanding of the Department and how it worked as intimately as possible. While searching for organizational charts, roles and responsibilities documents for each functionary, the Fellows found that none of this documentation was available. While going through the System Study Report¹⁷ of the MIS, they realized that the technology vendor had access to this information, but only second hand as is apparent from the following quote by a business analyst, "...We studied the Education Department workflow by analysing documents given to us. Meeting personnels from each branch was practically not possible for us..." In such a situation, Fellows decided to conduct interviews with various staff members and participate in their daily work. They found that this was the most appropriate way to understand the ways in which organizational hierarchy panned out and the specific roles and responsibilities of various staff members as

the documentation made available to them consisted of incomplete information about the Department and its staff and their roles and responsibilities.

Fellows started working in various branches within the Department. In many cases, offices had no name plaques and, given the size of the organization, many people were unaware of other departments or the location of different branches (even if they were located in the same building).

In such a scenario, trying to find a specific person's desk required walking around the office building, asking staff at random. Originally seen as a waste of time, this same activity opened up the bureaucracy to the IIC Fellows. The Fellows understood the physical space much better in their exploratory walks around the building as well as recognising which branches were easier to find, and which staff members were hard to get hold of. It is in this way ethnographic research became indispensable to understanding the work that the Department really did and the ways in which its staff members really requested and processed information from subordinates as well as superiors. Other research methods like surveys could have not accommodated for the flexibility that ethnography allowed. The Fellows also interacted with staff members in their time off from work during lunch and tea breaks to get a sense of staff members' lives outside of work, especially their interactions with services like WhatsApp and Facebook on their smartphones.



Figure 4 Staff members taking a few minutes off after lunch before heading back to work.

Such interactions allowed the Fellows to gauge staff members' familiarity with smartphone devices and their use of technology for digital leisure activities (Arora and Rangaswamy 2013). Combining data from interviews taken in formal work settings with data from participant observation during lunch breaks, and tea breaks, the Fellows were able to develop a more complete picture of various staff members' digital skills capacity and their perceived/projected relationship to technology and specifically their opinions about the accuracy of data in MIS, its utility, its intended/hidden usages etc.



Figure 5 Understanding data requests from the block office during an interview

The Fellows started working with the computer operators in the branches and took up their tasks in order to understand daily data requests, expectations from their superiors and how these operators collect data. Correspondingly, they conducted such participant observation activities in field offices as well. They sampled 8 block offices across 3 districts and 2 district offices using data quality numbers from a separate yearly data exercise called the U-DISE survey¹⁸. They travelled and spent from few hours to up to 2 days at each of the offices in order to understand how data is used in the everyday life of the staff at field offices of the Department. During their conversations with the staff, they focused on identifying their data needs on a daily, weekly, monthly, half-yearly and yearly basis to develop a sense of data requirements over time and frequency. Second, they focused on the specific formats¹⁹ in

which data is required within the Department and the decisions that they have to take based on such data.



Figure 6 Conducting Focus Group Discussion with MIS coordinators in a block office

During the two months that the Fellows spent understanding the work of the Department and its several projects under the Quality Improvement Program (QIP) they made visits to various districts and conducted semi-structured and unstructured interviews with officers in the field. From this, they realized that lack of adoption could be explained as a consequence of several factors. While on the one hand the MIS was still in development and not all of its modules and reports had become fully functional, on the other hand the MIS reports interface was not amenable to easy and quick use in addition to absence of

certain key reports. Where reports were available they were not available in the required tabular formats.

The introduction of the MIS was a major technological intervention as a result of which many processes in the Department were undergoing changes. These changes had created anxieties in the Department staff of an unknown consequence of using the MIS. And some of these anxieties were legitimate as can be shown by the following reflection by a branch superintendent:

“...Two reports about the same statistic give us different numbers. Count of number of students changes depending on which reports we download. We cannot work with such uncertainty. I don't think the MIS has accurate data. I would rather call up people down the hierarchy and seek numbers from the schools...”

Murthy and Mani identify the following reasons for low technology adoption: technological complexity, technology fatigue, level of complexity or the switching cost (Murthy and Mani 2013). In a similar vein, trying to understand why staff members did not want to adopt the MIS, the Fellows found that it was not clear to the staff if the MIS really assisted them in their daily tasks. It was found that all of these factors contributed in part leading to low adoption of MIS in the Department. Neither did the headquarter staff use the MIS for their day-to-day data needs, nor was field staff completing data in the MIS portal. Some of the observations collected include:

1. The MIS was being rolled out in phases²⁰. Phase one focused on launching student and school services e.g. admissions modules, school infrastructure data etc. Phase two focused on launching employee services while phase three aimed at incorporating welfare scheme modules and employee HR policies into the MIS. Student and school data was available but employee data was still being collected. The branches wanted to be able to access all of their data through a single system. However, the MIS hadn't become the single source of data yet. In such a situation, staff didn't want to simultaneously pull data from the legacy database and the new MIS. Instead they preferred to continue using only the legacy databases despite those databases not having accurate data.
2. The existing reports contained data that was useful for decision making but did not adhere to formats used in the Department.
3. Despite the MIS having a considerable number of checks, the system still had data quality issues. Branch computer operators showed certain anxiety about missing data. Even where data was complete, it was perceived by staff to be unreliable. The Fellows verified these claims by looking at various reports. During discussions with the Chief Engineer about discrepancies in different reports, it was found that the reports did not have wrong numbers but due to infrastructure constraints, they were being updated at different times of the day. Due to this, some reports had previous day's data as compared to the others which were up-to date. This technological minutiae had not been communicated to the users which added to the mistrust of MIS system among the Department staff.
4. Organizational inertia prevented the Department from changing operational processes so drastically in such short period of time

5. Court cases, RTI requests and routine work were taking up so much time that Computer Operators felt overburdened by the extra time it takes to learn a new system.

The screenshot displays a web-based form for employee information, divided into several sections with yellow headers. The 'Employee's Detail' section includes fields for Designation (Head Master), Gender (Male), Date of Birth (Retirement) (01/04/1956), Date of working (12/03/2014), and a redacted name. The 'School Detail' section has a yellow header stating 'Either Name or Present working place is not clear'. Below this, there are sections for 'Sanctioned Post for Head Master' (Working/Retirement), 'Transfer Detail' (listing three transfers with dates and locations), and 'Promotion Detail' (listing a promotion from Head Master to Head Teacher on 01/01/2014). The form is cluttered with various dates, locations, and administrative codes, illustrating the complexity and fragmentation of the data system.

Figure 7 The Department relied on several disconnected systems each holding data in a disparate manner. Many times the data would be outdated.

The Fellows found that alleviating anxieties would be key to the organizational shift required for MIS adoption. These anxieties were certainly not baseless. There had been incidents where the MIS had inaccurate data about a particular school in a specific block of a district. The MIS had not been able to capture some critical information. For example, information about whether a school was rural or urban was missing for more than 50% of the schools as of March 2016. This information was critical for many Department staff responsible sending welfare aid to schools as rural and urban schools received different kinds of funds. Because of this, anxiety regarding MIS usage persisted. The Department wanted to increase adoption of the select number of reports that were already available but the staff was not ready to start using a system that only partially met their needs.

In the post-colonial bureaucracy that India is, official government files are the media through which government communication and decision-making happens (Raman 2012). The legacy online systems that the Department's branches used have matured to a certain level (despite their shortcomings), such that they fit the bureaucratic system of file and paperwork of the Department, whereas the MIS did not. And thus every time the Fellows

broached the topic of moving from using the existing systems to the MIS, they were met with various excuses revolving around how the MIS did not provide data in the appropriate form despite it being accurate and up-to date²¹.

The Department does not work in a silo disconnected from the bureaucratic maze of the broader Government of Haryana and the Government of India's expectations of report formats and data formats. In such a scenario, the Fellows found that while a few computer operators in the Department were willing to use the MIS for their routine work, the broader bureaucracy still expected reports in certain formats as a result of which operators fell back onto using the legacy systems all over again. The MIS reports were not useful and that they required MIS operators to invest time in correcting the formats of the exported MS Excel sheets. A staff member in one of the block office said:

"...We are expected to give the same reports in different formats. Sometimes the change in format is mere rearrangement of columns from the earlier report. To reduce our work, whatever requests we get from the headquarter we pass it to the field offices and get the reports in the required format..."

RESULTS

The IIC Fellows spent close to two months conducting interviews, field visits to various offices and participating in various office activities in the Department. Such immersive participation allowed the Fellows to build relationships with staff members who became helpful interlocutors and supporters over time. Using insights developed from the field work, the Fellows found out that MIS adoption was not a problem in isolation. It was not that the technology was built, infrastructure was laid out and everything was set up but the people did not want to use the technology like in case of Aramis in Paris, France in the 1980s (Latour 1996). The problem was a result of multiple interconnected factors affecting the situation with the root of the problem being an incomplete understanding of the user of the MIS. The MIS was being built in phases and only few phases had been rolled out when the Fellows started their work. All modules needed were not available to the users. Within the modules that were rolled out, data in many fields was incomplete (some of which were important to make key decisions). Most importantly, data in the MIS reports was not in the right format. When not available in the intended format, the data was of no use to the Department and hence was rejected. Formatting the spreadsheets to adhere to the required format would not have been hard, but given the low level of digital literacy in the Department, very few staff members could manipulate the reports. This created extra work for the staff and thus no one used the MIS reports. This frustration can be seen in the following sentiment of a District Education Officer:

"...All our data needs are not fulfilled by the MIS. In such a scenario we have to call schools and when we are calling them we might as well get everything from the Headmasters [instead of getting half information from MIS and other half from schools]..."

Any IT system takes time to stabilize. Issues are fixed over time. Similarly, data quality is usually low in the beginning and quality improves over time as more and more data is used. Inaccuracies in data, are subsequently corrected. While such understanding is common

among the IT professionals, the Department staff, new to the MIS, expected data to be 100% accurate from the get go and thus even a minor error in data would become a red flag for the staff members and a reason to stop using the MIS reports. On top of actual data quality concerns, even when there was good quality data for a certain metric, the Fellows found that the staff did not want to trust the MIS data. For example, even when the consulting organization working in partnership with the IIC Fellows had verified the number of students across the state, many staff members in the Department did not believe that the numbers were what they were. Most staff members that the Fellows spoke to alluded to the system logic being incorrect. A Program Manager at [ABC] branch had the following to say regarding the same:

“...I do not think that the number of students in the state has actually gone down. I do not believe what the [XYZ] has to say about fake student records being purged from the databases. The system just made a lot of kids invisible just because they do not have one or the other document to legitimize their claim [to get free education]...”

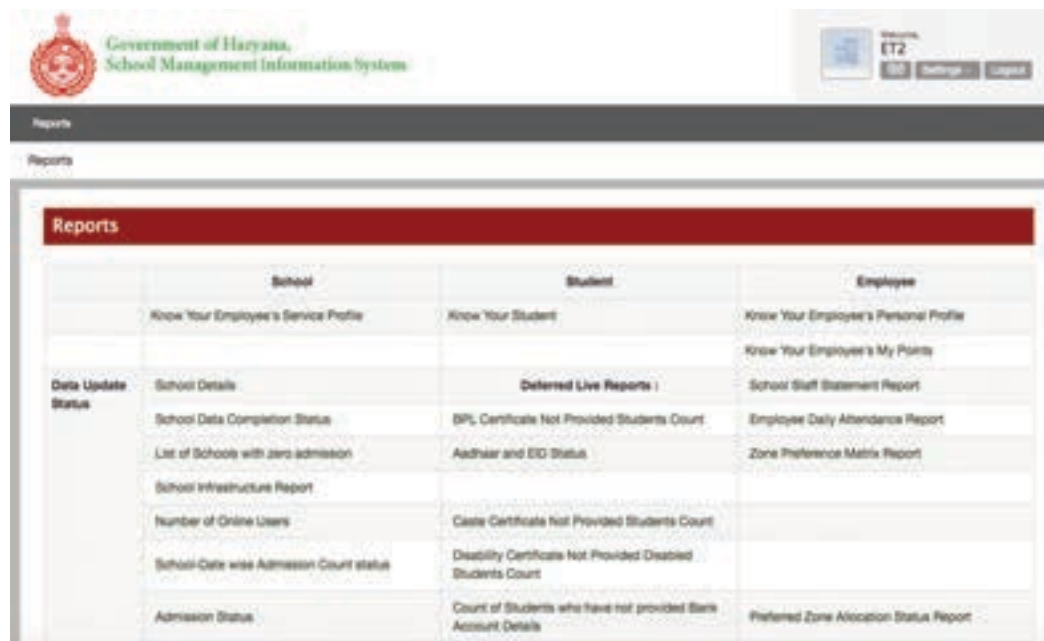


Figure 8 MIS reports home page

A non-intuitive user interface did not help the MIS's cause either. The reports homepage is essentially a list of all possible spread sheets that a user can download off the MIS portal without any logical organization. During participant observation activities it was noted that the staff members found it hard to spot the report they were looking for. They found that reports on just student or employee entity were of limited use to the staff members. Staff needed reports which synthesized information from student, employee and school databases. A Computer Operator mentioned, “...I would like to enter school code into this system and get information on a particular school's staff strength, student strength as well as

infrastructure information. The MIS reports only give me either student data or school infrastructure data...”

In order to improve the user experience the Fellows worked with a focus group and came up with alternative reports homepage layout. Upon persuasion by the Fellows, while the Department recognized the need for a re-design of the reports dashboard, it put this task at a low priority. Adopting a system still being built is a tough task. When the full system is not available for use and all the data requirements are not met by a newer system, there is not enough incentive for users to use the newer system, when older system are still able to accomplish their tasks despite there being issues with the older systems. For example, most legacy systems in place at the Department were updated at a very slow speed while the MIS provided the staff with near real time data. It was simply the incomplete data that prevented user from adopting it.

While interviewing the field staff, the Fellows found that even though the designers of the MIS provided more information about schools, students and teachers than required, it didn't serve the need of end users. On multiple occasions the change in format was only a rearrangement of columns from previous reports. The officers looking at the reports didn't have time and motivation to do this rearrangement and hence the work was given to operators. The findings showed that a simple custom report generator would have served the purpose. As one computer operator puts it, “...if we can get the flexibility to pick and choose columns before downloading the excel, it would be helpful and reduce our workload...”²²

The most important attribute that the Quality Improvement Program (QIP) was missing in its design was a workstream for building digital capacity in the Department staff at various levels. The Fellows found that digital literacy skills of the Department staff including senior officers, was at the low end of the digital skills spectrum. But the bureaucratic norms in the government allowed top officers to delegate all of their digital work onto subordinates without being reprimanded for not knowing how to check their email or compose a word document on their own. There is a distinct symbolic economy at play here. The public services in India have a colonial past in that they are a postcolonial extension of the British Indian Civil Services wherein the British administrators took high offices while Indian people worked as subordinates in the same offices (Raman 2012). Bhavani Raman has explained the functioning of the scribe during the days of the British East India Company in India (2012). After working within the indian bureaucracy, the Fellows noticed that while a lot of the cultural dispensation has changed, it is remarkable that the division of labour described by Raman still persists among the senior officer and their subordinates. This is so embedded in how the civil services operate that even when an officer is competent to check email, compose Microsoft (MS) Word documents on their own, they will have the stenographers/computer operators to do this work for them. Even though the British government does not rule India anymore, the consequences of the hierarchy they created still present themselves in the bureaucratic system today. Most notable is the continued existence of the job position of the scribe. Scribes transformed into stenographers or typists and later into computer operators over time but the position in the heirarchy responsible for typing up documents on behalf of the senior officers continue. Understanding of the history of the Indian bureauacracy is crucial in creating useful IT systems for the Indian government. When the senior bureaucrats discussed their subordinates' competency in MS Word, MS Excel etc, they cited tendency to not work. They highlighted how the same people

enthusiastically adopt Facebook and WhatsApp, without taking into account the extremely easy to use interfaces of the various social media services. The Fellows found that many senior staff members in the Department did not even know how to turn on a computer. They relied on computer operators allotted to them to do the bulk of the digital labour involved in composing files and other related work.

After having arrived at a complex problem formulation using ethnographic research, the Fellows devised next steps in the following manner:

1. Suggested a Custom Report Generator to be built that allows users to choose what data columns they can select in the exported reports
2. Suggested changes to the User Interface of the reports homepage
3. Suggested changes to the report design by employing tidy data concepts (Wickham 2014)
4. Convinced the Department that lack of digital skills among the staff members and conducted comprehensive digital literacy training for all staff members in the Department



Figure 9 A Digital Literacy workshop in progress

Richard Saumarez-Smith has outlined how British administration of India in the 19th century gradually became a rule by records and a rule by reports- and reports in a very specific format (Smith 1985). Many people who have worked with the Indian bureaucracy may be able to relate with the stringency of reports and document formats expected by the bureaucracy. In going through paper-based and digital reports the Fellows realized that

while the Department wants to move to an online workflow, it cannot abruptly abandon the paper-based processes to communicate information since in the medium term, most of the work is still going to be paper-based. Thus, when the Department is moving online, it is continuing with the formats it has abided by for years on paper, which do not always make the best use of data organization format that tools like MS Excel can provide.

Additionally, by uploading reports in the formats that they used to be on paper, they have done away with any learning curve regards to learning data analysis using MS Excel that would come with using the new reports. Because there is no learning curve, the staff feel that these are the same as the older reports but without the efficacy of the older ones because of various reasons and thus do not want to use them.

Figure 10 This paper-based report captures the daily attendance of a student on a particular class.

As one can observe in the above picture, paper medium allows for flexibility of annotations and several other freedoms to inscribe paper based documents in multiple ways. When such a report is moved to MS Excel spreadsheets, one expects the designer of the report to export data in Excel such that the data analyst can use MS Excel's features and easily make various analyses using pivot charts, tables etc. However, data exports in the MIS did not seem to follow this logic.

Department of School Education, Government of Haryana

Rural-Urban Schools Count

as on 02 Mar, 2016 03:35:22 PM

Report of : Government Schools

District : All, Block : All

District/Wing		Primary			Middle		
		Rural	Urban	Total	Rural	Urban	Total
Ambala	Ambala-I (City)	17	8	25	2	3	5
	Ambala-II (Cantt)	17	15	32	4	4	8
	Barara	24	1	25	12	0	12
	Naraingarh	2	0	2	0	1	1
	Saha	12	0	12	9	0	9
	Shehzadpur	60	0	60	19	0	19
	Total	132	24	156	46	8	54
Bhiwani	Badhra	23	0	23	9	0	9
	Baund Kalan	17	0	17	5	0	5
	Bawani Khara	31	5	36	9	0	9
	Behal	21	0	21	6	0	6
	Bhiwani	51	12	63	13	2	15
	Dadri	14	0	14	11	0	11
	Kairu	8	0	8	2	0	2
	Loharu	49	5	54	10	0	10
	Sivani	18	1	19	11	0	11

Figure 11 Partial screenshot of MIS report on government schools in Haryana

In Figure 11, one can see that the software developers have put in so much effort to code the data exports such that MIS users can directly use the reports without being expected to conduct any MS Excel manoeuvre. This attitude underestimated the capacity of the users to learn new skills, such as using Pivot Tables on the original data to obtain similar results. By assuming that the users need everything pre-processed for them, the Department was losing an opportunity to actually build digital skills in the organization, skills which would not only help employees further their careers but also help the Department in developing a data driven organization. By using the concept of tidy data, engaging with the business analysts as well as the Department staff and explaining to them how MS Excel sheet data could be reorganized from scratch, the Fellows tried to convince the Department to either organize data needed in a particular manner for it to be really usable for the Department, or institute a massive digital skills training programme to continuously support the staff in their daily routine work. Unfortunately, the Fellows were not able to convince the Department to make changes to the MIS reports, but were able to convince them about the need for a comprehensive digital skills training programme. This programme was later piloted with a set of approximately 100 employees. In the training feedback, one of the participants wrote, "...the training was very helpful for my daily work. Things like Mail Merge

will save a lot of crucial time. Formatting was always a problem [for me], now after learning so many new techniques my work will become easy...”

Based on positive feedback from the pilot, the Fellows ensured that this pilot was developed into an institutional training program. The officer in charge of one division in the Department passed a Government Order stipulating Digital Skills building workshops to be held for staff members every two months. The Order made attendance in these workshops mandatory for all staff members. The division has already planned workshops between September 2016 and July 2017. By focusing on basic digital literacy and enabling broader computer and internet usage in the Department, these trainings will create the prerequisite conditions for MIS adoption and support the Department’s larger e-Governance agenda.

CONCLUSION

The Internet has long become an appropriate technology for conducting development work in the global south (Mazzarella 2010). Government organizations adopting large scale IT projects risk subjecting themselves and their beneficiaries to steep learning curves if the systems are not user friendly enough. In this case, the IIC Fellows found that the government was being too wary of this steep learning curve. As a result of this concern, the Department reduced the learning curve so much that it became flat. The MIS entailed a basic replication of paper based reports to the computer screen without any modification to the organization of data so that the reports would become suitable for online/digital tool based analysis. Thus, even when the reports were being downloaded from the MIS, their representation was so close to the reports on paper, no staff member wanted to use the reports. These reports would have been useful if the Department still used paper as the media technology of preference, but in MS Excel workbooks, these reports and data made little sense. To address the issue, the IIC Fellows made suggestions to the Department regarding reports designs such that the reports once downloaded are suitable for analysis, as per user needs. Simultaneously, the Fellows conducted Digital Literacy training for the Department which equipped the staff to do that analysis. This increased the adoption in select branches where the Fellows had spent time. However, as soon as Fellows withdrew continuous support, adoption decreased correspondingly. In the meanwhile, the Digital Literacy training was made an integral part of the Department’s skill building program. It is hoped that the Digital Literacy program will help build capacity in the organization.

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EXHIBITS

Exhibit 1: % Children in grade 5 who can do division, by school. 2007-2014²³

Year	Govt. schools		Pvt. schools	
	All India	Haryana	All India	Haryana
2007	41.0	53.8	49.4	75.6
2008	34.4	45.7	47.1	65.8
2009	36.1	46.4	46.2	67.5
2010	33.9	50.5	44.2	70.8
2011	24.5	40.3	37.7	65.0
2012	20.3	25.4	37.8	63.7
2013	20.8	31.7	38.9	69.5
2014	20.7	30.8	39.3	71.0

Exhibit 2: % Children age 6-14 enrolled in private schools, by gender. 2006-2014²⁴

Year	Boys		Girls		All children	
	All India	Haryana	All India	Haryana	All India	Haryana
2006	20.2	48.2	17.0	36.4	18.7	43.1
2007	20.8	40.2	17.6	30.9	19.3	36.1
2008	24.6	45.0	20.3	34.6	22.6	40.3
2009	23.3	44.2	19.9	36.1	21.8	40.8
2010	25.5	45.3	21.7	37.2	23.7	41.8
2011	28.0	47.1	23.0	38.8	25.6	43.4
2012	31.5	55.3	25.2	41.8	28.3	49.2
2013	32.2	57.8	25.5	43.9	29.0	51.4
2014	34.5	60.1	26.9	47.0	30.8	54.2

Exhibit 3: International Innovation Corps and the Michael and Susan Dell Foundation

International Innovation Corps (IIC)

The IIC recruits top-performing graduates of leading host-country universities and the University of Chicago and organizes them into teams of up to 5 Fellows. Fellows are trained for 5 weeks in skills required to translate their academic and professional knowledge into on-the-ground contributions. The IIC embeds each team within a government office to work on an innovative development project with a discrete, tractable scope for a year. The IIC provides light-touch managers and mentors to help teams of Fellows achieve their projects' goals.

The IIC's distinct model leverages global talent and government resources in a new way. This model has three defining features:

- IIC Fellows work in teams to foster entrepreneurial collaboration.
- IIC teams work directly with the government, to ensure projects address official priorities.
- IIC projects create scalable solutions, in order to maximize impact.

For more information on the program, please visit <http://iic.uchicago.edu>

The Michael and Susan Dell Foundation (MSDF)

MSDF is the family foundation of Michael and Susan Dell of Dell Computer Corp. MSDF supports multifaceted large-scale school system transformation with the potential to drive systemic improvements throughout schools and city wide school systems. To achieve these goals, MSDF partners with non-governmental organizations, governments, entrepreneurs and others and employ a variety of financial tools, including grants, equity. MSDF has supported integrated school excellence programs like the Mumbai School Excellence Program. They are now working on the largest and first-of-its-kind statewide transformation project focused on learning outcomes in Haryana state in India. Additionally, they are supporting the Government in mandated in-class continuous and comprehensive evaluation (CCE) across four states in India. For more information please visit <http://msdf.org/india>

NOTES

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1. It must be noted that “Digital India” is a rebranding of existing programs i.e National e-Governance Plan, National Optical Fibre Network among others. Such programs have been running in India since the 1990s.

2. The International Innovation Corps (IIC) is program based at the University of Chicago Harris School of Public Policy, sends top talent to work with government organizations on a year long fellowships that implement innovative solutions to important development problems. For more details, refer to Exhibit 3
3. <http://www.digitalindia.gov.in/content/vision-and-vision-areas>
4. <http://ndlm.in/overview-of-ndlm.html>
5. This figure changes frequently as student enroll and unenroll in government schools at a high rate
6. <http://ssaharyana.etenders.in/tnduploads/ssa/pressnotices/prsn24.pdf>
7. Refer Exhibit 1
8. Refer Exhibit 2
9. The learning level outcomes of children in government schools of Haryana has been low as compared to other states with comparable economic prosperity (<http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%20TOT/State%20pages%20English/haryana.pdf>).
10. The Right of Children to Free and Compulsory Education Act or Right to Education Act (RTE) is a Constitutional Act in India that makes it mandatory for the State to provide free and compulsory education to all children in the age group of 6-14 years (<http://mhrd.gov.in/rte>). The RTE mandates each school to maintain a pupil to teacher ratio (Pupil Teacher Ratio (PTR)) of 30:1
11. The Indian welfare state classifies school going children based class, caste and religion and provides special assistance to children of disadvantaged backgrounds
12. Refer to Exhibit 3
13. Quoted from initial mandate of the project description for IIC Fellows
14. District is an administrative division one level below states in India. Haryana has 21 districts. Each district is further divided into several blocks.
15. A branch is essentially a team working towards a particular function. For example, the Mid-day Meal branch is tasked to manage disbursement of budgets to schools for food under the Mid-day Meal scheme.
16. Computer operators act as computer support personnel who type documents on behalf of Branch Superintendents and Branch Assistants in the Department. Superintendents and Assistants do not generally operate any computer device but are well versed with the bureaucracy while the computer operators are typically young professionals who have considerable proficiency with office software and on few occasions programming skills as well.
17. System Study Report is a document for the software development team prepared by the Business Analyst after studying client system workflows and understanding their requirements.
18. U-DISE (Unified District Information System for Education) is a database of information about schools in India. See <http://www.dise.in/udise.html>. While U-DISE itself is marred with data inaccuracies, the Fellows could not find a better alternative to it and thus, went ahead and chose their field sites as per U-DISE data quality numbers.
19. Format here means, a particular tabular structure in which the data needed to be presented such that it was useful for the department

20. This method changed in the last quarter of 2015 when a new Principal Secretary took over. Principal Secretary is the head of the department in the bureaucracy.
21. It must however be noted that general lethargy in adopting a new system was also a factor throughout
22. Translated from Hindi to English by authors
23. <http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%20TOT/State%20pages%20English/haryana.pdf>
24. <http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%20TOT/State%20pages%20English/haryana.pdf>

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Case Studies 2 – Emergent, Underserved & New Markets

Developing Socially Acceptable Autonomous Vehicles

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Recognizing that the movement of cars on the road involves inherently social action, Nissan hired a team of social scientists to lead research for the development of autonomous vehicles (AVs) that engage with pedestrians, bicyclists, and other cars in a socially acceptable manner. We are expected to provide results that can be implemented into algorithms, resulting in a challenge to our social science perspective: How do we translate what are observably social practices into implementable algorithms when road use practices are so often contingent on the particulars of a situation, and these situations defy easy categorization and generalization? This case study explores how our cross-disciplinary engagements have proceeded. A particular challenge for our efforts is the limitations of the technology in making observational distinctions that socially acceptable driving necessitates. We also illustrate some of the significant successes we've already achieved, including the identification of road use practices that are translatable into AV software and the development of a concept, called the Intention Indicator, for how the AV might communicate with other road users. We continue to investigate road use to uncover and describe the ways in which the social interpretation of the world can enhance the design and behavior of AVs.

BACKGROUND

Nissan, just like many automotive companies (OEMs), is developing autonomous vehicles (AV) and like many other OEMs has invested in a Silicon Valley-based research center where key aspects of the AV's software systems are being developed. The particular focus for the lab is on autonomous driving for the city. From its establishment in 2013, the director of the research center, Maarten Sierhuis, maintained that a central challenge for autonomous vehicles would be effective interaction with other road users. The demands of city driving require this; urban contexts are interaction rich. A goal of Nissan's AV development, therefore, is to ensure "socially acceptable" autonomous driving. To this end, he contracted Gitti Jordan, a world-renowned anthropologist, and later built a small group of social scientists to help work out what socially acceptable driving might mean in practice.

In Maarten's original vision socially acceptable autonomous driving would be driving in which AVs, when interacting with other road users, operate smoothly and in a manner appropriate to the specific interactional context; AVs that behave neither too aggressively nor yield incessantly to other road users, neither impede the normal flow of traffic nor cause undue notice. In short, socially acceptable autonomous driving would mean that Nissan AVs would smoothly integrate into the flow of traffic and handle roadway interactions without disrupting other road users moving down the road. Determining what it would take for AVs to operate in this manner has been one of the key areas of focus for our group.

There could be other interpretations of socially acceptable autonomous driving, of course. One could aim to understand what consumers in different markets think they want from autonomous driving. Indeed surveys suggest the general public is rather divided about whether they truly want and trust AVs. Another interpretation of social acceptability would be that autonomous driving would bring a wholesale shift to some socially desirable outcome, such as new mobility options for the disabled persons. This certainly is an often touted and highly anticipated benefit of AVs by both OEMs and representatives of disability communities. Our work has yet to focus directly on either of these dimensions. Instead it is positioned in upstream research, at the very inception of the core software architectures and programming necessary for an AV to move about autonomously, ahead of the stage of engineering in which the ideas conceptualized and tested in research are “hardened” or firmed up so that vehicles can go into production and marketing strategies can be formulated. Our work thus precedes the kind of research ethnographers may more familiarly be brought into associated with the developing new car models, business strategies, or marketing plans.

Here we tell the story about how our group has undertaken research to ground the notion of socially acceptable autonomous driving in empirical investigation with a social scientific lens. We thus add to the literature on the impact of social scientific research in high-tech industries (the EPIC archives are filled with instances of this, as are numerous other publications over the proceeding two decades), exploring both some of the successes and challenges we’ve had integrating research findings with technology development.

APPROACH

Excited about the possibility to impact the design of the AV and thus the mobility of the future, we embarked on our quest to help define socially acceptable autonomous driving. To have impact, we felt we needed to have a certain amount of independence in order to avoid being constrained by the starting assumptions of the engineering-driven effort. We could make a contribution to the notion of autonomous driving by doing ethnographically-informed research that we could analyze on our own terms, staying honest to our own discipline before attempting to adapt our findings to the terms deemed most relevant to the engineering team. Doing more than paying lip service to the idea that AVs must learn to behave in socially appropriate ways demands understanding what happens on the roads. And what happens on the road is undeniably social, as a broad mixture of people find their way to various destinations using a variety of transportation options, ultimately, and nearly unavoidably, by means of interacting with other road users to establish a self-organized order of traffic. And yet, whether regarding traffic as a particular form of public social life can be made useful and compelling to those actually building Nissan’s AV technologies remains a tremendous challenge, as we discuss below.

Given the broad remit for our work, we quickly initiated a program to collect a variety of data to study social practices of road use. We collected video data from stationary cameras at different city intersections that captured the interactions between road users. We supplemented this data with intercept interviews to gain participants’ sense of the nature of their interactions. We also captured first person perspective of road users, by conducting “travel-alongs”, interviewing participants on their own transportation experiences, traveling along with them as they drove or walked through local urban contexts, and inviting them to

review the video recordings with us and reflect on their experiences. (This phase of research was ably advanced by Logan McLaughlin, a Master's student at the University of North Texas and who joined us as an intern for the summer of 2015; McLaughlin 2016). We furthered our first person perspective, and diversified our focus through a brief immersive study in Sao Paulo, Brazil. We also collected data recorded by bicyclists riding through Sao Paulo and in Amsterdam.

Methods of interaction analysis have been key to our analytical practices. To date, video analysis has provided an anchor to our analysis, which has also included attention to how people talk about and reflect on their own road use practices. Beyond these more typical ethnographic modes of inquiry to develop a basis for our understanding, we have also designed some concepts and performed preliminary testing of those to advance the design and refine our empirical understanding, which we will describe below.

Naturally, we continue to advance our knowledge and thinking through review of the literature, from social and cultural histories of transportation and mobility, to walking and pedestrian life, to in-car behavior, to the development of autonomous systems and more. We have collaborated with others in aspects of this work, including members of the DesignLab at UC San Diego under the direction of Don Norman. And we have also enjoyed the opportunity to work with classes at both the University of North Texas (see Jordan and Wasson's 2015 EPIC paper for a description of this work) and San Jose State University with Jan English-Lueck.

DUALING SCIENCES IN THE ENGINEERING OF AUTONOMOUS VEHICLES

What does it mean to bring an understanding of the profoundly social nature of driving and road use into the very foundations of technical development?

That driving is not only a technical but also a social skill is obvious from the moment one progresses from driving in a parking lot to driving on the public roads. Indeed for anyone to manage their movement through time and space, whether in a car, on a bike, or as a pedestrian, is a social act that involves the interpretation of cultural signs and signals, to interacting with others. Even aspects of mobility one might deem purely technical at first—accelerating, slowing down, keeping one's balance on a bicycle—must be considered profoundly social skills on second viewing.

Take the problem of locating where the AV is. Despite advanced GPS capabilities, this remains a non-trivial technical challenge (see Brown et al. [CITE] for a demonstration that driving with a GPS is also a non-trivial cognitive task). GPS is needed to help determine the precise location of the vehicle, exactly where it is on the road in relation to lane markings and curbs, for instance, but it must also integrate such information with the maps in order to determine precisely where it is. This gets especially tricky when the GPS signal isn't completely reliable (for instance, next to tall buildings) and the system needs to decide whether to trust the GPS location or the information from its more proximate sensors that track the markings on the road.

And aside from the technical challenges, there are the social considerations of a location. For a car driving down the street, for instance, an area where children are playing by the side of the road changes the sense of location for a driver significantly. We might expect that an AV take such social considerations into account when it drives down the road, yet that necessitates that the AV has a concept of what "playing children" are—that it is able to

recognize not only children, but also their behavior as playing—and that it could adjust its driving style dynamically. (The same street without playing children does not require a similar level of caution).

Or take the rules of the road. Some may seem simple and could easily be implemented algorithmically. For instance, an AV can be designed to adhere strictly to the speed limit. Yet we all know that driving the speed limit can be too fast in some cases (the aforementioned street with playing children, e.g.), whereas in others the socially acceptable way of driving is to exceed the speed limit. Similarly, an AV can be programmed to never cross a double yellow line, yet drivers often break this rule to skirt around a turning vehicle (Picture 1) or around a bicyclist on a narrow road, and refraining from doing so could engender frustration for traffic behind the AV.



Picture 1. A car crosses a double yellow line to skirt around a car waiting to turn right. The car performed the same maneuver; it is a common practice to break the rules of the road to keep traffic flowing.

Moreover there are many rules of the road that explicitly refer to a driver's judgment: just consider yield signs and four-way-stop intersections; you must yield when others are present but not when nobody is, and at a stop you must of course stop and go in the order of arrival, but what counts as one's arrival when cars stop (or keep rolling) at different distances from their lines? As AVs are driven by means of a computer program, they don't have the capability to use this required "judgment". How to act appropriately must be pre-specified by its engineers who thus have the Herculean task of defining all possible situations.¹ This is something that is easily done in case of games like Chess or Go where all possible legal moves are well-defined, but nigh impossible when one deals with a real-world environment such as human behavior on public roads.

And this points to one of the key differences between social science research and AI research. While there are vast differences in approach among social scientists, our

anthropological and ethnomethodological backgrounds hold in common that we regard human behavior as massively contingent on the situation, in some regards the very opposite of algorithmic. Even a relatively circumscribed form of human behavior, like movement in traffic, is dependent on a host of external circumstances. These include aspects of the physical environment—the road signs, the markings on the street—temporal factors—the time of day, the season, the weather—and social factors—perceptions and meanings of the environment and specific locations (a “neighborhood”), the presence of other road users including bicyclists and pedestrians, their ages and physical ability, the cause or reasons for people being on the road in the first place (for work? for pleasure?) and special events such as a parade or a farmers market. We also recognize that how people move about in traffic is but a small aspect of people’s life, that their presence on the road and movement from place to place is but a fleeting moment (and often a not a very notable one at that) in an on-going set of personal experiences. While such considerations of the contingencies of human behavior are a starting point for our research, for AV software engineers these considerations just aren’t very helpful, as they try to get on with the programming which is dependent on defining just what the AV should do in what situation.

PREDICTING ROAD USER TRAJECTORIES

One of the things that the autonomous vehicle’s designers (AI researchers, researchers in the fields of robotics, machine learning, agent modeling, human perception, etc.), need are rules and models that give them a way to predict what other road users will do. Since we are considered the experts in human behavior within the laboratory, it seems only natural for them to ask us to provide them with such models of social actions. We have been asked to provide, for instance, state transition diagrams to specify in detail the intentional states of road users and how they change their state as a result of changing circumstances. As an example, a particularly relevant thing for an AV to notice about pedestrians would be the change from “waiting” to “crossing the street,” or for a bicyclist the transition from “going straight” to “turning left.” Detailed observations of how these transitions occur could allow the AI researchers to construct models that would specify how the AV should act, given its perception of the environment.

While we acknowledge that for the engineers there is a necessity to break down the world into agents’ behavioral states and the transitions between states, the challenge for us as social scientists is that the reduction of road user behavior into transition diagrams is not only extremely difficult, but that even when such an attempt is made, something essential about the ‘social’ seems to be lost in the process. For instance, take the case of this pedestrian waiting to cross at an intersection in San Francisco.



Pictures 2a & 2b. A pedestrian is waiting (2a) and follows a man who crosses before the light has turned to walk (2b).

Depicted in picture 2a & 2b is someone who is waiting among a group of people for the light to turn before crossing the street. The fact that he is among a group of people is relevant, since it makes it more likely that he might join the others in crossing a few seconds before the light turns to walk. One can try to break down a pedestrian's behavior into its constituent parts, consisting of, for example, body posture, gaze direction, positioning on the road or sidewalk, but that break down seems to miss something essentially social and may not help you the next time you encounter a similar, but differently executed, social action.



Pictures 3a, 3b, 3c, 3d. Two women arrive at the intersection (3a). They step into the street to cross (3b) when the one on the left slows down and looks left. The woman on the right looks where her partner on the left is pointing (3c) as they halt at the edge of the road. The car that was waiting for them now crosses the intersection (3d).

Or take these two women in picture 3, who look like they are about to cross based on the way they approach the intersection (3a). Yet after they step into the street, they stop (3b), look around and point (3c), clearly engaged in an interaction to figure out where they should go. The analysis that they are “not crossing” would be highly relevant to an AV—and note that the car's driver has easily figured this out and crosses (3d)—but depends on seeing that these women are not two individuals, but that they are together (the idea that walking down

the sidewalk is dependent on an ability to see that certain people are together was the subject of early work in ethnomethodology [Lincoln Ryave & Schenkein, 1974]).

Or, consider this picture 4 taken from the front of a moving car in southern California.



Picture 4. A woman steps out into the street behind a parked car.

The woman steps into the street with a large step behind a car. Considered simply as a moving object, as AV algorithms tend to do, she may represent a potential conflict for the car from which the picture was taken. Instead of a potential hazard, however, what we see is that she is the driver of the car parked on the side of the road and she is walking around it to get into it the left front door, where we know the driver sits in vehicles (this is in California). The woman standing on the sidewalk behind her will presumably ride shotgun adding to the Gestalt of a woman stepping out into the street to get into her vehicle.

To us as social scientists these examples demonstrate that social understanding imbues our understanding of street life, of people's behavior in traffic, and of how we perceive the world in general. This social lens is paramount, and is both more than and qualitatively different from the raw sensory input (a 'bit cloud' from a Lidar sensor or a sequence of video images taken from a camera, for instance) from which the engineers must build up the AV's interpretation of a scene. While it is certainly easy enough to discuss compelling examples with the engineers, it remains much more challenging to define the concrete implications of these social observations for their technical work.

MAKING PROGRESS

We have, nonetheless, had successes, not just in generating conversations across our disciplinary bounds, but also in tangible input to the development of the AV. An example of a successful result was our analysis of a road user practice we called "piggybacking." This is a practice observed with some frequency at stop intersections. As stated, the traffic rules for four-way stops prescribe that cars may cross the intersection in the order in which they

arrive and that when there is conflict the car from the right should go first. Piggybacking is a practice that systematically breaks this rule, but in a socially acceptable manner. Drivers who piggyback travel through the intersection by jumping ahead in the order, taking advantage of the priority established by a car ahead of them, often due to their place in the queue being blocked from going by another road user. The picture below helps to illustrate.



Picture 5. Piggybacking. The Blue car arrived earlier at the intersection than the yellow car, but the yellow car takes advantage of the fact that the red car is blocking the blue car from going.

Pedestrians too were seen to piggyback on the priority established by other pedestrians. A car may also piggyback on the right of way established by a slower moving bike. In other words, there are many ways that piggybacking occurs at four-way stops, resulting in subtle yet socially recognizable and socially acceptable ways in which the order in which road users cross may be altered.

Piggybacking was readily accepted by the technical team as the kind of social behavior they were eager to program into the perception and possible action of the AV. We believe this was because the behavior was recognizable and describable at the level of decision logic that was relatively easy for the AV engineers to implement; the AV had a concept of the queuing order, and thus was able to perceive and categorize the right objects for piggybacking (i.e., the order in which cars arrive at an intersection, and what constitutes a clear path through the intersection). Since it is a practice that breaks a driving rule in order to achieve better overall traffic flow, would it not constitute quintessential evidence that the AV was driving in a socially acceptable manner if it could piggyback? Moreover, while the public understands that AVs would drive conservatively and therefore safely, there is a great concern that their robotic driving style will impede traffic flow; piggybacking is a tangible example of how such concerns might be addressed.

MAKING FURTHER PROGRESS, THE INTENTION INDICATOR

Piggybacking wasn't the only practice that stood out for us at stop intersections. We also noted that when there was apparent conflict about the order in which road users can cross, people often negotiate about who should go first, in particular between pedestrians and drivers. Pedestrians have the right of way in a crosswalk, but it is not clear whether they do

when they wait at the curbside or only when they step into the road. Regardless, most pedestrians will not blithely step out into the crosswalk in front of an oncoming car. Pedestrians may seek eye contact with a car, or at least take a clear accounting of a car's behavior before stepping out in front of it. We observed pedestrians that waved cars on, and drivers that waved on pedestrians. The pictures 6a, 6b, 6c, below illustrate one of these moments.



Pictures 6a, 6b, 6c. Negotiation between a pedestrian and a driver at a four-way stop in town. In (a) the woman holds her partner back and waves the driver on, in response (b) the driver waves the pedestrians on. The pedestrians cross (c)

How could an AV interact and communicate with pedestrians, bicyclists and other drivers about the order of traffic? How could an AV express that it was letting a pedestrian go ahead, or, by contrast, that it was planning to go and that a pedestrian had better not step into the street? The AV should be able to express its intentions, but also take account of the specific situation and expectations of other road users in that setting, and adjust its behavior accordingly. We started to explore the hardware and software solutions that would allow the AV to communicate with other road users and developed a concept that we continue to adapt and refine.

The concept we developed involves a signaling system that would be added to the vehicle and could change modes according the interactional context when potential conflicts arise with other road users. With the system, AVs could engage in roadway negotiations based on the AV's perception of what vehicles and other people on the road are doing and planning to do, and adapt its behavior in order to be a good 'social partner.' The concept involves a light strip viewable from the front and side of the car with programmable signals that communicate the cars intention to other road users in the vicinity.

One way we have begun to test the concept was to try it out in our facility on a remotely controlled toy car. The objective of these tests was to get feedback on the specific instantiations of the concepts – there were many ways to execute the details and we wanted to sort out how the different options would work. Which were the most easily understood, what unintended reactions did they provoke, and so on, focusing on whether the concept would have any meaningful bearing on interactions on the road (and ultimately traffic flow). We ran the experiment twice, in one case creating a simulation of an intersection on the road

and asking people to take specific actions such as: cross the road as you normally would, linger before crossing, jaywalk, and so on. In the second test we did not direct people at all, but simply observed what people who moved around the lab experienced when they encountered the toy car.²



Picture 7. Employee interacting with the prototype remotely controlled car.

Although we had initially envisioned that the light strip would negotiate and interact with other road users in a way that would full-fill the function of hand waving, eye gaze, and the reading of ‘signals’ about other road users’ intent that we observed among pedestrians and drivers, at this point an actual interaction requires both a level of continuous perception and an ability to adapt the actions of the AV in real time that is far beyond the current system’s capabilities. Rather, our solution is for the light strip to display the AV’s intention. It has come to be called the Intention Indicator.

Despite these limitations the Intention Indicator concept was an immediate hit within the organization. Indeed it was taken up by the designers of the Nissan’s autonomous concept car, the IDS (Intelligent Driving System), and paired with other communication devices, including a technology that could detect pedestrians and bicyclists and could confirm that they had been ‘seen’ and an LED text display to reinforce messages to near-by road users. The IDS concept car was revealed at the Tokyo Motor Show in October 2015 (Picture 8).



Picture 8. The Nissan IDS concept car with the intention indicator represented by the blue light strip running along the sides and front of the car, as well as a display in the window.

There is much research to be done to develop and harden the Intention Indicator concept. Assuming the Intention Indicator could be added to the vehicle (US vehicle code regulation does not allow for any colored signaling lights to the front of the vehicle to avoid confusion with emergency vehicles, for instance), it remains to be seen if inclusion of an Intention Indicator will have meaningful impact on the road, both in the early days of introducing autonomous vehicles to the road, and over time. After all, car drivers communicate their intention largely through movement, and it is an open question whether having a light strip that displays the AV's 'intention' is actually a helpful addition to its 'natural' communication through its movement.³

In a company where real impact is measured by actual technologies that find their way into physical cars, the Intention Indicator's inclusion on the Nissan IDS concept car was a great success for our newly founded group. (Elsewhere Cefkin began to explore [2016] some of the interesting dimensions of this in terms of cultural and social views of vehicle interactions.) And it gave us a real boost in status within the organization. Indeed it is one way in which we are using social scientific research to build a new field of automotive development, External HMI.

CONCLUSIONS

This paper has been a case study of the challenges and successes of a small social science research group in an engineering laboratory dedicated to the development of autonomous

car. We have shown how we are attempting to make an impact on the design of the automobile of the future by considering the social organization of road use, with the ultimate goal of helping create socially acceptable autonomous vehicles.

The focus of our lab is on the software for the AV to drive in city traffic. We have struggled to have a direct impact on this software development, in part because our observations of traffic often hinge on the recognition that road users make decisions based on their own social assessment of other road users and their intentions. While we have been successful to present these observations to the engineers in a compelling manner, it is far from obvious what the implications of our research should be given the limitations of the sensory systems of AVs that cannot detect the social world of traffic in all the subtle detail road users do. It is therefore no surprise that the engineering teams have a tendency to set aside our observations as compelling yet rather irrelevant, unless they can be translated into state-based diagrams, the onus for the production of which they put on us. This is challenging for several reasons, among them that the production of formal models has not been the focus of our education, that the formal models are difficult to produce without intimate knowledge of the relevant categories of the AVs software—what social actions can it recognize—and that formal models very quickly become only a poor, watered-down representation of the richness of the social world.

Nevertheless, our ethnographically inspired studies of traffic and road users have born some fruit. Not only have they resulted in actual hardware on Nissan's concept autonomous vehicle, but our research has also led to various observations that are becoming part of how the organization talks about autonomous vehicles, both within the company and to the public. We may indeed help redefine and challenge some of the fundamental categories that may seem natural from an engineering perspective, but have limited use when considered against a backdrop of the actual social reality of the methods people use to navigate the city streets. However, the interest and desire to integrate understandings of the social nature of road use into the design of autonomous vehicles remains high within the organization. That work is challenging, but it is a challenge we accept eagerly.

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Melissa Cefkin is a Principal Scientist & Design Anthropologist at Nissan Research in Silicon Valley where she explores the potential of having autonomous vehicles as interactive agents in the world. Her work is at the intersection of ethnographic and anthropological research and the worlds of business, design, and technical system development. Melissa is the author of numerous publications including the *Ethnography* and the *Corporate Encounter* (editor, Berghahn Books 2009) and served in a wide range of the leadership roles, including president and conference co-chair, for the EPIC (Ethnographic Praxis in Industry Conference) organization. She worked previously at IBM Research, Sapient and the Institute for Research on Learning (IRL).

NOTES

1. Machine learning techniques can be used, of course, making the engineering a little easier perhaps, but that is not the same as using judgment, as Button et al. (1995) have argued forcefully.
2. One of the side benefits of these experiments was that they engaged our colleagues throughout the lab in our work. Given that our facility hosts people from a number of groups and divisions across Nissan and Renault, many people had only been vaguely familiar with the nature and direction of our work until then. These testing activities provided them with a sense of our approach and the direction of our thinking, and allowed as to sense how people might react more generally.
3. Although it should be noted that when the engineers implement how the car moves, they don't do so in the first instance with an eye to what such movement communicates to other road users, a consideration that we have always stressed in our presentations to them about social acceptability of road users.

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PechaKucha 1 – The Researcher Life

The Flat World

BRIDGET MONAHAN

MAYA Design

This PechaKucha presentation explores the notion of flatness – the elision of multi-dimensionality in the lives we live, which increasingly take place online and interface through small screens. What does it mean to do research with people and understand their experiences and then to translate those experiences into flat design?

Keywords: Product Design, Experience Design



Bridget Monahan is a senior designer and researcher with MAYA Design, a design innovation and technology consultancy based in Pittsburgh, PA.

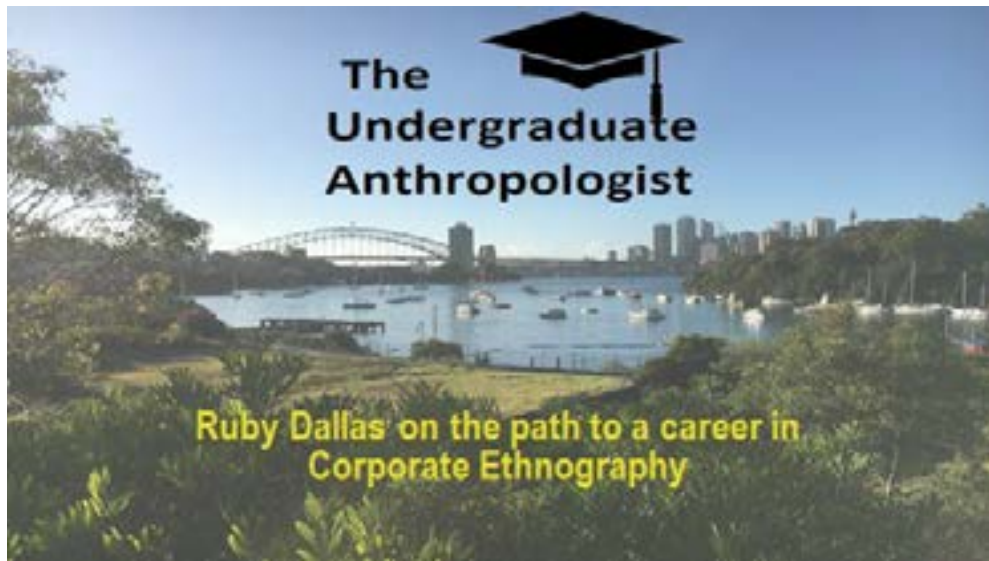
The Undergraduate Anthropologist

RUBY DALLAS

Macquarie University

This presentation explores corporate Anthropology from the perspective of an undergraduate with eight years of business administration experience. Focusing on business transformation and the potential for Anthropologists to add value and assist with growth and strategy.

Keywords: Corporations, Transformations, Anthropology, Ethnography



Ruby Dallas – I am an undergraduate student completing my Bachelor of Arts Majoring in Anthropology at Macquarie University, Sydney Australia. I am very interested in using ethnography within corporations as a tool to ensure business success across People, Product and Numbers.
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Empathizing with the Mind of a Child

ARI NAVE

The Kind's Indian, Inc.

Empathy is an indispensable tool in design. But poorly executed, the application of empathetic thinking can lead to worse results. When examined more closely, empathy is problematic both in concept and in practice. Deconstructed into the component parts — compassion, sharing and mentalizing — we can begin to explore the particular nuances of empathy. Beyond the incentives of the designer, compassion, successful empathy requires the user to be able to share their experiences with the designer. Translation and articulation limits of the user can make this difficult. Designing for a pre-verbal child, for example, is extremely difficult. Finally, mentalizing, the act of the designer creating a proxy of the user's internal state, is problematic when they do not share the same cultural foundations or basic cognitive similarities. Designers are most facile when designing for people similar to themselves. But as design anthropologists, we are tasked with creating bridges that enable people to create mental maps of people who share fundamentally different outlooks on the world. Limited by the intersubjectivity of the endeavor, validation again and again is essential.



Ari Nave is a design anthropologist living in The Bay Area with his wife and three kids, Sagan, Win and Theory. He leverages evolutionary psychology to help define the design of products, service and experiences through The King's Indian, Inc. This work includes the proactive design of corporate cultures that spread to dominate an organization. He is also exploring changes to masculinity through letter25.com and working on a documentary, Y, on personal journeys of fatherhood and masculinity.

Biomimicry: Learnings from ‘The Field’

ADINA DAAR

Independent Researcher

The natural world is full of researchers – from the smallest of butterflies scoping out the perfect leaf to land on to the largest of elephants retracing the steps of their ancestors to find food and water. Every creature on earth is in a perpetual state of learning to adapt to the many changes of this world. This presentation will take viewers on one researcher’s personal journey into the emerging discipline of ‘biomimicry’ – through examples of how research is conducted in nature, and what we as researchers can learn from these insights to inspire our own.



“Herd of Elephants” by Christafrieda – [CC0](#) 1.0 Universal

Adina Daar Adina is an independent researcher, ethnographer, and all-around ‘nature-nerd’. She is currently pursuing a Masters of Science in Biomimicry from Arizona State University, and in 2016, was selected to participate in the Biomimicry Professional Program, a 2-year, global, multi-disciplinary leadership immersion course focused on facilitating the practice of learning from nature.

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A Prairie Home Revival

BRIANNA FARBER

University of South Carolina

This presentation explores the struggle of natural resource conservation within Iowa industrial agriculture through the issue of water quality. I discuss the politics of scientific information, specifically how different powerful players use science to achieve their goals. Science can both reveal and obscure the history of Iowa's landscape, and history holds the key to understanding water quality problems. Finally, I describe what people are trying to do to bring industrial agriculture and prairie together to create a better system.

Keywords: Natural resource management, political ecology, agriculture



Brianna Farber is a doctoral candidate at the University of South Carolina finishing 14 months of fieldwork in Iowa. Her research interests include human-environment interactions, as well as the role of social science in collaborating with and informing natural science and technology.

Living Comfortably In Glass Houses

ALEXANDRA ZAFIROGLU

HEATHER PATTERSON

FAITH MCCREARY

Intel Corporation

Our homes are becoming instrumented glass houses where even the most intimate and personal acts may leave data footprints that companies providing services (and potentially others) can access. As homes become instrumented with data-generating technologies, existing information boundaries will be tested, and householders will take on the burden of creating new boundaries on information about their homes lives. Existing low-tech methods of obfuscating activities will no longer suffice. As ethnographers working on smart home solutions, we wonder: what information about which daily activities and home conditions will make householders uncomfortable living in glass houses? Who do people imagine will be looking through those glass facades, and what do they worry about them 'seeing'? Even when the activities they consider sensitive are self-described as 'normal', how do we design smart home solutions so that householders can continue to do 'normal' things and benefit from new services, with the confidence that their glass homes won't reveal too much, won't easily break, or when they inevitably do break, won't cause irrevocable damage? What role do ethnographers play in design smart home solutions that allow us all to live comfortably in glass houses?

Keywords: Smart Home, Internet of Things, Information Flows, Privacy



Alexandra Zafiroglu, and **Faith McCreary** are Principal Engineers in Intel Corporation's Internet of Things Group and **Heather Patterson** is a Senior Researcher in Intel Labs. They define the next generation of experiences enabled by the Internet of Things in homes and other environments.
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Working For It: Feminist Art and Ethnography

CARRIE YURY

BeyondCurious

Feminist art and ethnography have something in common. We examine the everyday; are interested in activism and equality. As a practitioner of both, I assert that we need feminist ethnography, especially in corporate technology research, where women are discounted because of cultural stereotypes, in spite of being key users and consumers. We need to be open about being feminist ethnographers. We must turn ideas of “bias” inside out, as current bias against women in technology is rampant. It’s going to be a lot of work, but it’s work that is worth doing.

THE ADVANTAGES OF BEING A WOMAN ARTIST:

Working without the pressure of success
Not having to be in shows with men
Having an escape from the art world in your 4 free-lance jobs
Knowing your career might pick up after you're eighty
Being reassured that whatever kind of art you make it will be labeled feminine
Not being stuck in a tenured teaching position
Seeing your ideas live on in the work of others
Having the opportunity to choose between career and motherhood
Not having to choke on those big cigars or paint in Italian suits
Having more time to work when your mate dumps you for someone younger
Being included in revised versions of art history
Not having to undergo the embarrassment of being called a genius
Getting your picture in the art magazines wearing a gorilla suit

A PUBLIC SERVICE MESSAGE FROM **GUERRILLA GIRLS** CONSCIOUS OF THE ART WORLD
WWW.GUERRILLAGIRLS.COM

Guerilla Girls, The Advantages Of Being A Woman Artist, 1988, Courtesy the artists

Carrie Yury is a feminist researcher, writer, and artist. She is Head of Experience Research at innovation agency BeyondCurious, where she oversees all research, both quant and qual, to understand users, develop original thought leadership, develop experience strategy, and ensure great product design. cjury@beyondcurious.com

Looking to Right-hand Women: Strategies for Shaping Impactful Paths in Business

NATALIA SILVA
INSITUM

HANNAH PICK
McGraw-Hill Education

This visual ethnography explores the hypothesis that some women in business subvert traditional power relationships by using existing stereotypes and all other tools at their disposal to become "right-hand women." Drawing from examples of famous women in business and quotes from qualitative interviews with women from the U.S., Mexico and Colombia, "Looking to Right-Hand Women" tells the story of how some successful, intelligent women across several countries play a behind-the-scenes role in business, strategically impacting and influencing men in leadership positions to directly shape decision-making, and ultimately the path the business takes. Through the lens of navigating the highly nuanced challenges of operating as a woman in today's business world, this visual ethnography uncovers effective strategies for building trust and effecting change in the face of complex power dynamics. These strategies could potentially be applied by consultants and internal change agents at large corporations to build trust and effect change as well.

Keywords: Women in business, change management, trust building, pathmaking, change agent, consulting



Natalia Silva is an Operations and Account Manager based in Bogota, Colombia at Insitum, a strategic research and innovation consultancy, nataliasilva@insitum.com. Until recently, **Hannah Pick** worked with Natalia at Insitum as well. Hannah is now the Director of Design Research for McGraw-Hill Education International & Professional and is based in Chicago, Illinois. hannah.pick@mbeducation.com

Paradoxical Thinking as a Gateway to Socio-Cultural Insights

ELIZABETH ANDERSON-KEMPE

Artemis Research By Design

Paradoxical thinking can reveal complex emotions and beliefs, even self-contradictory behaviors. It can also provide a gateway to the socio-cultural forces that underpin a topic. In a project on IT security, we encountered a participant whose paradoxical beliefs influenced his approach to managing risk in his personal life. Though as an IT security director, he 'immunized' his company against potential security breaches and data loss, as a father he chose not to have his son immunized against disease, even though he went to great lengths to protect him in every other way. This encounter inspired me to delve more deeply into the socio-cultural context surrounding the opposition to vaccination in the U.S.



Public Domain image, Wikipedia. 'The Cow-Pock – or the Wonderful Effects of the New Inoculation!' Print (color engraving), James Gillray, published June 12, 1802 by H. Humphrey, St. James's Street, London.

Elizabeth Anderson-Kempe, PhD, is a partner in Artemis Research By Design, a consultancy that helps companies develop new products and services grounded in human-centered insights. A cultural historian by training, for over 18 years – in the US and internationally – she has been applying her research skills to business and design challenges. elizabeth@rbyd.com.

PechaKucha 4 – Frames for Thinking

Critical Jugaad

DEEPA BUTOLIYA
Carnegie Mellon University

This Inquiry explains how people use ingenious making practices like Jugaad as a tool for existence, subversion and criticality against colonial powers of oppression. Jugaad like practices form cultural binders and empower people to find a collective force to fight oppression while practicing creative self-expression. This practice is a nonviolent critique that provokes and questions the technoutopian imaginaries in future of such practices. Criticality is manifested through critique and criticism of the social, cultural, economic and political issues engulfing a nation, through ingenious sociomaterial practices. This research inquiry is about tapping into potential of such sociomaterial practices and the epistemology of the critical practices that happen outside the preconceived assumptions of criticality. Being critical about the functioning of states and industry is not bound by a niche design practice but a democratic right of every individual.

Keywords: Jugaad, Critical Design, Futures, Global South, Criticality



Deepa Butoliya is a Ph.D. candidate at School of Design, CMU, United States. She is researching the intersection of making practices in the global south known as 'Jugaad' in India and the social, economic and political implications of such practices in our collective presents and futures.
dbutoliy@andrew.cmu.edu

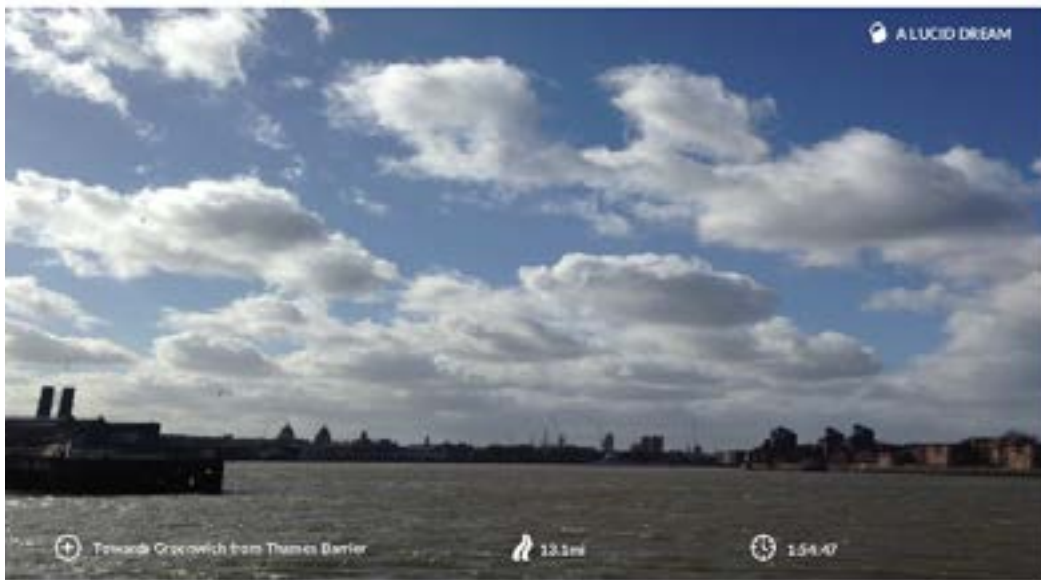
PechaKucha 4 – Frames for Thinking

What I Think about when I Think about Running

SIMON ROBERTS

Stripe Partners

This presentation reflects on the cognitive impacts of running. It is a personal reflection on the desire (and need) I have to run. Running is an activity that has both banal and transcendental aspects. It's physical, time consuming and sometimes verges on boring, but it also has impacts on conscious and unconscious thought. Multiple authors have explored the experience of running but I suggest that running allows me to think in more unconstrained ways than I can on other occasions. The cognitive affordances of running are, at least for me, creative stimulus. Its physicality is a refreshing break from the mental work of ethnographic analysis.



Simon Roberts is former co-organizer of EPIC and partner at Stripe Partners, a global strategy and innovation studio based in London. He has a PhD in anthropology and has formerly worked at Ideas Bazaar, Intel and Red Associates. simon@stripepartners.com

LOLZ OMG, I'M DEAD. The Rise of Performative Behavior in Social Media, and Its Implications for Digital Ethnography

KATHLEEN HARTNETT

SapientNitro

Performative behavior is an action taken specifically with an audience in mind, to elicit a response or reaction. Digital Ethnography encounters this on a daily basis, as we study behavior on social & digital networks where performative behavior is rampant. As a research source, social media behavior is often dismissed because of its orientation towards performance – but as people lead more omni-channel lives, the distinction between online and offline lives is becoming harder to discern. As such, we need to start viewing performative behavior as extensions of fully formed individuals. This means today's Ethnographers need to become Digital Ethnographers as well, to better understand individuals as the sum of both their online & offline personalities.



Kathleen Hartnett lives in Brooklyn, NY and works at SapientNitro, where she leads the Social Insights capability within their Consumer Intelligence Practice. She is passionate about understanding how social media impacts human behavior, and works to infuse those understandings across cross-functional strategy design and technology teams. Kathleen.Hartnett@gmail.com

When 'Design Thinkers' Prototype—through an Anthropologist's Eyes

BRYONY WILSON

Empathy

Our anthropology trained colleague was new to Design Thinking and prototyping before joining us. As she's explored this new activity with us we've come to see the alignment between prototyping and other anthropological methods or principles. We've also noticed understanding prototyping from this social perspective has made us better designers. Just as it has allowed my colleague to conceptualise her own prototyping practice and come 'play with us'. Let's talk about some of the ways we see this being the case.



Bryony Wilson A Graduate from the University of Otago design programme in 2013. Bryony has been working at Empathy, a Business Design Company based in Wellington New Zealand for the last two years. She has a strong aptitude for product concept creation and prototyping.
Bryony@empathydesign.com

PechaKucha 5 – Reflecting on Methods

The Elephant in the Room: A Lesson from the Field

LIUBAVA SHATOKHINA

Gemic

We sometimes use ethnographic tools and methods with less reflexivity than they deserve. When you start to look at the constellation of objects in the spaces people inhabit, the traces of their values and practices can be seen everywhere. After all, the creation of an individual's life and culture is an effort to make a cosmos out of chaos. People do it all the time by rearranging objects, practices and concepts. Our job as anthropologists/consultants is to get to the unspoken rules and structure of people's everyday by being attentive to the cosmos people assemble materially and conceptually. However, we sometimes rely too much on spoken language. In most cases it applies to the use of interviews as our major data sources when we forget to use other opportunities to enrich our knowledge that ethnographic encounters can provide. Objects and their constellations leave powerful traces of culture, and they can often tell us more than people are able to articulate. Not because people are not reflexive, but because we usually deal with the mundane—things so natural that they are hard to notice in the flow of daily life. By keeping our eyes wide open to the various data points that ethnographic research can provide, we can actually see a more interesting, more detailed and indeed complex picture of cultural reality.

Keywords: Methodology, Materiality, Ethnography, Constellation of Objects



Liubava Shatokhina is an ethnographer and cultural anthropologist at Gemic. Her research focuses on the culture of consumption. She is particularly interested in science and technology studies and ethnographic methods. liubava@gemic.com

PechaKucha 5 – Reflecting on Methods

A Thrice-Told Truth

EVAN HANOVER

Conifer Research

MARTA CUCIUREAN-ZAPAN

IDEO

*“But what do anthropologists do? What kind of special knowledge do you have access to?” This question was posed during one of the salons at EPIC2014 and cuts to the heart of the value of non-academic anthropologists. We contend that there is not one answer, but a series of possibilities, each a pathway – to knowledge with its own consequences and import. To explore these, we take inspiration from Akira Kurosawa’s classic film *Rashomon* and Margery Wolf’s methodological critique *A Thrice-Told Tale*. Both of these explore the benefits and limits of perspective by recounting a single story through different lenses. Similarly, we will take a single empirical field observation from fieldwork done on a Caribbean cruise ship. From this starting point, we will frame the same story through three different lenses commonly used in our work: as a user insight, a strategic implication, and as inspiration for innovation. We will emphasize the kinds of “knowledge” that each creates and consider what that may mean for our roles as anthropologists. We see that by applying the ethnographic method to business challenges, anthropologists make no claim on a singular, special knowledge, but rather are positioned as translators between what is true of a user’s experience and what could become true within an organization.*

Keywords: Methodology, Field Research, Leisure



Evan Hanover is the Director of Research at Conifer Research, evan@coniferresearch.com. **Marta Cuciurean-Zapan** is a Senior Design Researcher at IDEO's Chicago studio, mzapan@ideo.com

How Asking about the Best Ice Cream Reveals Ourselves

JENNIFER NG

Think-Ng & Mayo Clinic

As an author of a book about ice cream around the world, I am often asked this question: What is the best ice cream? I am often stumped. I know that they want something that they don't know from the "expert". So when I hesitantly answer, I would give my personal favorite, one that I discovered during my travels—a goat cheese ice cream with roasted cherries from Jeni's Ice Cream in Columbus, Ohio.

Yet I was curious—why do people ask that question if it could be potentially disappointing? Do they really want the #1 based on my personal opinion? Did they want to find something new to try? Were they trying to understand my motivation? Were they curious about a story? I unravel this question through an investigation of the intention of the question. When applied to ethnography, how does that question apply? As ethnographers, do we miss an important insight if we don't ask about the best?



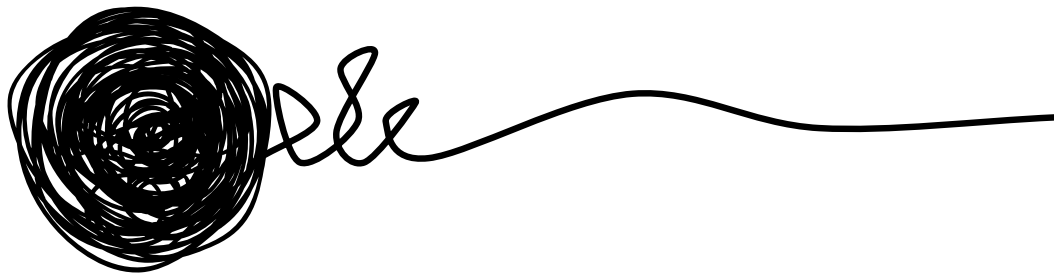
Jennifer Ng just joined Mayo Clinic as a senior user experience designer. With over 10 years of experience, she has worked at consultancies and product companies.

How a 10-Day Silent Meditation Course Made Me a Better Researcher

SHIPRA KAYAN

Upwork

This talk is an illustration of my journey from being a dejected, sole researcher in a chaotic 300 person startup to a place where I learned not only how to be a better interviewer, but also a more effective and influential employee.



Shipra Kayan has over a decade of experience as a User Experience professional. She has spent the last six years at Upwork helping the product and engineering teams understand user needs, and make empathy based design decisions. She lives in San Francisco, and writes on [medium](#).
shipra.kayan@gmail.com

The Full Epiphany

ROBBIE BLINKOFF

Context-Based Research Group

The Full Epiphany suggests that epiphanies are the real metric for ethnographic success. An epiphany is an out of this world understanding for how humanity works. When you have an epiphany you might simultaneously feel the following: 1) believe you see something so seemingly obvious that you can't believe you never saw it before, 2) find yourself saying "my head just blew off" or "my mind just exploded" or make that motion where you put your fists up to your head then slowly move them into the air opening them palm first and make that silly explosion sound, and/or 3) leaves you breathless and at peace and thankful for getting just a peek into the ethereal elegance for how life on earth works. The Full Epiphany suggests that the first ethnographies (think Malinowski and Mead) had built in success factors for reaching epiphanies, and that the current level of epiphanies is lower. Our ability to reach an epiphany, however, has not disappeared. So what do we do to bring our epiphanies back to full steam? The Full Epiphany is based on doing ethnographic work across academia, business and study-abroad (as student and professor).



Robbie Blinkoff and his wife did their dissertation research in Papua New Guinea, and then created Context-Based Research Group in 1999. Robbie also teaches at Goucher College where he built The Pocket Anthropologist—a mobile project to help students have a more transformative experience while studying abroad. rblinkoff@contextresearch.com

PechaKucha 7 – Learning with Others

Primate Pathmaking

JOHN DOMINSKI
CHRISTENA NIPPERT-ENG
gravitytank

This PechaKucha explores the 3 guiding principles for research to create impact: clarity, coordination, and curiosity. Without all these elements, research struggles to make impact for the intended users. In this case, the user is Jojo, a silverback gorilla. Jojo was 80 pounds overweight, and this was caused by a number of reasons. Every solution required a clear framing of the goals, a complex and coordinated effort from everyone involved, and a genuine curiosity to engage in the solutions.

Keywords: gorilla, silverback, clarity, coordination, curiosity, observation



John Dominski – I am a design researcher at gravitytank in Chicago, IL. I believe the purpose of research is to make impact and I practice doing this at gravitytank and as a co-author and photographer of Gorillas Up Close. john.dominski@gravitytank.com

Tutorial 1

MBA Basics: How to Think Like a Business

Instructors:

CAROLYN HOU

EMIL STIGSGAARD FUGLSANG

ReD Associates

This tutorial will provide you with a foundational understanding of how businesses operate from financial, organizational, and strategic standpoints. However, rather than providing you with only a list of terminologies or a toolbox of frameworks, the goal of this course is to help participants gain an intuition around how to think like a business – especially when coming from a social science background and practice.

The course is designed for social scientists, designers, academics, corporate innovation teams, and other non-MBA professionals looking to enter the corporate world or make a bigger impact in their organizations. Throughout the course, participants will learn how to feed this knowledge back into their own work and ethnographic approaches, particularly around framing a project and turning insights into credible and impactful recommendations. Using Whole Foods as a case study, this course will cover:

1. Business Numbers—how to find and interpret a company's financial data; the meaning and significance of key financial terms; what financial data can tell you about a company's performance and priorities
2. Business Organization— what are the various organizational structures; what a company's organizational structure reveals about how it operates
3. Business Strategy—what are the building blocks of a strategy; what are framework used to evaluate a company's current strategy; how to identify strategic challenges a company may face

Participants will leave with a basic understanding of how businesses think and operate, and how that in turn can impact how they think and operate as a social scientist or ethnographer.

Carolyn Hou is a cultural anthropologist and strategy consultant at ReD Associates. She has extensive experience advising Fortune 500 clients working in healthcare, consumer goods, consumer electronics, telecommunications, and automotive industries. Hou completed her graduate degree in Social Anthropology at the University of Oxford, where she also served as President of Oxford Women in Business.

Emil Stigsgaard Fuglesang is a political economist and strategy consultant at ReD Associates. He previously worked as management consultant at the Scandinavian company QVARTZ advising government and private organizations on strategy and operations, and he has assisted mergers and acquisitions in several different industries, including finance, media and construction. Emil completed his MSc in International Business and Politics at Copenhagen Business School (CBS) and Columbia University, and President of the student union at CBS.

Tutorial 2

Anthropological Theory for Ethnography in Business

Instructors:

KATHI KITNER

JAMIE SHERMAN

Intel Corporation

Anthropological theory deepens and extends the impact of ethnography, adding significant value to the companies, organizations and communities we work with. Because professionals who use and execute ethnography in business come to the job from varying backgrounds, many ethnographers are seeking to extend their training in theory and research. And when we do engage more deeply with theory, many of us find that the epistemologies that drive research in business contexts are often in tension with anthropological understandings of research, knowledge, data, and evidence. As anthropologists working in a corporate setting, we sometimes struggle to reconcile these tensions and maintain an anthropological perspective in the rush of everyday productivity and work objectives. In this tutorial, participants collectively explored what we saw as foundational theoretical perspectives that, historically, have shaped ethnographic method.

Using exercises that ground participants in the interdependence of theory and practice, we explored:

1. observation and objectivity
2. objects and meaning
3. the dynamics of power in the ethnographic encounter

These three themes, alongside the practice of questioning the implicit assumptions that guide behavior and practice, have been central to anthropological thinking and research across the past half century or more. Because of the very real tensions between anthropological approaches and business objectives, and because anthropological approaches place emphasis on embodied theory (the ways we enact an idea of the world), we wanted to explore these issues through enacted exercises and a questioning of what these things mean, as well as how they fit within the context of the work we do.

For the first exercise, participants were asked to observe a short action sequence and record their observations in a sentence. We compared participant observations and surfaced the fact that no two were exactly alike. We then questioned the implications of that fact and explored the concepts of positionality, objectivity, and regimes of seeing. In the second activity, participants examined an object belonging to another person independently, and then later had the opportunity to ask the owner about the object. We then compared the initial impressions with what was discovered after speaking to the user of the object. In this way, we explored the embeddedness of objects in social contexts, and histories. We discussed the relationship between sensual properties and personal and

collective significance, and the ways that objects can both shift and carry meaning across time and space.

For the third and final part of the tutorial, we asked participants to role play a research project in which interviewers and interviewees had varying agendas and disparate perceptions of the nature of the encounter. Through this exercise we explored questions of power, reflexivity, and the intersubjective nature of ethnography.

We ended the session by offering participants an annotated bibliography of works that grounded our own understandings of these themes, and that offered a starting place for further, independent, explorations.

Kathi Kitner, PhD, is a cultural anthropologist who has over 30 years conducting ethnographic fieldwork across a wide spectrum of topics: the role of gender and class in technology adoption, economic development, environmental and ecological sciences, and drug addiction. She now works at Intel Corporation where her current focus is on ambient intelligence, the internet of things, and food supply systems.

Jamie Sherman, PhD, is a cultural anthropologist (PhD Princeton, 2011) with 12 years' experience in domestic and international research, including industry product groups, R&D, and academia. She has taught courses in ethnographic methods, anthropology of the body, and the anthropology of performance. Since joining Intel Corporation in 2012 her work has focused on the emergent technologies and technological practices from quantified self to wearable technologies, virtual and augmented reality.

ANNOTATED BIBLIOGRAPHY

This annotated bibliography is intended to supplement the workshop exercises and discussions from the tutorial. It is by no means comprehensive but we hope it will serve as a starting place for those of us who are relatively new to anthropological theory, and as a refresher for those whom the laser focus on theory that we experienced in University has come to feel like a distant memory, perhaps even a past life.

General Readings

McCracken, Grant. *Make Ethnography Better*. UX IRL.
<https://uxirl.com/make-ethnography-better-56affa95fa14#.5rsuoby6z>

This blog post is a quick read that offers another angle on the concerns that, in part, motivated this tutorial. McCracken argues that most ethnographic work is more “ethno” than “anthro” and more “fast culture” than “slow culture” (by which he means accounting for the role of historical factors in understanding present phenomena).

Sunstein, Bonnie Stone, and Chiseri-Strater, Elizabeth. *Fieldworking: Reading and Writing Research*.

(Comments based on the 3rd edition from Bedford St. Martin, 2007. There is a 4th edition published in 2012 by Macmillan) This textbook is written by two professors of writing, Bonnie Sunstein and Elizabeth Chiseri-Strater, but draws extensively on anthropologists in its approach to research. They use writing samples from anthropology, literature, and a range of other disciplines to discuss questions of ethnographic methods, reading, and writing and includes both the Horace Miner and Samuel Scudder pieces mentioned below. It offers practical advice on fieldnotes, interviewing, and writing (albeit with a focus on academic writing). It's a nice blend of short readings, methods, techniques, and discussion that would be useful to practitioners working alone or in small groups to incorporate ethnography into their research arsenal.

Part One: Observation

Bohannon, Laura. *Shakespeare in the Bush* (1966) <http://www.naturalhistorymag.com/picks-from-the-past/12476/shakespeare-in-the-bush?page=1>

Another “classic” of introductory anthropology courses, Laura Bohannon describes her attempts to tell the story of *Hamlet* to the tribal community where she was doing fieldwork. The essay calls into question the idea that some actions (killing a brother and marrying his wife, for example) have universal human meaning. The issue Bohannon raises regarding the universal legibility of human actions reminds us that observation, while revealing, is insufficient toward understanding how people in a community make sense of the events that take place.

Geertz, Clifford. *The Interpretation of Cultures: Selected Essays* (1973) Basic Books.

Noted by the Times (of London) as one of the 100 most influential books since WWII, this book, but particularly the first chapter where Geertz introduces his readers to the concept of *thick description*, is truly a must-read when thinking about interpreting and observing the world around us through a social lens.

From one point of view, that of the textbook, doing ethnography is establishing rapport, selecting informants, transcribing texts, taking genealogies, mapping fields, keeping a diary, and so on. But it is not these things, techniques and received procedures that define the enterprise. What defines it is the kind of intellectual effort it is: an elaborate venture in, to borrow a notion from Gilbert Ryle, "thick description."
(Geertz 1973:6)

Miner, Horace. “Body Ritual among the Nacirema.” *American Anthropologist* 58 (1956), pp. 503–507. Also in Sunstein and Chiseri-Strater (above).
<http://www.ohio.edu/people/thomsoc/Body.html>

Horace Miner’s parody of anthropological studies of foreign cultures is a classic in introductory anthropology courses for a reason. Written with tongue in cheek formality, it demonstrates both the challenge and potential in turning an anthropological lens on the familiar. Miner’s essay demands we reexamine both how we think about everyday practices most of us enact daily without thinking, and how we approach the everyday lives of others.

Scudder, Samuel H. “Look at Your Fish!” In Sunstein and Chiseri-Strater 3d ed (above), p 86.
<http://grammar.about.com/od/classicessays/a/Look-At-Your-Fish-By-Samuel-H-Scudder.htm>

This 1874 essay recalls Scudder’s first encounters with zoologist Jean Louis Rodolphe Agassiz in which Professor Agassiz asked him to study a fish, and then tells him to look some more, and some more. For the most part it is an exploration of close observation and analysis but it is also useful for thinking about different kinds of looking – and seeing – and what we are seeing when we look.

Part Two: Objects

Douglas, Mary and Isherwood, Baron. *The World of Goods: Towards and Anthropology of Consumption*. Rev Ed (1996) Routledge.

Mary Douglas and Baron Isherwood argue that goods are best seen as material culture. All goods, whether utilitarian or not, are endowed with value, but that that value does not reside in the item, but rather in the relationship between that item and the values placed on other items. In other words, value is always relative and in context. In addition, Douglas and Isherwood suggest that the visibility of goods serve to display meaning about people to others. In this way, objects serve to “circulate” and convey to others an array of signals – about time, status, quality, and so forth – and stake claims regarding the owner’s (or user’s) position in relation to these things and to the people around them. Thus objects, for Douglas and Isherwood are never merely things, and never reducible to their use function but are always also cultural signifiers whose particular meanings are neither implicit to the object, nor universal but rather must be unraveled to be interpreted and understood.

Marila, Marko. "Things in Action – Interpreting the Meanings of Things in Archaeology." (2012). http://www.sarks.fi/masf/masf_2/SLT_01_Marila.pdf

We wanted to include this piece because objects also exist through history, and their temporality, and associated meanings, also fluctuate with the time and period. This seemed a good selection as so many of us in the EPIC community work in the world of physical things. While some of the references may be less well-known, the question of how to discover meanings in objects where there is little human living context is provocative, questioning the evolution of human creation and use of material objects, tracing perhaps back to the Olduvai Gorge. The author states that "archaeology is a discipline of things," and that..."in the end, archaeologists are not left with things that have nothing to do with their own time but with things that are part of a chain of connections between the past and the present and the anticipated future."

Miller, Daniel. *Material Cultures: Why Some Things Matter* (1998) UCL Press.

This is an edited volume, this book is a series of essays that look at material things as a lens through which to understand both the things themselves and the contexts in which they are studied (eg Coca Cola in Trinidad, carpets in England, Banners in Northern Ireland). Miller argues that the material, sensual qualities of objects are intrinsic to their cultural significance and that cultures and societies cannot be well understood without taking into account their engagement with material objects and qualities. Thus material culture is not itself a singular thing, but rather multiple and constituted through a relationship between people and things.

Poole, Deborah. *Vision, Race, and Modernity: A Visual Economy of the Andean Image World* (1997) Princeton University Press.

Deborah Poole looks at the taking and circulating of photographic images in the Andes. In doing so, she asks what we see when we look at a photograph (an image-object). She argues that we "do not simply 'see' what is there before us. Rather, the specific ways in which we see (and represent) the world determine how we act upon that world and, in so doing, create what that world is." Poole's work also deftly confronts the complexity of material objects and meanings as they circulate outside the context of their production. How do things change as they move from one context to another, and what do these image-objects do as they circulate from colony to colonial power?

Rivoli, Pietra. *The Travels of a T-Shirt in the Global Economy: An Economist Examines the Markets, Power, and Politics of World Trade* 2d ed (2014) Wiley.

Where do objects come from, and what are their hidden story embodied silently within them? Who are the people, businesses, and politics involved in the production of the T-shirt? A popularized analytical take on one good that we are all familiar with – the t-shirt – that shows in a clever and engaging fashion that things are not to be taken at face-value.

Part Three: Power And Position

Bidwell, Nic. "Decolonizing Design."
<http://nicbidwell.me/interaction-design-research/fieldwork-design/decolonising-design/>

In this article, the author, now a professor of HCI at the University of Namibia, interrogates the notions of colonial and post-colonial to arrive at the consideration of acting to *decolonize* the design process. Because Bidwell relies heavily on the ethnographic method in her work, she is well-situated to question the role of historical power and inequality and what traces have been left by historical circumstances on the present day understanding of technology and culture. This is a powerful piece that will leave the reader with a more nuanced understanding and ability to conduct ethnographic research in a more careful and insightful manner.

Briggs, Charles. *Learning How to Ask: A Sociolinguistic Appraisal of the Role of the Interview in Social Science Research* (1986) Cambridge University Press

Interviews play a crucial role in ethnographic research in business. In this book, Charles Briggs draws on his own challenges in doing fieldwork in Northern New Mexico to argue that Western trained researchers tend to assume universal efficacy to interviewing as a technique for eliciting information in ways that fail to recognize how interviewing structures communication in ways that may – or more importantly may not – be compatible with participants own communication genres and techniques. Through an examination of his own research journey, Briggs suggests researchers need to better understand and adapt their research methods to their participants' modes of conveying information. While Briggs' approach may be difficult in the age of "agile" research, and amidst the demand within industry for near instant insights, Briggs' work nonetheless challenges us to rethink how we approach the gathering of information, and that knowledge is not always best gleaned through questions and answers, or even, at times, through conversation at all.

Chin, Elizabeth. *My Life with Things: The Consumer Diaries* (2016) Duke University Press.

While not having yet read this book, we are both fans of Chin's work, and wanted to include something of hers here, to point the way to other pieces. Chin is an original and fresh voice in the world of writing about consumption, and we hope that this review of her new book will inspire you to delve further into her writings.

Irani, Lilly, Janet Vertesi, Paul Dourish, Kavita Philip and Rebecca E. Grinter. "Postcolonial Computing: A Lens on Design and Development" (2010). *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* pp.1311–1320

From the Abstract:

"As our technologies travel to new cultural contexts and our designs and methods engage new constituencies, both our design and analytical practices face significant challenges.

We offer postcolonial computing as an analytical orientation to better understand these challenges. This analytic orientation inspires four key shifts in our approach to HCI4D efforts: generative models of culture, development as a historical program, uneven economic relations, and cultural epistemologies. Then, through reconsideration of the practices of engagement, articulation and translation in other contexts, we offer designers and researchers ways of understanding use and design practice to respond to global connectivity and movement."

Tutorial 3

Ethnographic Thinking for Wicked Problems: Framing Systemic Challenges and Catalyzing Change

Instructors:

JAY HASBROUCK
Hasbrouck Research Group

CHARLEY SCULL
Practica Group

Contributor: Lisa DiCarlo, Brown University

In this interactive tutorial, participants explored ways in which ethnographers can have an expanded role in addressing social issues and other wicked problems. In particular, it explored how ethnographic thinking can frame problems and catalyze change.

Participants were first provided with a grounding in ways to approach systemic challenges and social entrepreneurship, including discussion of some successful roles ethnographers have played as part of inter-disciplinary teams. Then, instructors introduced three case studies (and frameworks of systems within them) that participants later used as material for exploring how broader applications of ethnographic thinking might work in real world settings. Those included: labor practices in the seafood industry, encouraging energy conservation, and managing the refugee crises.

In the second part of the tutorial, participants divided into groups where they were introduced to a ‘flashpoint’ (an imagined future state) in which various shifts took place that were likely to impact the topic framework with which they began. Their task was to the redefine their framework in light of the flashpoint, and consider how it might change partnership models, positions, motivations, actions, interventions, and disruptions. This exercise was a vehicle for making concrete the ways ethnographers can better serve as facilitators for exploring contextual ripple effects, creating common ground, working collaboratively, and building coalitions. Finally, participants were asked to identify other opportunities for ethnographic thinking within their revised framework.

The overall goal of this workshop was to stimulate thinking about a more robust, engaged and integrated role for ethnographers to contribute to the shared work of taking on important social and environmental issues, by better understanding the systems in which they operate and to consider new forms of contributions ethnographers might provide. Beyond that, we wanted to provide participants with a beginner’s toolkit to bring back to their own work environments where they might be empowered to lobby for a more prominent role for ethnography in these systemic social and environmental challenges.

Learning objectives:

- Imagine the role of ethnographers to solve ‘wicked problems’ and take on systemic challenges.
- Find opportunities for anthropologists / ethnographers to better serve as facilitators to create common ground, work collaboratively, and build inclusive coalitions.
- Explore strategies to elevate the role of ethnographers beyond data collection and insight provision.

Jay Hasbrouck, PhD, is a research strategist and anthropologist whose insights have shaped product and service innovation for clients in healthcare, technology, tourism, consumer products, health and beauty, home care, nutrition, and government. He is passionate about designing learning processes that optimize for the most useful and relevant insights. He has held positions at IDEO, Intel, and USC’s Center for Sustainable Cities, and managed national and global scale innovation projects, including in Mexico, Egypt, Germany, South Korea, Brazil, Japan, Malaysia, China, Russia, France, and the United States. He has been active in the American Anthropological Association, EPIC, and ACM SIG-CHI.

Charley Scull, PhD, has worked in the consumer insights and innovation spaces since 2005. His work has spanned from the granularity of package re-design and local issues like how to increase audience engagement for a botanical garden, to systemic questions like sustainability in the global fishing supply chain and the experience of living with chronic disease. Charley was trained as a visual anthropologist and has worked in the US, Asia and the EU. He is a partner of Practica Group, a consumer research and consulting firm that provides strategic consulting based on ethnographic cultural analysis of consumer practices.

Tutorial 4

Decoding Organizational Change

Instructors:

KATE SIECK
RAND

STEVEN GARCIA
Team One

Businesses are infamous for their rich lexicon of words to describe change: growth, revitalization, reinvention, innovation, revolution, evolution, and every manner of “do something different.” But what does all of this mean? How do these different terms work? What do they imply about the process of change? And under what conditions might they succeed? That was the question driving this tutorial. Starting with some introductory concepts from cognitive and linguistic anthropology, we took a pass at the conceptual models underlying some of the more popular terms in this vocabulary. We presented three – Growth, Disruption, and Innovation – while the tutorial participants completed four additional ideas: Pivot, Lean, North Star, and Unify.

SETTING THE STAGE

We began with a quick jaunt through cognitive anthropology and linguistic theory. At core, both proffer a perspective on culture and meaning as *differentially shared*, as opposed to monolithic and all-encompassing. Thus, while we may share a rough understanding of “family” or “hard work,” the unique circumstances of our lives will color our interpretations of those words in different ways. This introduces opportunities for discordances in meaning when we are talking about a topic.

This is especially problematic in the business world. In a day and age when metaphors abound and the thesaurus function is at-the-ready to spark variety in our writing, the potential for misunderstanding increases as we grab at words without a sophisticated understanding of their disciplinary or historical framework, or the variety of ways in which they are deployed. For example, when I say the word *team* to describe how I want colleagues to behave and interact, I may be thinking something like a track relay team, where everyone fulfills essentially the same role but we focus on hand-offs and communication. For you, *team* may conjure images of baseball, with nine unique positions, each with different strengths and contributions to the whole.

This is one of the major contributing factors to misunderstandings, miscommunications, and hard feelings between co-workers, and with clients. We all think we agreed to X, but in reality, one side thought Y, whereas the other thought Z.

THE LANGUAGE OF CHANGE

We see this situation arise repeatedly when the opportunity centers on change. Change for an organization can be both exciting and terrifying. And in the midst of high-stakes emotions, we can often forget the details about what is happening and why. Hence the sloppiness with which we pull out phrases like *revolution*, *disruption*, *diversify*, *agile*, *break-the-mold*, *advance*, *toggle*, and yes, *innovate*. All are different models or concepts of change, but all mean different things.

At this point in the tutorial, we introduced a structure for framing these terms: what is the historic and/or disciplinary home of the concept, and how does that shape a structure and process for this particular variant of change?

Consider “growth” as the first example. We adopted the framing from human biology, in which *growth* (the expansion of an organism; the measurable increase in one facet) is distinguished from *development* (the increase in complexity and differentiation of features and functions). Evidence from detailed daily tracking studies of infant growth indicates that it is a saltatory process: specifically, periods of no growth followed by intense bursts of growth. A “growth curve” then is a smoothed-over version of reality. We then discussed the factors that promote or inhibit human growth – hormones, diet, sleep, stress, and your genetic inheritance. As we translate this into a business framework, we see that change-through-growth necessitates:

- periods of quiet when no growth happens (we do not grow every day; some days are “rest days”)
- the well-timed interplay of internal and external factors
- provision of specific necessary resources (growth and lean are often contradictory)
- a focus on one metric (you can’t grow everything at the same time)
- well-functioning communications (hormone “messengers” are the critical element in growth – when they are missing or ill-timed, everything falls apart)

Certainly there are alternative models of “growth” that one could use to structure the concept. Our core argument emphasized the need to choose a model, and follow it out to assess how it structures a change process.

We then proceeded to apply this same process to Disruption (looking to military history) and Innovation (looking to laboratory science for its structure). The teams then conducted similar exercises for Pivot (turning to physics and engineering), North Star (from astronomy and navigation studies), Lean (from human biology), and Unify (from marriage and kinship work).

WHY BOTHER?

Constructing models may seem a bit silly, but there is value in them as a talking tool with clients and colleagues. If a client comes in clamoring to be “lead a revolution” in their category, do they have the proper systems and structures in place to make that happen? Would they, perhaps, be better positioned to “innovate” or “pivot” the category? When is evolution a preferred strategy to disruption? How are agility and toggling different?

By constructing models, we have a starting point for a conversation where we often assume a shared understanding. This enables everyone to stop for a moment, consider the options, and move forward in a thoughtful, planful way. Yes, change is inevitable. But this helps it be more exciting than terrifying.

Kate Sieck, PhD, is an anthropologist at RAND Corporation whose work focuses on the social determinants of behavioral and cognitive change. A cultural anthropologist by training with expertise in cognitive models and linguistics, she taught undergrad anthro courses for 10 years before launching a career in the business world. She has conducted research around the world and delivered keynote presentations at diverse venues, from NASCAR to the American Psychological Association.

Steven Garcia is a cultural anthropologist at Team One, a full-service marketing communications agency specializing in premium, luxury, and aspirational brands. With over 10 years of experience as a strategic planner spanning across the luxury, automotive, casual dining, financial and technology categories, he recently assumed a new role at Team One where he is building an anthropology practice and conducting cultural analysis to inform brand strategies and consumer insights. He is a M.S. candidate in applied anthropology at the University of North Texas.

Tutorial 5

Semiotics: A User's Guide to Seeing Differently

Instructors:

CATO HUNT

CLEM MCCULLOCH

SpaceDoctors

Semiotic insight powerfully complements ethnographic approaches. Semiotics, the study of signs and cultural meaning, has been gaining ground in the world of commercial research. Semiotics has also been successfully melded together with ethnographic and other cultural approaches, especially in the UK and Europe. This tutorial equipped participants with the tools, techniques and hands-on experience needed to begin their own semiotic research endeavors.

Opening with a grounding in semiotic theory, we then focused on building practical skills through 'live decoding' of a cultural theme. We began by learning how to 'decode' – exploring how a semiotic close read analysis can reveal a deeper understanding of what is really being said. Crucially, we discussed the chasm that often appears between intended meaning and received meaning, especially within brand communication.

We then introduced the idea of codes (themes, or clusters of meaning) which we use to help us make sense of the cultural idea or category we are exploring. In this session, we focused on identifying the codes of energy by looking at a collection of print adverts from a number of different categories. We showed how useful codes are as a tool to help brands understand the intricacies of their communications, and to enable us to see the category differently – from a cultural rather than a consumer lens. We discussed how, using codes, we are able to reveal the big cultural tensions and ideas at play, and the different levels of nuanced expression available to communicate these themes. Brands can use this insight to better understand how they sit within their broader context, and what they could draw on in future brand strategy, communication or activation.

At this point, we introduced the idea of the cultural trajectory – what we refer to as the Residual-Dominant-Emergent framework - which is invaluable for helping provoke conversations about changing meaning, and thus cultural relevance. It raises questions around whether a brand is positively changing, reflecting and responding to emerging cultural ideas. Where or what can we draw from in the 'emergent' space that can help us better deliver against this?

Lastly, we shared some new thinking on sensory semiotics, exploring the role of the senses in communicating and constructing meaning through experience. We ran a 'live sensory decode' in which small groups applied a sensory semiotic read to a number of different energy drinks. This introduced the idea that we can influence meaning, perception and experience by modulating different sensory signifiers, and in doing so raises new possibilities for brands to deliver more distinct and memorable experiences.

By the end of the session participants:

- Understood the background and basic principles of commercial semiotics
- Were able to work with some core models and methodologies and understand how and when they are useful
- Had co-produced a series of codes through practical application of semiotic methods
- Had participated in a holistic sensory brand decode

Cato Hunt has spent the last 15 years helping clients grow their brands by understanding cultural meaning. As Director of Innovation at Space Doctors, Cato leads the way in exploring and developing new ways in which we can understand, create and measure meaning, by drawing from a wide range of disciplines—from the cognitive and behavioural sciences to design theory, anthropology and experience design.

Clem McCulloch is a Project Executive at Space Doctors. He brings a deep interest in philosophy and critical theory applied to the thinking and methodology underpinning commercial semiotics. He is currently working with Cato to develop new hybrid methodologies by drawing from the behavioural sciences.

Tutorial 6

Speculative Design: Futures Prototyping for Research and Strategy

Instructors:

J. PAUL NEELEY

Neeley Worldwide & Royal College of Art

ELLIOT MONTGOMERY

Extrapolation Factory & Parsons School of Design

In our world where emerging technologies are increasingly a source of significant disruption in people's lives, methods from Speculative & Critical Design (SCD) practice are finding their way into the designer's and researcher's toolkit as powerful ways to create new kinds of meaning and perspective that create new organizational value. These practices design future products and services not in a predictive way, but as a way to prototype and understand the social, cultural, and ethical implications of emerging technologies. These practices generally decouple design from short-term company product and market needs and visions, and engage in new conversations about alternative futures as a way to better understand and navigate future complexity.

SCD often works to design for the messy and complex people that we are rather than the perfect consumers that we are supposed to be. The practices seek to challenge narratives about probable futures, allowing organizations to openly explore various possible futures as a way to better understand alternatives and preferable directions forward. Additionally, the increasing speed of technological development mean that many projects considered futuristic come to fruition much faster than expected, which necessitates that companies spend time looking further into the future to better anticipate and develop understanding and meaning around these possibilities. SCD has proven valuable in a number of domains and throughout the design process from research & strategy to design & development. And while to date SCD has largely been practiced by designers who are gifted at imagining, exploring, and bringing unique speculative visions of the future to life they are sometimes poorly equipped to understand the reactions to these designs. This represents an opportunity for additional engagement from researchers, anthropologists, and ethnographers to support SCD practice with skillsets that can work to better unpack and created meaning from people's reactions to these speculative futures.

In this tutorial we worked to bring participants up to speed on the latest speculative design practice, explore its value as a research tool and for the development of strategy, and worked through an exercise for participants to gain some experience with these approaches. The goal was for participants to leave with a foundational understanding of Speculative & Critical Design principles and methods, a collection of top of mind examples of SCD in practice, to have the experience of an SCD exercise, and to be able to understand the value of SCD methods for research and strategy development and identify when SCD methods might be appropriate for use. The tutorial was open to all backgrounds, both researchers and designers, with no prerequisites or particular skills sets needed for participation.

J. Paul Neeley is a service and speculative designer exploring the social, cultural, and ethical implications of emerging technologies, with recent projects on happiness, healthcare, future mobility, and issues of complexity and computational irreducibility in design and business. He is consults in service & speculative design at Neeley Worldwide with clients like Moovel and the Policy Lab UK, and is a visiting lecturer in Service Design at the Royal College of Art. He has worked previously as a service designer at Mayo Clinic Center for Innovation and researcher at Unilever. He hold a Masters in Design Interactions from the Royal College of Art in London and a Bachelors in Communication Studies and Economics from Northwestern University.

Elliott P. Montgomery is a researcher and strategic designer whose work focuses on speculative alternatives at the confluence of developing social, technological and environmental issues. He is an Assistant Professor of Strategic Design at Parsons School of Design and co-founder of The Extrapolation Factory, a futuring research initiative. He has practiced as a design consultant for clients such as Autodesk, GE, LG, Honeywell, and UNICEF, as well as for tech startups and non-profits. He holds an Masters in Design Interactions from the Royal College of Art in London and a Bachelors in Industrial Design from Carnegie Mellon University.

Tutorial 7

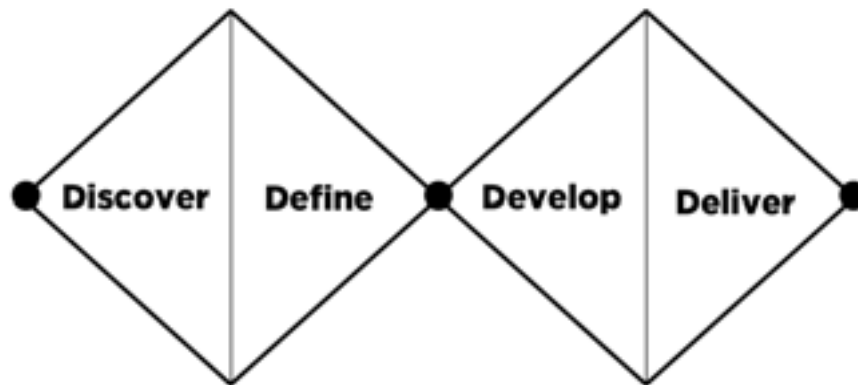
Structuring Analysis for Innovation

Instructors:

MARCELO FAGUNDES
MURILO GOMES
INSITUM

It's no news that human-centered innovation has become a common internalized practice of many organizations around the world. In the last decade, companies have begun developing their own innovation departments in addition to building teams to tackle new, complex business challenges—often employing the Double Diamond design process in these endeavors.¹

The Double Diamond design process was mapped by the UK Design Council in 2007 through an in-depth study of the design processes used in eleven global brands. Divided into four distinct phases, it maps the divergent and convergent stages of the design process to illustrate the different modes of design thinking.²



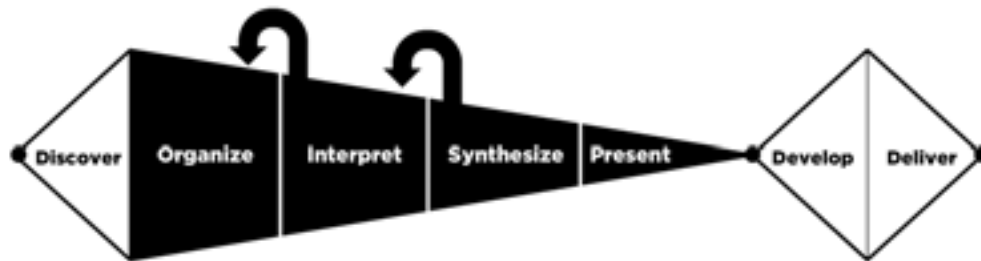
The Discover phase serves to gather inspiration to develop new solutions through ethnography and several research methods. Throughout INSITUM's many years of helping hundreds of companies develop their human-centered innovation culture, we have come to the realization that most innovation teams view the Define phase as a black box, wherein the “magic happens” and valuable insights are created. Although crucial to ethnographic research, the analysis stage is still somewhat hazy; teams can over-rely on design toolkits and oversimplified techniques to make sense of what was seen and heard during fieldwork—

¹ Jon Kolko, Design Thinking Comes of Age. *Harvard Business Review*, September 2015.

² The Design Council, 11 Lessons: Managing Design in 11 Global Brands. 2007.

rather than considering the many steps of the analysis process, the context, or the audience of the research.

This tutorial was designed to help participants carefully plan and select methods for each stage of the analysis process in order to center the decision-making on the research context and audience profile. To facilitate this, the Define phase is divided into 4 main stages:



- Organize: Go through raw research data and extract information in an organized and structured way.
- Interpret: Deep-dive into the downloaded information to understand the context behind the findings.
- Synthesize: Transform and summarize the interpreted information into structured models that allow for comparison and further interpretation of data.
- Present: Define how the analyzed data will be visualized and presented to its audience.

To define the methods in each stage, a structured planning session is carried out after fieldwork to plan ahead for analysis: it showcases how information will be organized, used for analysis, and what will be delivered. In this session, the project team first maps their project and research context. This is broken down into highlighting objectives and methodology (project/research goals and research methods), client and audience (organization background, direct client involvement during the research and analysis, and final audience profile), and resources available for analysis (fieldwork outputs, people involved, and time). Once the context is mapped, the team analyzes each of the stages individually using a 3-step process:

1. Criteria definition: Based on the mapped context, the team prioritizes and defines the two most important criteria that will be used to decide which analysis methods will be more impactful to the project (eg. if the method reveals relationships, allows different data crossing, fosters collaboration etc.).
2. Methods mapping: By using the previously defined criteria as the axis of a 2x2 matrix, the team maps potential methods and techniques for that analysis stage (eg.: analytical debriefs, meaning definition, customer journeys etc.).
3. Methods definition: The team then analyzes the map of methods according to variables and selects one or a combination of methods that will be used during the analysis stage.

The structured analysis planning session helps teams not only decide between methods and techniques that will be used for analysis, but also fosters discussion about the project context and potential outcomes. These reflections are often as important as the decision regarding which methods should be used. Analysis tends to be a chaotic activity, and this planning session helps to keep everybody on the same page.

Marcelo Fagundes is a postgraduate lecturer in Design Research at Insituto Europeo di Design and Account Manager at INSITUM, where he helps Fortune 500 companies identify innovation opportunities and transform them in impactful projects. He also has worked as a design strategist at the technology consultancy MJV integrating business, technology and human-factors to design services and strategies for the Brazilian government and private companies. He holds a degree in design from the Sao Paulo University of Fine Arts and was the Local Communications Chair of EPIC 2015.

Murilo Gomes was originally trained in Industrial Designer with emphasis on Products. He has been working in user centered innovation at INSITUM since 2010, and currently leads multidisciplinary teams conducting innovation projects for new services and products, strategic development and digital interaction for numerous companies such as Telefonica, Avon, Intel, Google, Facebook, Bosch, Panasonic, Samsung, Sony, Itaú, and others. He also serves as head of internal capacity management at INSITUM, mapping and developing internal expertise.