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Designing Good Jobs

Participatory Ethnography and Prototyping in Service-Oriented Work Ecosystems

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Three service design projects, in hospitality, finance, and health care, highlight how to design for agency in the workplace, including the implementation of automated and data-driven tools. Inspired by Tacchi, Slater, and Hearn's work on ethnographic action research, Amartya Sen's capabilities approach, and Gibson's affordances theory, this paper examines work as an ecosystem, in which workers' motivations, values, and ability to achieve what is important to them should be a continual input into how structures and tools are designed. In order to design for agency, teams must shape access to information in order to support workers' autonomy. Second, project outcomes should reflect the emotions and values which create a sense of progress and purpose. Third, tools, technologies, culture, and incentives within the work ecosystem should be aligned with workers' goals. Finally, workers must feel safe and protected from censure when they participate in co-creating their own roles.

INTRODUCTION

Service design challenges underscore the imperative for human agency alongside systems which automate, assist, augment, or otherwise interact with workers. Responding to this need is crucial in order to support workers' well-being and sense of purpose in the largest sector of the US economy (U.S. Bureau of Economic Analysis 2018). Definitions of agency in the work of Pierre Bourdieu, Anthony Giddens, and others aim to capture the capacity for change and creativity which people exercise on social structures (Rapport and Overing 2000: 8). Measures linked to high job satisfaction, like autonomy and creativity, mirror anthropological and philosophical definitions of agency (Pink 2009, Heath and Heath 2017). Therefore, in order to understand and design agency into work environments, an ethnographic understanding of the sources of meaning for workers is essential, as is their participation in ethnographic and prototyping methods.

Ethnography has the capacity to influence the design of good jobs. As businesses increasingly look to automation to create value and competitive advantage, human centered design is key to shaping its impact on service roles. Pairing ethnographic insights with worker participation is an essential part of shaping this future. This includes understanding how automation could support workers to enhance the agency they experience in their daily tasks, rather than eliminating work that provides meaning and value to them.

This paper draws on three original service design projects which combine ethnography and live prototyping. Design outcomes include patient scheduling software and call center dashboards which track and visualize customer past behavior and preferences, scripts of service interactions, and incentive structures. These projects exemplify how to build trust with workers and bring them along in the design process, how to approach the complex systemic challenges that underlie work to design better ecosystems, and how to observe, experience and understand what's important to different people in the work environment.

The three projects highlight how to design for agency in the work ecosystem. First, document and design the access and presentation of information and data points in order to support workers' expertise and autonomy in how they interact with others. Second, consider the emotions and values which create a sense of progress and purpose for workers, and make sure those are reflected in project outcomes. Third, harmonize the goals of workers within the service ecosystem by aligning tools, technologies, culture, and incentive structures. Work is an ecosystem in which no worker or tool functions in isolation. Finally, make it welcome and safe for workers to continuously engage and co-create their own jobs. If workers fear censure in making themselves vulnerable and sharing questions and feedback, this has a negative impact on agency.

BACKGROUND AND METHODOLOGY OF PROJECTS

Creating a Hybrid Customer Service and Sales Role with a Mortgage Provider

This project combined ethnographic methods and live prototyping in order to design a hybrid customer service and sales role to support long-term relationships with homeowners. The first half of the project included ethnographic methods, participatory exercises, and observation of homeowners and workers in one of the company's call centers. The second half of the project focused on developing opportunities and supporting concepts, and live prototyping ideas in the call center, including recruiting materials like posters, a space for agents to relax and share ideas, a set of cards with conversational prompts, a voice analytics tool that captured and visualized agents' language on calls back to them, and a customer 360 dashboard. Prototyping invited employees to co-design the new role and supporting ecosystem of tools, spaces, and incentives. The prototypes tackled the disconnect between homeowners and their mortgage provider, with the goal of building a more active and lasting relationship between the company and the homeowner through workers' engagement.

Agency in the mortgage call center meant several things for workers, including 1) a sense of progress from growth opportunities, 2) connecting to a sense of purpose through a personal and unscripted interaction with the customer, 3) feeling safe to share issues or learning areas with management and each other. The first area required a shift for design from competition-oriented incentives to one that incentivized collaboration on behalf of customers. The second meant that a rigid structure for sales or calls wasn't going to work for this new role, and new solutions needed to be found. Anything too scripted or structured was uncomfortable for these agents: they described themselves as needing to be able to "go with the flow" in order to have a successful interaction with the customer. Going beyond scripting and connecting to higher level motivations was essential to a designing a holistic work ecosystem which supported employee agency. For example, one agent's favorite part of the job was being able to help elderly customers with their financial challenges. Finally, learning and development was key to helping agents feel like they were improving and finding a sense of purpose in their work, but this primarily took place among people sitting next to each other. In order to circulate learnings more widely, the ecosystem needed to make it comfortable for agents to share stories about customer interactions.

Harmonizing a Cruise Company Customer and Call Center Experience

The goal of this project was to eliminate the frustrating impact of back-end systems on customers and workers. Over the course of two projects, teams interviewed and observed stakeholders, customers, and agents in multiple contexts, including at home, in the call centers, and during a cruise (Sampson 2018). The team found that booking was repetitive for customers. At the same time, agents felt held back from delivering the customer experience they wanted by the limitations of their tools. For example, customers often had to start their request over again as they were transferred from agent to agent. The agents' different roles were opaque and irrelevant to customers, but nonetheless they experienced the friction of the backend system as they tried to learn more about or book their vacation. In later stages, this led the team to prototyping tools such as a dashboard that aggregated several sources of information about the customer, including previous cruises and calls. Organizational and environmental design also played a role. Team members who previously sat in different places were co-located and new incentive structures were designed, aimed at rewarding collaboration and information sharing on the customer's behalf.

The final designs and recommendations supported the ethnographic understanding of agency in the cruise call center context. As in the mortgage company call center, agents wanted a degree of autonomy while ensuring that changes to the work ecosystem wouldn't negatively impact their livelihood. However, delivering the customer experience was industry specific - rather than financial expertise, agents were expected to project hospitality and fun, without being overly casual. For these workers, agency meant 1) having the authority to act on behalf of the customer, 2) confidently performing and projecting their expertise, and 3) feeling in the know and in control of the latest organizational and product shifts that could affect their job performance and evaluation. Agents wanted to do what was best for guests, but silos and rules took the relationship out of their control. Agents shared that, "It feels like I have to fight for myself and my guest." Second, tools and backend systems which agents couldn't rely on negatively impacted their desire to confidently perform their jobs for the customer and for each other. Agents described that with current tools, "It feels like I'm going in blind." One agent described their analog system: "I write all my bookings here [in my notebook]. I've already had to get three new computers, so I'm scared my stuff is going to delete." Third, agents believed in their company and its offering, but felt like they were always playing catch up with rapidly changing information. For example, they had to use the website to look up the latest offers. Others described that, "It feels impossible to keep up." Since offers affect incentive structures, the negative impact on agency increases, since agents not only feel they can't perform their jobs the way they want to, they may also lose control over a part of their livelihood. Recommendations targeted systems and structures which would allow agents to feel more in control of how they were able to help customers and navigate incentive structures.

Refreshing a Hospital Patient Appointment Scheduling System

Hospitals are complex environments in which regulations govern processes, the pressure of living up to one's responsibilities is essential, and decisions can determine life or death. Based in a pediatric hospital, this project aimed to understand, evaluate and re-design the patient experience in anticipation of the construction of a new building. A primary goal was

to avoid replicating “broken” processes, so insights and concepts emerging from research and prototyping were targeted to inform the new building architecturally, systematically, and operationally. The team explored the patient experience, operating systems, and clinic workflow for what could be duplicated and what needed to be rethought. While the focus was the patient experience, understanding staff members’ responsibilities and the complexity of operations was key to the project’s success. The team interviewed staff members in multiple roles and departments, documenting their daily tasks, tools, challenges and needs to understand how these fit into the ecosystem of delivering care.

Parallel research with care providers and patient families uncovered a disconnect. Families seek visibility into upcoming care, but because the effect of treatment on patients’ well-being is uncertain, adjustments must be made over time. Currently 100% of appointments are rescheduled. Families expect staff to be up to date on the patient’s diagnosis, progress, vitals and medication, but the lack of information transparency between departments forces parents into the role of mediator, communicating vital information about their child in terms with which they are not familiar. The hospital and staff are passionate about providing the best care, but siloed operating systems that add additional steps to the busy routine make it difficult to do so. The inefficiency of analyzing information creates a tense emotional interaction between the staff and their tools. However, staff members rely heavily on these systems and expressed a strong desire for improvement. Instead of having to do the time-consuming gathering of information themselves, they wanted smart solutions which could provide the information they need, when they need it, and in their preferred manner. For workers in the hospital setting, job satisfaction and agency means focusing more on patients and less on tools, making time for what they believe truly matters.

LITERATURE REVIEW

Ethnography is key to a design process that enables worker agency through their participation. This argument is situated in literature that defines agency in social science theory, as well as in the work context through analogous measures of autonomy and well-being. In service environments such as call centers and clinics, automation, rules, and scripting have been shown to have the potential for negative impact on purpose, emotion, and workers’ alienation from the products (or services) of their labor. The history of emotional labor, the expectation to regulate emotions and interactions on behalf of organizational roles, heightens the need to examine how automated systems, scripts, and other tools might work against a sense of agency and autonomy at work. This paper draws on relational and contextual perspectives on human agency in order to better understand and explore how ethnography and prototyping on behalf of, and ideally with the participation of workers, can be used to design for workplaces in which people are more likely to achieve values relevant to them. Anthropology, human rights, and ecological psychology all offer inroads into this effort. Tacchi, Slater & Hearn’s work on ethnographic action research, Amartya Sen’s capabilities approach, and Gibson’s affordances theory inform the metaphor of work as an ecosystem, in which workers’ motivations, values, and ability to achieve what is important to them should be a continual input into how systems and tools are designed.

Agency as a construct accounts for creativity and change in the social structure. Within the work context, measures of purpose, well-being, and autonomy point to the potential of designing for jobs that increase workers’ sense of agency. Nigel Rapport and Joanna Overing

(2000) write that agency first emerged in anthropology in order to resolve the differences between structure and individual action, “and explore the limits on individual capacities to act independently of structural constraints,” (1). The link between structure and individual action, and how that influences worker well-being, was explored by Karl Marx, “who argued that paid employment removes the capacity to produce according to one’s own will and imagination, thereby limiting pride and satisfaction while reducing work to a means of survival no different from the productive impulse of animals” (Cited in Crowley 2012). In *Dignity at Work*, Randy Hodson describes how, “work arrangements vary in the degree to which they allow workers to self-express and to derive a sense of self-worth and self-respect from their jobs – producing measurable differences in outcomes such as autonomy, creativity, effort and pride,” (Crowley 2012: 1384-1385). Call centers in particular illustrate the potential for work environments to impinge on worker agency. In fact, “studies have shown that the combination of scripts, quality assurance rules and supervision generates stress and resistance among call-center workers,” (Callaghan & Thompson, 2002; Knights & McCabe, 1998 cited in Crowley 1386-1387). For example, in the cruise center project, call center workers described how the redundancy in their tools was holding them back, causing frustration for everyone as customers had to repeat details on each call. As service-oriented people, the call center agents felt they could not deliver the type of interactions customers deserved. Similarly, in the mortgage services project, agents in both sales and customer service had their eye on metrics such as call time and volume. Because these measures influence how they are evaluated and paid, the goal of building customer relationships was unlikely to get the same amount of attention without making changes to incentive structures. If agency is defined as the ability for individuals to change the social structure around them, agency within service-oriented work would include employees’ capacity to influence how they perform their work to better align with their motivations and values. For example, call center workers were more able to establish satisfying interactions with customers once incentive structures and metrics were co-created.

Recent explorations into motivation and meaningful work underscore the benefits of engaged, purpose-driven workers for organizations, as well as for the intrinsic value those workers experience. In *Drive: The Surprising Truth About What Motivates Us*, Daniel Pink (2009) cites the cross-cultural link between autonomy and well-being (88). Besides the positive impact on workers, autonomy is correlated with better business results. Pink writes that in a Cornell study of 320 small businesses, “The businesses that offered autonomy grew at four times the rate of the control-oriented firms and had one-third the turnover,” (89). The mortgage industry experiences a high rate of turnover. The new role was mutually beneficial to the company as a means to retain and attract employees, and for employees as a new path for professional development. This role was co-designed to provide agent autonomy in making meaningful choices about how to engage with customers, such as time off script. In *The Power of Moments*, Chip Heath and Dan Heath explore the relationship of well-being, autonomy, and other factors that contribute to worker satisfaction. In a survey of 5,000 employers and managers, “These people with a strong sense of meaning tended to have the highest performance rankings by their bosses,” (Hansen cited in Heath and Heath 2017: 217). In the hospital project, schedulers and clinicians were highly motivated by families’ and patients’ experiences and health outcomes. The team’s task was to make sure that their tools supported staff members as caregivers, allowing them to express their passion and knowledge rather than adding steps into their busy days. Being attentive to, and designing

for, workers' individual and specific sense of purpose, motivation, and autonomy leads to individual and organizational benefits.

Emotional labor, the expectation for service workers to “align their displayed emotions with organizationally desired emotions through their choice of emotional labor strategies,” further intensifies the pressures on service workers, especially in low wage, highly interactive, and gendered occupations (Hochschild 1983: 59). Emotions are becoming “tools of labor” as “paid work is shifting towards symbolic forms of production” (Forseth 2001: ix). In the hospital environment, illness and injury, intricate treatment plans, and complex appointments increase the stakes of emotional work clinicians must do. Helping patient families navigate a world they don't understand is an emotional weight carried by clinicians, but one that can be lightened by feeling prepared and well informed before seeing a patient. Call centers receive special attention in marketing, organizational studies, and service design, perhaps because this type of work is expected to deliver high quality customer service at the intersection of complex front- and back-end systems. Agents in the cruise and mortgage company call centers were evaluated by quality assurance spot checks that aimed to gauge the emotional comfort they created for callers. This was despite potentially conflicting measures like call time, which incentivized them to keep interactions short. In the literature, call center workers are at the front lines of tech-mediated late capitalism, the humans among digital and automated touchpoints like websites, apps, and platforms. For example, this includes drivers trying to reach Uber's customer service representatives to argue a fare (Rosenblat 2016) or customers returning an order with online shoe retailer Zappos (Solomon 2017). Systems intended to automate or augment, such as Uber's platform for its consumer-drivers, can inadvertently or intentionally disempower workers. These systems can also become a means of control or “algorithmic management” (Rosenblat 2016). In a case study of Uber, Rosenblat argues that “Through tools such as dynamic, algorithmic pricing and a number of other elements of the Uber application's design, Uber is empowered via information and power asymmetries to effect conditions of soft control, affective labor, and gamified patterns of worker engagement on its drivers,” (2016: 3759). Because workers like nurses and call center agents are called upon to perform emotional labor, necessary to how patients and customers will perceive their experience, the three projects explored how organizational goals and worker motivations could align through designed interventions. This included incentive structures, physical spaces and feedback mechanisms for employees to reflect on and suggest changes in their roles, and employee value propositions communicated through recruiting material and job descriptions.

Involving participants like call center workers and clinicians through ethnography influences the team's ability to translate research findings into actionable design outcomes. Several approaches, including ethnographic action research, Amartya Sen's capabilities approach, and James Gibson's affordances theory, ground how worker-influenced ethnography and prototyping can lead to design that increases agency within the specific and local work context. Ethnographic action research was developed in the early 2000s based on earlier participatory methods within social science, in response to the uniformity and shortcomings of information and communication technology as a panacea to the challenges of communities in so-called developing countries. One of its originators, Jo Tacchi, describes how “The ethnographic approach combined with action research means that it builds upon notions of immersion, long term engagement, and understanding local contexts holistically,” (2015: 1). Each project included sustained engagement over time between workers,

stakeholders, and the design and research team. The hospital project was part of a multi-year client relationship, building on previous knowledge of the culture and workflow to inform the specific patient scheduling challenge at hand. The cruise project was part of over a year of work, during which the team first immersed in the cruise experience, customers' vacation planning, and call centers, before designing a new customer 360 dashboard to better connect the employee and guest experience. In their work, Tacchi, Slater, and Hearn elaborate on the concept of a communicative ecology in Ethnographic Action Research (EAR), a metaphor that highlights the importance of continuous, relational research and design in a specific local context in order to understand what is really needed and should be implemented by the community members. They write, "If you are studying the ecology of a forest or desert, you do not look at one or two animals or plants in isolation... The same applies to communications and information: there are many different people, media, activities, and relationships involved," (2003: 15). Research ideally becomes a part of the culture of the organization, and the researcher becomes a "social-cultural animator," who "breath[es] life into the projects and the underlying dynamic of the communities in which they are located," (27). For example, in the mortgage project, the goals of live prototyping included learning from and engaging workers in designing their work environment and tools, in a sense, "animating" the project outcomes. The same principle was applied to the deliverables, which were spatially and experientially shared (e.g. software tools at an agent's workstation, instead of in a presentation in a conference room). Due to the multi-year relationship, clients from the hospital made access to staff, spaces, and patients a priority, so that the team could get the holistic understanding required to move design forward. Working side-by-side with staff and patient families underscored the scale at which deliverables would need to be shared, resulting in outcomes such as an installed gallery of findings.

The metaphor of a communicative or information ecology ties EAR to other work that highlights human action as central to understanding and deploying technology in the service of individual and community agency. Bonnie Nardi and Vicki O'Day argue for an informed engagement with technology in local communities, in which information ecology as a construct helps "focus attention on relationships involving tools and people and their practices." (1999: 50). Information ecologies are "A system of people, practices, values, and technologies in a particular local environment. In information ecologies, the spotlight is not on technology, but on human activities that are served by technology," (49). Even earlier in the literature, cognitive and ecological psychology developed the idea of situational and relational meaning between animals and the environment, and humans and tools. James J. Gibson developed the idea of affordance throughout his career, culminating in his last book in 1979: "The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill," (1). For example, he uses the example of a rock, and how it may serve as a "paperweight, a bookend, a hammer, or a pendulum bob," depending on the individual's abilities and goals, instead of automatically categorized into just one class of objects (7). Or a ledge, which may serve as an affordance for sitting or climbing depending on the animal or human's size, age, intention, and physical structure. Gibson's goal was to cut "across the dichotomy of subjective-objective and helps us to understand its inadequacy. [An affordance] is equally a fact of the environment and a fact of behavior. It is both physical and psychical, yet neither. An affordance points both ways, to the environment and to the observer," (3). Later practitioners and theorists like Don Norman reframed affordance in the fields of design and human computer interaction, breaking down how

interactions from stoves to mouse clicks can be supported and suggested by the object itself (Jenkins 2008: 41). An ecological perspective on the interaction between individuals, tools, and environment around them means that ethnography in the work context should be situated and respond to what is important to the workers, variability among them, and how they might be engaged in co-designing and iterating design solutions.

The ecological perspective highlights the need for all three projects to reframe the brief beyond the initial problem that catalyzed action. On the cruise project, stakeholder calls to the call center revealed a less-than-ideal experience. But in order to address this disconnect between backend systems, workers, and customers, the team needed to understand the entire vacation planning, booking, cruise and work experience, including mapping the current tools and data sources at play. This led to a design solution that incorporated a new team structure, incentives, and tools in order to help the vacation planning process reflect the fun and anticipation of a cruise. For the mortgage company, combining sales and service seemed like an opportunity to increasing revenue, but this combination of tasks alone wouldn't deliver the desired outcome. In order to engage employees, they first needed to understand what the new role was and how it could benefit their careers. By considering the work environment as an ecology, with financial and purpose-led motivations understood, the design solution included a clear value proposition expressed through communication material and redesigned workspaces, and aligned tools, metrics, and incentive structures. In the hospital project, the refresh of scheduling software was a core component of redesigning the patient experience. An ecosystem approach was necessary because issues in the scheduling system were themselves a result of the complexity of appointments and flux of treatment plans. The team couldn't design a solution without understanding the variables which went into appointment planning, as well as the variables workers themselves preferred to be automated versus under their control.

The ecological approach also resonates with Amartya Sen's idea of capability, "the opportunity to achieve valuable combinations of human functionings — what a person is able to do or be," (Sen 153). Sen's argument allows us to approach development in a nuanced and therefore potentially more effective way. For example, reaching a certain income level as a universal measure of development does not guarantee individuals the same opportunity to achieve life goals they may or may not share, like being well-nourished and achieving a sense of meaning in their lives. A unitary concept like income level, or "poverty" or "the Internet" (as Tacchi, Slater, and Hearn point out), must be contextualized in the culture and ecosystem in order to understand, "(i) whether a person is actually able to do things she would value doing, and (ii) whether she possesses the means or instruments or permissions to pursue what she would like to do" (153). Peter Evans elaborates on how capabilities allow us to reconsider how to approach development, but also "implies that choices about those allocations and growth strategies must be 'democratic,' not just in the 'thin' sense of having leadership succession determined by a regular electoral process, but in the 'thick' sense of messy and continuous involvement of the citizenry in the setting of economic priorities," (55). In other words, to understand how a capability like agency is accessible to individual workers and to what degree, research and design teams must continually engage with them in co-designing and iterating the solutions and tools that could potentially help them exercise their agency.

LEARNINGS ABOUT CO-DESIGNING FOR AGENCY

This paper argues for ethnography and prototyping with workers in order to create ecosystems, including automated tools, which enhance rather than detract from individual agency. Since the projects focused on service work environments in North America, there is strong overlap in how workers defined and found agency at work. We focus on these intersections in our learnings about agency, but call out when the specific work context affects how agency was expressed and then designed for by the project team. Drawing on the three project examples, the following implications emerge as learnings for how to co-design for individual agency within service work ecosystems:

- Enhance worker agency by co-creating tools and systems together with workers
- Consider the emotional dynamic between worker and tool, including the potential to instill self-insight through automated tools
- Design for an ecosystem perspective, accounting for workers' individual relationships with each other, as well as tools, technologies, organizational and incentive structures

First, ethnography builds trust and generates insights in order to co-create tools and systems that align with users' goals and values. During the mortgage services project, the team conducted contextual inquiry with homeowners as well as participant observation with call center employees. At a later phase, the team live prototyped tools, including a dashboard which aggregated customer and product information. In earlier phases, the team learned that being able to make a personal connection with the customer was important to workers' sense of agency. Therefore, the team explored the tension between documentation and scripting versus openness and creativity with the dashboard and a set of customized cards. Inspired by Brian Eno's *Oblique Strategies*, the cards included prompts like: "What's the best advice you've ever gotten from someone else on your team?" and "Who is your role model? How would they handle the next call?" The goal was to introduce a generative tool to inspire the agent to infuse the scripted conversation with their own reflections and words, while making the role more engaging. Designing for engagement allowed agents to influence how they interacted with customers, without burdening them with additional oversight. As evidenced by the excitement these prompts generated, this also recognized and supported agents' expertise and passion to engage with customers in a professional but personal way.



Figure 1. Cards to prompt off script conversations with customers

On the cruise project, ethnography identified the negative impact current systems had on agency, because these failed to capture or scattered customer information among multiple programs. One agent described, “I feel held back by my tools.” This was a detriment to agency in two ways: it hurt agents’ desire to confidently project their expertise and their authority to act on behalf of the customer. Customers experienced this impact as well. They reflected that having to constantly repeat themselves was like “Groundhog Day.” The new dashboard empowered agents by aggregating the information they were missing or currently keeping track of with pen and paper. By eliminating redundancy and cognitive load, the dashboard also empowered agents to be confident and informed in their own and customers’ eyes. This was in stark contrast to the earlier phase of work, in which agents had to look up the latest products and offerings on the website. This deflated their self-image as confident service professionals, because they had no specialized knowledge to offer potential customers calling in.

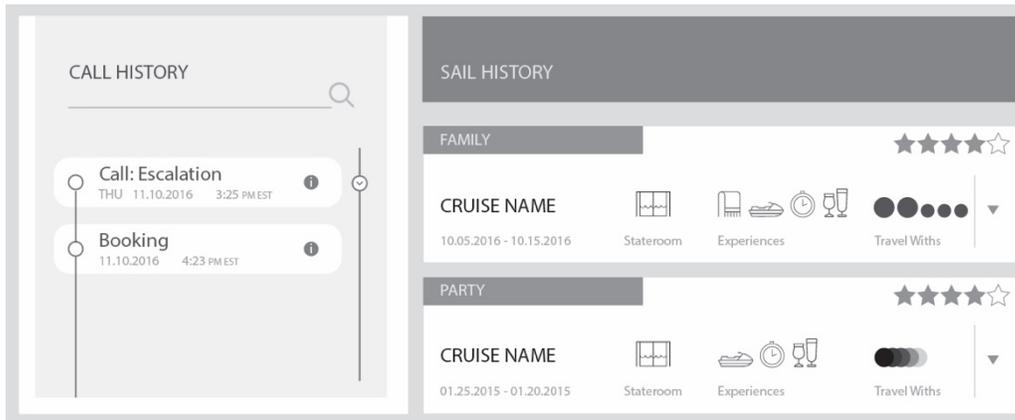


Figure 2. Aggregated view of call history and sail history

Later usability tests discovered that managers would rather walk around and coach agents rather than use the desktop-based tool. It was one of their favorite parts of the job. The team moved the interaction to a tablet device to support this behavior. By co-creating tools directly with workers, agency is preserved and enhanced through revealing the type, format, and timing of interaction which will support what people love about their jobs. In the cruise call center context in particular, feeling in-the-know was important to the sense of agency. By designing the content and instantiation of this tool to align with managers' desire to share expertise, the final design was more successful than earlier iterations.

In the hospital project, the first round of research led to a point of view of where to focus and iterate on the current system. Exercises and activities invited staff to co-design a better work environment for themselves. Allowing staff to participate in the design process gave them an opportunity to voice their opinions in a safe environment. Having an ethnographic understanding of the challenges led to more targeted questions, such as:

- What information is most meaningful to have access to? How is that different for each department and role? How should that information be communicated?
- Of your daily tasks, which do you enjoy doing and which should be automated? What needs to be true for you to trust that a computer could help do your job well?
-

For the dashboard card sort exercise, a data scientist took the lead on determining available and desirable data points for four different views (Figure 3):

- Individual Patient View - Information about an individual patient
- Clinic View - Information about an individual clinic
- Global View - Information about the entire hospital care structure
- Notifications - Information you would like to be notified about

The team asked each staff member to individually choose three cards for each of the categories to determine what information was of greatest value to them in their unique roles. Besides recognizing patterns and differences within the data points chosen, the card sort served as a means to elicit how visibility into certain information could transform jobs and empower the hospital to provide better care as a whole and as individual clinicians.



Figure 3. Dashboard card sort exercise to understand which information is relevant to staff in different departments and their requirements for receiving the information

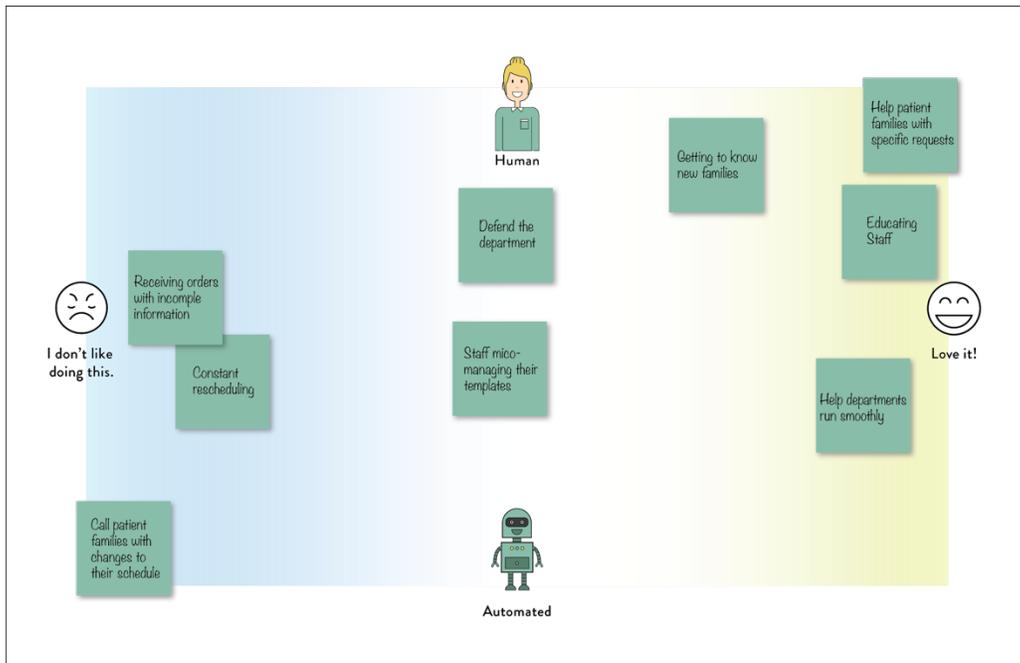


Figure 4. Exercise to elicit feedback about the desired role of automation

In another exercise (Figure 4) the team asked staff to use Post-its to write down their daily tasks and map them on a spectrum from: “I don’t like doing this” to “I love doing this.” Next the team introduced two characters, a human and a robot, and prompted staff with the question: “Which of these tasks do you want to continue doing yourself and which of them should be automated?”

Both exercises show how technology can enhance staff agency to improve the quality of care and the staff’s overall satisfaction with work. Through intentionally using technology, the number of undesired tasks in a clinician’s day is reduced. Automating tasks can optimize time on task and boost expertise by making relevant information accessible.

The second exercise led to deepening insights about which type of work providers valued most: tasks that cater directly to patients and their well-being rather than the background work required to deliver good care. Finding ways for staff to express and focus on what they consider to be meaningful work and finding ways to support them in doing more of that work, is therefore an appropriate use of technology within this work ecosystem.

Furthermore, there was a realization that providing agency in staff members’ daily tasks requires more than smart tools. Because a hospital environment is complex and involves a number of departments with different responsibilities, the team came up with a framework they referred to as “The Agency Loop”. This framework is a virtuous cycle which aims to keep agency constantly present by driving behavioral change and requires three pieces to be present: ability, permission, and motivation.

- Ability: Staff feel capable and confident in what to do
- Permission: Staff feel allowed to act and responsible for their decisions
- Motivation: Staff are willing to act, aware of the reasoning, and believe taking action matters

Designing better jobs requires involvement of staff beyond the duration of the project, a cultural shift that makes inclusive innovation the new norm and creates a safe and empowering environment for staff to share challenges, desires, and ideas. Staff must have confidence that change can happen, feel confident to speak up because it’s their role, and build practices for participation. Observations and conversations revealed awareness around what needs to change, but little incentive to do so. For example, nurses expressed that they feel like their hands are tied when it comes to dropping off a medication order at the pharmacy. They stand in line behind patient families, losing valuable time in the clinic, because that’s how this situation has always been handled. While staff were able to share creative solutions with the team, they felt a lack of permission was holding them back day-to-day, affecting their motivation to act on desired changes. Agency in the hospital means:

- Since patients’ diagnoses are uncertain, the work ecosystem must be flexible and transparent so staff can react appropriately.
- Providing visibility into existing data and patient updates across departments so that the staff is always up to date on their patient’s current health state, and the emotional burden of passing on this information doesn’t fall on families.

Second, designing tools with the worker and work ecosystem in mind can instill positive emotions, self-insight, and a sense of purpose, making it more likely that workers will

experience their job as a good one. In the mortgage services project, a voice analytics prototype gave agents the chance to reflect on which words they used most often on calls by displaying a word cloud. Being able to share issues and learn without fear of censure was particularly important to agency in a competitive work environment. The voice analytics prototype provided learning through a moment of self-reflection, without additionally monitoring agents. The tool was meant to improve the conversational variety of calls, and agents loved it because it provided them with instant feedback. Much easier than navigating a library of recorded calls for inspiration, they reported feeling more intentional and reflective simply because this automated tool mirrored their words back to them.

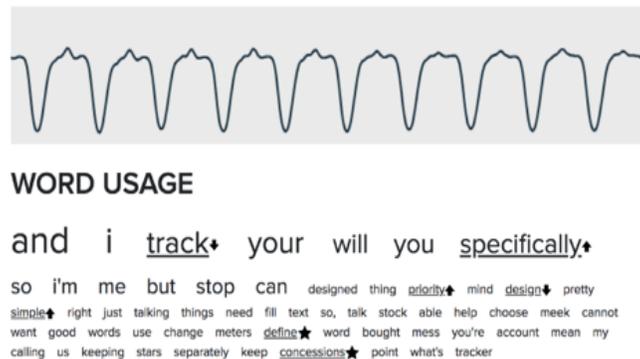


Figure 5. Displaying the language used on a call

Making custom medications in a hospital environment is a crucial because a small mistake can be fatal. Knowing patients are waiting creates additional pressure on the pharmacist. Instead of processing orders in the order in which they arrive, the team found that being able to process these relative to different patients' schedules would improve workflow and ease stress. The software refresh was designed to provide visibility into patients' schedules. By adding this information, the emotional relationship pharmacists had with the system was transformed into one that was more mutual and rewarding, rather than pharmacists feeling like they had to stick to the systems' outputs because they were missing information. The team learned that the system needed to be smarter about its outputs and indicate when and where there's flexibility to the schedule.

Agency for the pharmacist means being able to use common sense to judge which orders to prioritize instead of operating like a robot and processing orders as they come in. The ability to have a more holistic view into the patient's day and treatment and current state of health allowed pharmacists to connect with the patients, fulfilling the basic need of human to human connection. Furthermore, the ability to measure their own performance was important to recognize their own continuous growth and improvement. Returning to the "agency loop," having access to relevant data points allowed pharmacists to feel confident in their abilities, provided permission in making an informed decision, and motivated the pharmacist to act in service of what they believe is right.

Scheduling is a craft developed through years of experience. It's more than a clerical job, because the scheduler needs to understand all the ramifications of the medical procedures they are scheduling. For example, MRI appointments require sedation and therefore a

particular set of staff and equipment, as well as a recovery room. While staff take pride in mastering the puzzle-like appointment logistics, this task becomes tedious when it becomes a constant requirement. Schedulers described their job as “Wall Street,” working with multiple channels, constantly communicating with patients and providers to make small adjustments which will most likely change many more times. When the team introduced the idea of using AI to generate the most efficient schedule, freeing up time for schedulers to bring a human lens in addressing families’ needs and preferences, there was hesitation. Not because of a fear of AI taking over the jobs, but because schedulers didn’t trust AI to be able to do an equally good job as they would. They perceived the creation of a good schedule as a task that could only be done by an experienced human, not by a system. This pointed to the need for additional time for staff to build trust and confidence in new systems through testing and continual use. In the future, the work ecosystem could lead to higher efficiency, less work being re-done, and better care provided through meaningful schedules that resonate with patient needs. The ability to train new systems and build trust over time gives staff permission to re-evaluate their workflow and time commitment and shift their focus to crafting customized timelines for patients.

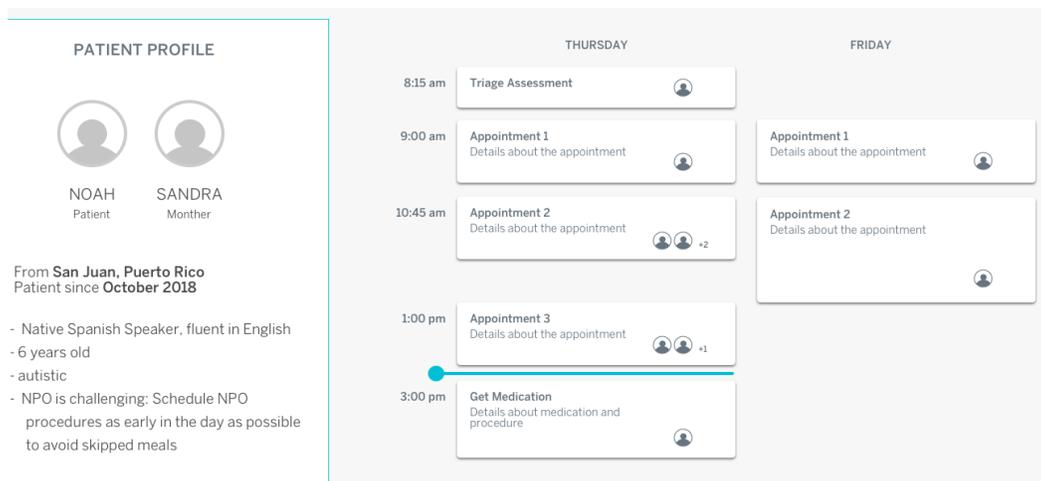


Figure 6. Holistic view into the patient’s entire schedule and profile information to provide relevant context across departments. Note: patient details are fictional.

Third, these projects highlight that in order to encourage worker agency, we must take an ecosystem perspective, designing for holistic and goal-aligned relationships between workers, tools, technologies, organizational structure, and incentives, among other levers which may be appropriate to the industry and company. In the mortgage services project, the team was responsible for crafting a new role. Since sales was mainly based on commission, and service on different, efficiency-based metrics, there was little leverage to incentivize collaboration and a new approach to homeowner relationships. The team considered the system, metrics, and incentives that workers were evaluated against, such as call time, transfers, and customer experience quality. Since agency in the mortgage services context meant a sense of progress in growth opportunities, and the ability to cement financial security through personal skills and charisma, it was particularly important that

agents had input and were comfortable with new metrics and incentive criteria. The role was designed to encourage long-term customer relationships by increasing base pay and the impact of customer experience quality ratings relative efficiency measures such as time and volume. Meanwhile, the job description and employee value proposition sought to target service-oriented internal hires.

On the cruise project, prototyping co-location of different roles heightened collaboration and improved the customer experience. It also provided an opportunity to elevate the sense of agency cruise call center employees derived from confidently projecting their expertise through how they interacted with each other. During a two-week test, one participant said, “As time went on, it chiseled down to the point where we were having legitimate real conversations. It went from you against me to us working together for the team.” One of the biggest worries was the incentive structure, so the team integrated organizational design. Incentivizing agents for good notes and assisted bookings helped to alleviate compensation concerns and facilitate the desired behavior shifts.

CONCLUSION: IMPLICATIONS FOR ETHNOGRAPHY AND DESIGN

The literature and empirical cases together raise a number of questions about designing for worker agency in the US service economy. First, the relationship between automation and agency is often framed as a binary, but this tension is not necessarily helpful in understanding and designing for the complexity of workers’ motivations. Rather, the challenge for service design can be reframed as an informed, continuous process of decision-making around which parts of work to automate and script in order to improve workers’ jobs, and which parts to personalize or preserve in order to enhance what is meaningful. Second, the literature on ethnographic action research, capabilities, and affordances leads us to ask how innovation challenges in the field of service design are affected when we view work as an ecosystem. How might we view agency as relational and contextual to the specific work ecosystem, in order to prototype and design for how workers define it? Third, the projects and literature highlight the importance of continuous and active involvement of researchers, designers, and participants, in this case service economy workers in the tourism, financial, and medical sectors. The agency-related question is how to encourage engagement in a way that elicits meaningful bottom-up organizational change.

In order to embrace the potential of data and technology in creating better jobs, ethnography must map the systems and tools workers interact with, how they are using these, and identify which barriers should be redesigned. Siloed operating systems are a common problem in large organizations, compromising access to information in favor of the continuity of known operating systems. During the hospital project a cross-department workshop helped the team surface what information exists in the ecosystem and the desired flow of information. The goal overall was to ease the burden of job responsibilities and therefore ideally lead to a better patient experience. Similarly, the cruise ship project led to a comprehensive dashboard which pulls relevant information from multiple pre-existing systems into one central place, combining data points in a meaningful way and turning the dashboard into a tool that puts agents in control. Second, by inviting workers into the innovation process, their participation in research and co-creation sessions can become an act of agency in and of itself. Highly interactive exercises and prototypes like mapping workflow, crafting their own ideal dashboard, or immersion in a simulation of what their

future tools may look like, leads to better feedback, more willingness to participate, and ownership over the work that is being done. Involving workers in the design process also builds trust that their perspective matters and fuels design. The key to success is reminiscent of the researcher as social-cultural animator in ethnographic action research approaches, engaging with people in the research and design process in order to transform them into advocates of design work.

Designing for service workers' agency requires solutions which account not just for tools and products but also for the holistic structure of the organization. While data and technology may have the ability to stretch into staff responsibilities, ethnographic research unlocks the best use of its potential and finds ways for it to serve unmet needs. It is crucial to understand the essence of what makes work rewarding and meaningful as well as identify misalignments and gaps in meaning, purpose and the autonomy with worker's lives. In the cruise and hospital projects, it became apparent that the work people appreciate requires emotional intelligence and skills, and tasks that felt burdensome consumed unnecessary time in gathering and analyzing information across multiple sources. On the hospital project schedulers were excited about the potential of AI generating the most efficient schedule but lacked trust in it being able to do an equally good job as they would. The ability to train the system, allowing it to prove itself over time is therefore a key step in implementation. The cruise and mortgage projects depended on tools being aligned with the incentive structure within the company. The overlap between technological potential and staff needs reveals opportunities to design better jobs. Turning opportunity into action requires compatible tools, culture and incentives, addressing what needs to be true in order for the adoption of new workflows, processes or operating systems.

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NOTES

The views expressed in this paper do not reflect those of IDEO or its clients.
Illustration credit: IDEO

REFERENCES CITED

Ashforth, Blake E., and Ronald H. Humphrey. 1993. "Emotional Labor in Service Roles: The Influence of Identity." *The Academy of Management Review* 18 (1): 88. doi.org/10.2307/258824

- Cook, Lori S., David E. Bowen, Richard B. Chase, Sriram Dasu, Doug M. Stewart, and David A. Tansik. 2002. "Human Issues in Service Design." *Journal of Operations Management* 20 (2): 159-147. doi.org/10.1016/S0272-6963(01)00094-8
- Defo, Zenas Kuate. 2014. "Agency." *Political Anthropology* website, July 28. Accessed October 31, 2019. https://politicalanthro.wordpress.com/agency/
- Crowley, Martha. 2012. "Control and Dignity in Professional, Manual and Service-Sector Employment." *Organization Studies* 33 (10): 1383–1406. doi.org/10.1177/0170840612453529
- Evans, Peter. 2002. "Collective Capabilities, Culture, and Amartya Sen's Development as Freedom." *Studies in Comparative International Development* 37 (2): 54–60. doi.org/10.1007/BF02686261
- Forseth, Ulla. "Boundless Work: Emotional Labour and Emotional Exhaustion in Interactive Service Work." (PhD diss., Norges Teknisk-Naturvitenskapelige Universitet, 2001).
- Gibson, James J. 1979. *The Ecological Approach to Visual Perception*. Boston: Houghton Mifflin.
- Hearn, Greg, Don Slater, and Jo A. Tacchi. 2003. *Ethnographic Action Research Manual*. Paris: UNESCO.
- Heath, Chip, and Dan Heath. 2017. *The Power of Moments: Why Certain Experiences Have Extraordinary Impact*. New York: Simon and Schuster.
- Hochschild, Arlie Russell. 1985. *The Managed Heart: Commercialization of Human Feeling*. Berkeley, CA: University of California Press.
- Nardi, Bonnie A. and Vicki O'Day. 2000. *Information Ecologies: Using Technology with Heart*. Cambridge, MA: MIT Press.
- Pink, Daniel H. 2011. *Drive: The Surprising Truth About What Motivates Us*. London: Penguin.
- Rapport, Nigel and Joanna Overing. 2000. *Social and Cultural Anthropology: The Key Concepts*. London: Psychology Press.
- Rosenblat, Alex and Luke Stark. 2016. "Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers," *International Journal of Communication* 10: 3758–3784.
- Sampson, Ovetta. 2018. "Just Add Water: Lessons Learned from Mixing Data Science and Design Research Methods to Improve Customer Service." *Ethnographic Praxis in Industry Conference Proceedings* 2018 (1): 646–62. doi.org/10.1111/1559-8918.2018.01227
- Sen, Amartya. 2005. "Human Rights and Capabilities." *Journal of Human Development* 6 (2): 151–66. doi.org/10.1080/14649880500120491
- Sprigg, Christine A., and Paul R. Jackson. 2006. "Call Centers as Lean Service Environments: Job-Related Strain and the Mediating Role of Work Design." *Journal of Occupational Health Psychology* 11 (2): 197–212. doi.org/10.1037/1076-8998.11.2.197
- Tacchi, Jo. 2015. "Ethnographic Action Research: Media, Information and Communicative Ecologies for Development Initiatives." In *The SAGE Handbook of Action Research*, edited by Hilary Bradbury, 220–29. London: SAGE Publications Ltd. doi.org/10.4135/9781473921290.n22

“U.S. Economy at a Glance.” *U.S. Bureau of Economic Analysis (BEA)* website, September 19, 2018. Accessed April 19, 2019. <https://www.bea.gov/news/glance>.

Van Jaarsveld, Danielle. 2013. “Call Centers: Emotional Labor Over the Phone.” In *Emotional Labor in the 21st Century*, edited by Alicia A. Gandey, James M. Diefendorff, and Deborah E. Rupp, 153–73.