# Papers 2 – Shifting the Disciplines

# Five Steps Behind: How Ethnography Based Strategy Can Fuel Ingredient Innovation in the Early Stages of the Value Chain

MARTIN N. MILLARD ReD Associates

YOSHA GARGEYA ReD Associates

Global fast moving consumer goods companies are faced with significant challenges on all fronts as start-ups challenge brands, retailers' private labels challenge margins and technology giants like Amazon and Alibaba challenge the entire business model. To survive in this environment, FMCGs must, among other things, grow on the basis of meaningful product innovation — innovation that is often outsourced to their ingredient suppliers. Based on four client engagements, this paper outlines how the existing relationship between ingredient suppliers and their customers further down the value chain is currently defined by a deterministic dynamic that results in incremental and marginal innovation and a risk for said suppliers that their products become mere commodities. We argue that by employing ethnography based innovation strategy, ingredient suppliers can establish their own opinion of the market from the vantage point of their technologies and establish a new, meaningful and human-centered innovation direction that the whole company can unite behind. The approach helps re-ignite dried-up project pipelines through the new insights coming directly from the research, but it also creates more demand, as the combination of technological expertise and end-consumer insights can make the ingredient supplier a valued advisor to their customers on the end-consumer problems their technology can help solve. Ethnographic researchers that embark on providing such insights to ingredient suppliers must prepare to argue for the value of this type of data with scientists and practitioners trained in the natural sciences and must expect to play a key role in translating the data into actionable and measurable consumer benefits. Successfully implementing this type of research and its implications can change the relationships between suppliers and customers and eventually be a key to breaking the vicious cycle that often separates human understanding from technological innovation.

"The goal posts keep shifting. No matter how many meetings we have with [our client's] R&D and procurement people, in the end it's never good enough. It always just has to be cheaper or more efficient. We really don't know what to do?" (Private Interview, Client Engagement)

# A CONTEXT FOR THE RISING BURDEN OF INNOVATION

Branded consumer goods face threats from all fronts – start-ups and new-comers provide innovative, personalized solutions to demanding millennials (Economist.com 2016; Forbes.com 2016), private label brands squeeze prices and dominate shelf-space (Economist.com, 2015), and tech-giants like Amazon threaten to outright disrupt the whole retail and fast moving consumer goods (FMCG) sector. To survive in this environment, the brands your parents learned to love, and most of us grew up with as staples in the cupboard, are increasingly dependent on innovation across their business to remain relevant for consumers and, by extension, shareholders (Heda, Mewborn & Caine, 2017; private client

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engagements). While much attention is levied on FMCGs that opt to buy fast-growing innovators in the space, the in-house innovation engine of FMCGs has during the last two decades increasingly outsourced innovation to their specialized chemicals suppliers. Despite no established correlation between R&D spend and successful innovation (Knott, 2017), ingredient suppliers continue to invest more in R&D (European Commission) in order to meet the brands' requirement for constant product innovations.

As evident in our research, suppliers of the most strategic consumer good ingredients often view themselves as indispensable research and innovation partners for the world's largest brands. In contrast, this paper highlights four cases where leading brands have positioned their ingredient providers as commodity suppliers, not partners, and in the process separated human understanding from product innovation, creating gaps in knowledge that hinder meaningful innovation. We argue that by employing ethnographic methods to better understand end-consumers, ingredient suppliers can establish a clear, overall purpose and direction for the role their product should play in consumers' lives. By developing solutions that target a clear end-consumer need, ingredient suppliers will be able to bring more to the table than ingredients and technical expertise, and position themselves as technology advisors rather than mere suppliers.

How should a detergent look and feel? What should be the specific grade of opacity, how slippery should the feeling it creates between your fingers be, how fast should it pour from the bottle you pour it? Today, your favorite detergent, razors, bread, chocolate, ice cream and lotion contain technologies invented by decorated scientists in physics, chemistry, and biotechnology (Twilley, 2015), employed by companies you likely haven't heard about, bought by procurement departments in global FMCGs who in turn have been instructed by marketers to find *any* technology that will enable the desired consumer benefit. These technologies ensure your product has the color, fragrance, texture, taste and performance you "want," while guaranteeing that these characteristics are consistent across time and place (Fellows, 2009). Said differently, the enablers of consumer product innovations are more often than not created outside the walls of the companies that stick their brands on the label. As one branded detergent producer explained to us, today branded producers "just make sure the technologies are mixed optimally" (Private Conversation, Client Engagement). Naturally, being part of that mix is a coveted prize for most ingredient suppliers. But these ingredient providers *lack the human understanding* that can give them a unique perspective on innovation with their particular ingredient.

Evident in four client engagements, this division of labor provides branded producers with a de-facto monopoly on knowing what the consumer wants and where ingredient suppliers are expected to deliver the technology that solves the narrowly pre-defined problem. Unfortunately, this is a deterministic dynamic because both parties are constrained: branded producers are limited by their knowledge of any given technology and thus brief only the suppliers that have previously solved similar problems for them, and suppliers receive only briefs within the same sub-set of problems and are never exposed to new opportunities. In addition, as suppliers within the same niche are eager to be included on the coveted ingredient list of a given global brand, they flock to solve the same set of problems, creating a downward pressure on price and a constant threat of commoditization.

In the following sections, we will outline how ethnographic methodology can yield benefits for ingredient suppliers and balance the burden of innovation by grounding innovation strategies in human understanding. We will outline key learnings for ethnographers that work with R&D divisions early in industrial value chains, and will conclude the paper with a discussion of the steps ethnographers and advisors can take to ensure successful implementation of project recommendations.

# NAVIGATING THE VALUE CHAIN TODAY

## Control, Coordination and Growth: The Nature of Today's Value Chains

The road for your packaged goods – detergent, ice cream, bread, lotions, chocolates and more – from idea to your cupboard, is long. The end-consumer insight about *what* you want, *how* you want it and *when* and *where* you prefer to consume it is owned by FMCG marketers and their agencies. R&D and procurement officers ensure that the consumer innovation briefs delivered by their marketing departments are translated into more technical terms and offered for specialized ingredient suppliers to deliver on – spurring large investments in delivery to the exact specifications set out in the briefs. Since the beginning of commerce, value chains like this have been created as companies answer one central question: what is the most efficient way to produce a final good: Make or Buy?

Defined as the set of activities a company operating in a specific industry performs in order to deliver its finished goods, the term value chain was originally coined by Michael Porter in his 1985 bestseller *Competitive Advantage: Creating and Sustaining Superior Performance.* In this paper however, we expand the term to refer to what is sometimes called a *value system*, which includes value added activities performed by any firm in the process from raw materials to consumers' cabinets.

Since the beginning of the industrial revolution in the mid 18<sup>th</sup> century to today, the distribution of tasks in the value chain has been determined by the transaction costs associated with either buying the finished product on the open market or producing it inhouse (North, 1992; Williamson, 1981; Coase, 1937).

At the end of the 20<sup>th</sup> century, value chains began dismantling from large, integrated producers to many smaller producers of intermediate goods. Those previously on the "make" side of the decision now more frequently opted to "buy" (Grossman & Helpman, 2005). This shift was driven by several factors: stricter competition- and anti-trust regulations, decreasing trade barriers (Hummels, Ishii, Yi, 1999) and a reduced cost of sharing information and coordinating among firms via information technology (Baldwin, 2012). This all supported the case for "buy" and enabled higher degrees of specialization (Hummels, Ishii & Yi, 1999). This development, Boston Consulting Group argued in 1998, undermined the benefits of vertical integration by enabling "virtually cost-free" communication and exchange between suppliers and customers, yielding a highly flexible mix of spot-markets and strategic partnerships (Stern, 1998), or what other authors have called *vertical specialization* or *a trade in tasks* (Hummels, Ishii & Yi, 1999; Grossman & Rossi-Hansberg, 2006).

This trend is very clear in the FMCG space. Companies such as Unilever, P&G, The Kraft Heinz Company, Nestlé and Mondelez International who previously sourced only the earliest raw materials for production and performed all marketing activities in house now have hundreds of thousands of suppliers that deliver everything from accounting services, IT consultancy, end-to-end marketing services, contract manufacturing of finished goods and specialized, highly technical ingredients (e.g. P&G, 2017). FMCGs have outsourced - decided

to "buy" - many of the capabilities within material science that were previously a cornerstone in their internal value chain and with which they have created some of the worlds' most loved brands. These companies now focus much of their basic science on the interplay of the ingredients and increasingly rely on the innovation capabilities of a long tail of suppliers to push performance within categories and help them survive the disruptive forces of the industry. But even if FMCGs are under pressure, being a supplier – or indeed a supplier to a supplier – to the multi-billion-dollar brand portfolios they control is still a lucrative and prestigious deal that ingredient providers scramble to close. On the face of it, it is an efficient way to create competition for delivering innovation that matters.

## The Consumer Goods Innovation Glut

FMCGs globally spent \$20 billion on R&D in 2016 (Financial Times, 2017). The Nielsen Company counts a total of 8,650 new FMCG product initiatives launched in 2013 in Europe alone (Nielsen, 2015), a number that increased at a rate of 9% between 2014 and 2015 (Nielsen, 2016b). Unfortunately, there is no proven link between R&D spending and successful innovation (Knott, 2017), and the success rate for these launches is very low: Only 18 of the 8,650 products launched in Europe in 2013 reached first-year sales of at least €10 million and maintained 90% of the first-year sales in the second year (Financial Times, 2017). This is no better in the US: in 2011, less than 3% of new FMCG launches reached first year sales of \$50 million (Schneider & Hall, 2011). This phenomenon is particularly bad for the largest companies: The US consumer goods industry expanded by \$35 billion in 2015, but the largest 25 food and beverage companies, while accounting for 45% of category sales, contributed only \$1 billion – around 3% of total growth (Nielsen, 2016b). Instead of delivering meaningful innovations, the thousands of annual launches of beauty products, fitness foods, fast foods, beverages, laundry detergents and dishwasher detergents are plagued by marginal improvements, tactical considerations and price decreases to drive the growth required by shareholders.

In a similar vein, innovation from specialty chemical providers that supply these consumer good companies has all but dried up. The cases this paper draws from all began with similar challenges: pipelines that were either empty, plagued by marginal improvement projects or lacking any "big bets" for the mid-to-long-term future. Lacking innovation in turn means more players can enter the lucrative markets for specialty chemicals and bio-chemicals, reducing the differentiation that used to bring in healthy margins, putting pressure on prices and threatening products with commoditization – a process that further reduces bargaining power and access to information (Strategy&, 2010; McKinsey&Co, 2017).

Innovation in consumer packaged goods occur when a business idea and insight – whether based on human or quantitative insight, or whether analytic or intuitive – meets a technology that enables its execution. We argue that disaggregation of value chains has a significant role to play in the low success rate and marginal nature of product innovations from those same value chains. In other words, the notion of communication technologies eliminating the costs of information exchange is false when the purpose of information exchange is innovation. By breaking product innovation into tasks that are performed by several actors operating at arm's length, ingredient innovation is separated from end-consumer insight because the iterative and collaborative exchange of ideas and knowledge that is necessary for breakthrough innovation suffers (Hargadon, 2003; Vitasek, 2015). So,

while the break-up of the value chain to a task-based system of autonomous companies might be economically efficient in aggregate, the separation of ingredient, product and commercial insight has had unintended opportunity costs in the shape of slow and marginal innovation.

# BRINGING NEW VALUE TO INGREDIENT SUPPLIERS THROUGH ETHNOGRAPHY

## The Nature of Value Chain Relationships

Today, the relationships in the value chain are roughly one-way streets: information about consumer desires and market-relevant information is provided by the party closest to the end-consumer, for the ingredient supplier to act on. As one client stated:

"[our client] does so much consumer research themselves that we cannot claim to understand consumers better than they do. The most we can do is get some inspiration from them and then think of things that are a little wacky and might spark a conversation" (Private Interview, Client Engagement)

Assuming that consumer insights come only from customers higher up in the value chain created for our clients and their customers a relatively deterministic dialogue: customers higher up in the value chain supply an innovation brief with a set of very specific technical challenges to solve, and the supplier is expected to come up with a technological solution to the problem. Often, these briefs are directed to more than one supplier, welcoming those who can deliver the better technology relative to price.

As the procurement officers that mediate these briefs from the customers' commercial department to the supplier are rarely experts in the technologies they procure, we observed that the technical problems our clients were being presented with mirrored technical problems they had solved before. Once they had provided a solution for product shelf-life, for example, future briefs were relevant to product shelf-life. This is a dynamic that our clients often recognized the problem in:

"When you aim to lead an industry from a technological position, the worst place you can be is where you were two years ago. That's how you get in trouble... but that's what they ask for - versions of the same." (Private Interview, Client Engagement).

Our clients have lamented that specific problems around scent were filtered to perfumers, others to surfactants producers, and so on. So, while our clients often used language of "partnership", this model forces them to fight from being considered a highly technical commodity, and without a firm basis of end-consumer insights and a point of view on what to deliver beyond solutions to match the technological problems described above, our clients did not always have a clear view on how to differentiate from competition and avoid price-pressure – in other words, how to help drive innovation. This is a dynamic that drives a pipeline of incremental and marginal improvements only.

When ingredient suppliers are eventually offered a bid on a new application, the race to offer a solution means that they often disclose immature but promising technologies that, when they are unlucky, appear less and less promising for the brief they are intended to solve as work goes on. But because suppliers fear damaging relations by admitting failure and/or

because they are locked in to this single application and customer through NDAs, joint collaboration agreements and shared patent filings, they continue working on the same technology, even when resources could be diverted to more promising endeavors.

As a result of these dynamics, suppliers end up in a situation where they can't control their own pipeline. Prior to one engagement, for example, our client's pipeline categorized more than half of the ongoing projects as "maintenance" or "incremental" technologies, another 25% were projects dedicated to a single client and had not moved forward for several years, and lastly, less than 1/10<sup>th</sup> of projects were categorized as outside our client's narrow core business area. Unfortunately, this is not atypical: in specialty chemicals, new innovations are increasingly marginal and occur at slower and slower rates. As a result, the industry finds it hard to maintain superior margins and growth, and many ingredients previously categorized as specialties are slowly commoditizing (Strategy&, 2010).

Breaking this vicious cycle requires dispensing with a central orthodoxy we observed among our clients: that it is not their place to understand consumers, and that this is the purview of, for example, FMCG companies:

"We can't compete with companies like P&G on market research, they basically invented it... we are scientists – who are we to tell them about consumers?". (Private Interview, Client Engagement)

Fortunately, there are several indications that a break with this logic is something customers higher up the value chain look for from their most preferred suppliers. During research for one client, procurement officers stated that they expect their suppliers to deliver more than just technologies:

"It is two ways. One side shouldn't be bringing all the ideas. [We] can't have one [side] lifting all the weight, [and having] all the ideas." (Private Interview, Client Engagement)

## Wrestling Ingredients Free from a Commodity Categorization

While many of the products used in the production of consumer goods, whether final ingredients or process aides, are specialty chemicals that require significant R&D and specialized production systems, they are still chemicals that in most cases can be substituted by a competitor's product and as established above, the products that were previously specialized and patent-protected are now at significant risk of becoming commoditized. While this categorization may not decrease the strategic value of the ingredient type per se, it does reduce the strategic importance of each individual supplier and thus, reduces privileged access to the client-organization, insight into their development agendas and opportunities for price premiums. Thus, ingredient suppliers want to avoid this categorization, and they have tried many diverse strategies, including priced-in technical advice to accompany products (Strategy&, 2010), and even ingredient branding. Technical advice was a shortsighted differentiator that is now offered by most (ibid.), and ingredient branding is rarely seen to work, even if Kevlar®, Gore-Tex® and Intel® are touted as successes from other industries. Instead, ingredient suppliers should take a look at the key challenges admitted by marketing and procurement executives alike, and consider how they can become partners that help their customer stand out in their key challenge: innovation, and much more of it (PWC, 2013; CMO Survey, 2016; Unilever, 2017). Any supplier that can aid this

objective is bound to get preferential treatment and maintain his/her strategic value.

To do so, suppliers must do more than just deliver new products that satisfy the briefs provided from their procurement and R&D contacts. They must show that they know the qualms of the end-consumer and can combine this with unique knowledge about their technology to solve their customers' problems before they have been given – that they can stretch the capabilities of their technology to new areas and establish an exciting, unique pipeline that competitors merely taking instructions from the customer would never be able to. As one client's customer stated in a private engagement: "don't just think of one of my issues. Think of them with more integration!" In other words, ingredient suppliers must establish themselves as technology advisors, not merely suppliers.

The companies that bring strategic value to their customers in this way move themselves into the top tiers of suppliers and, in doing so, increase their customers' switching costs. This opens up possibilities for a price premium, a lower risk of being substituted by competition and it opens the door for new application areas.

## **Creating New Value Pools**

The diversity of today's technical and specialized ingredients means that their potential for solving many more challenges is great, but if the companies that produce them continue to expect their down-stream customers to bring them broad and exhaustive data on the end-consumer, they will be waiting in vain. Consumer goods companies rarely know what the full potential of the technologies they procure is, and suppliers on the other hand, when presented with only a limited number of challenges to solve, cannot know the full extent of what problems to solve. Thus, to establish themselves as technology advisers and at create innovations that deliver new value and a differentiated pipeline, ingredient providers must widen their search for challenges to solve and opportunities to pursue, beyond those directly provided by their customers.

Instead of relying on those further up in the value chain to drive the innovation pipeline, ingredient suppliers must develop a view on the end-consumer from the vantage point of their own technology. To build a consumer-led technology pipeline, ingredient suppliers must not only understand *what* consumers do, but also *why* they do it and what specifically they are trying to achieve *when* doing so. When they establish this from the vantage point of their own technology, they are able to combine the end-consumer insights with what *their* technology can do to create value for consumers. This is a unique technical perspective that their customers will never be able to obtain. It moves the supplier from taking instructions to taking initiative, and it changes the relationship to their supplier in more than one way: By getting a full view of the solution space available, ingredient suppliers will be able to develop technologies where they themselves see fit, and develop them to a commercial and technological maturity that puts them in a stronger negotiation position vis a vis their customers. More than once we have seen a proprietary view of the market and the end-consumer earn suppliers a seat at the table when their customers' innovation agendas are being set, and brought in for advice and expertise that can inspire both the technical and commercial client organization. This makes the ingredient supplier stand out among the thousands of suppliers and potential suppliers vying for attention, and it makes it more likely that *their* product will be the ingredient selected to do the specified job. If managed well, changing the nature of the relationship in this way can create new streams of value for

FMCGs and their suppliers alike, solving the dual challenge of FMCG's innovation glut and ingredient suppliers' commoditization squeeze.

# CONDUCTING RESEARCH AND IMPLEMENTING ETHNOGRAPHY BASED INNOVATION STRATEGIES EARLY IN THE VALUE CHAIN

## Introduction to Four Project Engagements across the B2B Value Chain

In the past two years, the authors have conducted four client engagements employing ethnographic methodology to deliver innovation strategies for clients sitting early in the industrial B2B value chain. These projects all sought to use ethnographic methods starting from the client organization and then throughout the value chain in order to understand how clients could bring more value to those above them in the value chain. Each engagement involved research in a minimum of three geographic locations across Europe, the Americas, and Asia. These projects sought to answer:

- How can ingredient suppliers provide more value to detergent manufacturers?
- How can ingredient suppliers develop new offerings to elevate the baking category as a whole?
- How can industrial gas providers maintain and create value from farm to fork?
- How can (food) ingredient suppliers enable a new wave of nutrition?

In order to have a holistic view of the dynamics within the value chain, and discover areas to increase value along each step of the value chain, each project began with a framing phase to analyze the market structure and the critical players along the value chain. Research began by conducting an analysis on a) the client organization, b) the value chain, c) emerging technologies challenging the value chain, and d) end consumers.

In each project, like in prior work in industry, it was critical to dedicate significant time while framing the study on better understanding the client organization (Hou and Holme, 2015). This meant taking an ethnographic lens to the organizations themselves: understanding the organizational culture, attending new-employee training, visiting research labs and production facilities, conducting internal interviews across functions, and joining sales meetings and internal review sessions. This process was crucial to understanding of how each client viewed the market in which they played: what were their orthodoxies with respect to the market, what were their biggest challenges and uncertainties, and how did they understand their role in the value chain and the market dynamics in between them and the ultimate end-consumer (Madsbjerg and Rasmussen, 2014). Doing so prior to conducting all other research helped us ensure subsequent research covered themes relevant to the clients' core business problem, and would yield a clear perspective on the clients' existing orthodoxies and view of the market.

In order to conduct research on the value chain, we used our analysis from the clientcentric research to help frame which component parts of the value chain, and determine which companies within these component parts would be most relevant to the research. This analysis was conducted closely with the clients, seeking to focus the research in order to ensure depth, while not overlooking critical elements of the value chain. Overall, the factors considered included proximity of the relevant company to the client's business model, proximity of the relevant company to the end-consumer, proportion of added-value the company provides to the end product, and overall market share. Triangulating these factors provided a short-list of relevant companies throughout the value chain, which was then finalized (when relevant) by ensuring a split of companies who either primarily used our clients' ingredients or a competitors'. The research itself with these companies included semi-structured interviews across functions within the organizations, production and research site visits, and observations at the company site. In so doing, the engagements were able to provide a rich set of data on how each player within the value chain viewed the market as a whole, their set of assumptions on how the market was moving, how they viewed consumer needs, and finally their biggest challenges and uncertainties in how to provide value going forward.

Each project also considered how emerging technologies were challenging how both our clients and their value chains operated. This meant conducting research to include: interviews with leading scientists in universities and research centers challenging current technological norms, participating in industry conferences (e.g. the International Baking Industry Exposition), and interviewing and observing start-ups developing new technologies. These work streams were supplemented in two projects by scientists in our client organizations who conducted thorough patent reviews of relevant emerging technologies.

Finally, the research with end-consumers, for which the clients joined, proved an opportunity, often for the first time, to research how their ingredients were experienced by end-users in context. For example, this meant thinking not about the interplay of various raw ingredients to be used by bakeries, but rather to think about 'the role of bread in a meal', 'the experience of good bread', and how conceptions of meals and meal-times are changing. As scientists looking to improve the texture, shelf-life, or mouth-feel of bread, this type of investigation proved to both challenge existing assumptions while also putting existing frameworks into a broader context that was often obscured by those sitting higher in the value chain.

During fieldwork and the subsequent analysis and recommendations phases of our engagements, our clients continued to be heavily involved. This meant having members of a cross-functional team spend about 50% of their time with us, from joining fieldwork, to actively participating in analysis, to translating our findings and recommendations into technical briefs for the Marketing and R&D teams to work with going forward. This level of involvement proved instrumental in these projects, as in some instances the findings required a large shift in thinking from the client organization. Having thus been an active part of the process, enabled our clients to own and anchor this shift in thinking within the organization and its structure.

## Key Learnings for Ethnographic Practitioners Developing Innovation Strategies With Clients in the Early Stages of the Industrial B2B Value Chain

As each of these four client engagements began, our clients varied in their stance in how much market research or data they had – from very little to 'more than we could process'. Invariably, in each case, these data-sets proved to be most thin when it came to a) ethnographic research b) end-consumers generally and c) an overarching view on end-consumers' experience and behavior. Instead, the data shared primarily covered market dynamics, value pools, competitor analyses, and market share. Furthermore, clients were

rarely able to provide insights about those more than one or two steps in the value chain in either direction from them. As such, it became clear in each engagement that we would be introducing a new type of data and point of view to these client organizations. And given that the clients involved had a strong background in e.g. chemistry, biochemistry, food sciences, and chemical engineering, an initial requirement as ethnographers in praxis was to have a clear overview of how and when ethnographic methods provide insight, and how the social sciences can be used to supplement the natural sciences in a business context. Proactively ensuring this understanding allowed a smooth onboarding for the client team that would be heavily involved with the day-to-day engagement.

Conducting an ethnography-driven engagement as described, studying not only consumers but also the client organization and the value chain as such allowed a thorough mapping of the needs and challenges of both end consumers, and the value chain, across markets. A key result of such studies is to map the asymmetries and gaps between the client, other players in the value chain and consumers. Highlighting these gaps and asymmetries shows the client clearly and precisely what organizational and cultural orthodoxies are most important to challenge and change to successfully execute on the new strategy and innovation direction. This provides clear guidance for clients in how they should engage across the value chain – what solutions are required for whom.

Furthermore, these engagements showed it to be critical that the 'helicopter view' provided by ethnographic methodology should not be interpreted by clients as a way to 'outsmart' their customers. In these four engagements, given both the historical depth of understanding held higher up in the value chain, as well as fear within the value chain that those below/above them are jockeying for power (which was apparent through our research by competitors' attempts to expand within the value chain), efforts to show the true intentions of these engagements were critical both to set internal expectations, as well as to ensure a continued shared vision and partnership with customers. Rather than 'outsmarting,' the goal of the research was to a) enable our clients to speak at eye-level with their customers about the market, stimulating new conversations and sets of problems not addressed together before and b) provide our client new areas within this helicopter view where they could apply their technological expertise and expand their pipeline as well as the conversations and value provided to customers.

"Before developing [our own insights], we did not have a seat at the table – or at least not the right table. This [research] is the ticket to play in shaping the conversation... we too can talk at a higher level, and we have our own perspective." (Private Interview, Client Engagement).

Despite having a wide base of insights, a key learning for our clients was how to pace and control the insights both within and outside their organization. Often, as companies sitting early in the value chain, these clients will provide solutions to many competing brands. Deciding how much to share, and with whom, became a critical strategic conversation internally – ensuring that core insights were not "given away for free" to one customer, thereby limiting the conversations one could have with further customers, ending up in the same locked-in situation described above. As ethnographic practitioners, helping clients navigate these strategic choices, in light of the research done to understand the market dynamics and value chain as a whole, is a key point of value. A key learning over the course of the four engagements was that the more steering we could provide in finding an organizational home for the insights and their dissemination after the project, the more successful the engagement was considered.

Finally, as ethnographers, these engagements proved that while a "beginners mind" approach was critical to unearthing insights in the field, investing in a thorough training in the science and technologies our client (and their customers) produce was instrumental in being able to find the interlinkages between high-level conversations with senior executives in customer organizations and detailed conversations about challenges from scientists in the labs. In order to ensure this understanding requires involving clients in training sessions prior to the formal engagement, and ensuring all researchers hold a base scientific understanding of the industry prior to embarking on fieldwork.

# DISCUSSION: THE MANY CHALLENGES IN CHANGING THE VIEW-POINTS ACROSS THE VALUE CHAIN

# Developing a New Innovation Model: Best Practices in Moving from a Technology-Led to Market-Led Innovation Model

In the four engagements described, our projects commenced due in large part to a mid-tolong term issue: a relatively empty pipeline, a full pipeline that held no 'big bets' but rather an amalgamation of smaller projects, or a pipeline heavily skewed towards incremental innovation. This led to worries primarily in delivering sufficient growth for shareholders.

In aiding our clients to ameliorate these issues, a very fundamental, but critical structural reality played an important part in our ability to give good strategic advice: our clients were organizations whose heart was in the R&D labs, these were organizations whose folklore stemmed from their scientists and their breakthroughs. For example, heroes were the scientist who accidentally left a sample out overnight, realized that the underlying substrate had remained unchanged, and repurposed the ingredient into a different industry to inhibit the staling of food. Our clients were scientists who insisted that the best way to ensure quality in frozen food was to freeze goods immediately from the farm, to preserve their nutrition, food safety, and 'fresh' state. This view sharply contrasted with the many everyday consumers we met across the four projects – who viewed pre-frozen products as inherently less 'fresh' than purchasing fresh produce which they would later freeze themselves. The key for them was they could not ascertain and scrutinize the original quality of pre-frozen goods (assuming it as average), while they could for those products bought fresh in the produce aisle. Both had a clear logic, and yet divergent mental models for approaching freshness, air quality, or food quality. With our clients in particular, science and technology sat at the heart of their perspective on quality, but also at the heart of their perspective on developing new offerings.

To complicate matters, our clients' customers were organizations whose marketing departments stood at the core, developing strong brands that consumers have woven into the fabric of their everyday lives. If our clients sought to provide clear value to their customers, they did not just need to translate insights into technical solutions – they had to translate these technical solutions back into benefits that the marketing departments of their customers could intuitively understand and recognize the value of. And in order to deliver benefits that were either meaningful or intuitively differentiable (or both), it required having a proprietary perspective on what drove meaning for end-consumers and what were

meaningful sub-segments of differentiation. Prior to these projects, our clients, scientists at heart, did not often feel comfortable taking on such views or having such conversations with their customers. As such, a key success point for these projects – and for any ethnographer working with early stages of the value chain – is to equip clients with a data-driven perspective on what drives meaning and value for end-consumers, and how this can be engendered through technology. However, given that our clients are research-based organizations, this translation process was new to them in all four engagements. As such, it was an area where strategic guidance was highly valued, namely tools for and assistance in translating features to benefits and finally to claims that could be empirically tested – as well as support in building qualitatively-driven, data-rich, insights argumentations.

What this has meant, at the surface level, has been taking on a shift in language, from technological features to consumer benefits. But more fundamentally, these engagements challenged the very way in which our clients approached innovation. Previously, scientists had a set of technological problems to solve, as well as the purview to innovate within a clearly defined technological field – for example, 'help degrade stains caused by braised pork'. Any improvements found here would then be taken to customers to "test" and to see if they held any commercial value. This system had proven valuable to our clients in past and they had, over the course of decades, built innovation processes and stage gate systems to enter new products into their pipeline using this logic.

However, by introducing a strategic perspective on the role our clients should play in detergents, baking, produce, or food generally, the starting point has shifted from the technology (and a correlating potential value pool) to a need in the market (and then an enabling technology). That is, a move from being technologically-led to market-led.

This too can lead to a break with the observed orthodoxy that it is not "our place" to understand consumers, that this is the domain of FMCGs. Instead, a market-led perspective provided our clients with an ability to partake in discussions of consumer insights and benefits at eye-level. A key indicator for the success of our work as ethnographers and strategy consultants therefore, should be the number of meetings and workshops initiated by our clients' customers to discuss insights and benefits (not technologies), and a shift in the conversation from being bilateral meetings with research divisions and procurement, to also including equivalent attendance from marketing and commercial departments.

As ethnographers, it is imperative to recognize the larger effect that such work in the early value chain can have on our client organizations with regards to their innovation model. This is particularly important when working with a single division within an organization as their innovation processes will likely run across divisions. This means that our direct clients may not have the ability to challenge these existing processes, despite the constraints they pose on a way of working that helps move clients from a pressured position to a strategic partnership. Thus, in order to anchor findings in the client organization and translating findings to implications for existing projects. Furthermore, offering clear advice on the implications for the organizational structure, particularly in the first 3-6 months following the engagement, helped ground the insights and their implications in existing decision-making processes.

# CONCLUSION: HOW A SHIFT IN PERSPECTIVE CAN LEAD TO RICHER INNOVATION PIPELINES

Following a study of the industrial B2B market as a whole, there is a distinct need within the market to find ways to ensure more meaningful innovation and product launches. However, when working closely with early ingredient suppliers across four engagements, it is clear that the current set-up alone is not enough to enable those who hold onto some of the most advanced technology in the value chain to provide the impetus for true innovation.

Ingredient suppliers should shift their view-point and perspective beyond the next step in the value chain and the clear briefs delineated by customers, to take a closer, selfdirected look at the end-consumers that use the products their products are part of to develop ethnography based innovation strategies. Doing so, ingredient suppliers can transform their product pipelines and begin to change the one-way dynamics that characterize their current relation to customers. When ingredient suppliers can actually play a contributing role in defining *what the key problems to solve* in the marketplace are, and how their technology can deliver on this more broadly, they become more than a commodity supplier. They become true partners, technology advisors, that can drive conversations with customers on where to focus, what to develop, and in so doing, make customers see how their technology can be key to develop more meaningful and innovative products for endconsumers.

Ethnographers responsible for providing specialty ingredient suppliers with this perspective on innovation strategy must be sure to frame their research by first clearly understanding the client organization and their technology as well as the specifics of the value chain in which they operate. Beyond research, ethnographers and consultants must include the client both during analysis of data, during translation of insights into technical briefs, and ideally, should also support in the translation back to benefits that the clients' customers find relevant. To ensure successful implementation of the new strategy, ethnographers that lead these engagements should clearly delineate the most important asymmetries between the client's internal orthodoxies, the rest of the market and the end-consumer to show exactly where change in perspective is needed the most. In short, to successfully provide ingredient suppliers with a holistic view of the relevant challenges to solve with their technology and how to strategically use them to become a strategic advisor to *their* customers, ethnographers must ensure a holistic understanding of the client's organization and field before embarking on and concluding research and recommendations.

**Martin N. Millard** has worked for the world's leading enzyme business before joining ReD Associates as a Consultant. He has experience with strategic sales and developing innovation pipelines and platforms in B2B settings, as well as with working with ethnographers from the 'client-side'. *mmi@redassociates.com* 

**Yosha S. Gargeya** is a Senior Manager at ReD Associates, specialized in using ethnographic methods to drive pipeline strategy and front-end innovation within industrials and health-care companies. *yga@redassociates.com* 

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