



Connecting ethnography to the business of innovation

Marc H. Meyer^{a,*}, Frederick G. Crane^a, Chaewon Lee^b

^a D'Amore-McKim School of Business, Northeastern University, Boston, MA 02115-5000, U.S.A.

^b Seoul National University of Science & Technology, 232 Gongneung-ro, Nowon-gu, Seoul 01811, Korea

KEYWORDS

Innovation;
Ethnography;
New product development;
Innovation teams;
Customer insight

Abstract This article presents methods to help companies build processes that emphasize consumer ethnography, customer ethnography, and commercialization planning as components for innovation within mature, well-established consumer or industrial markets. It is written for multifunctional innovation teams and senior management toward increasing the success rates of new product innovations.

© 2016 Kelley School of Business, Indiana University. Published by Elsevier Inc. All rights reserved.

1. Duncan Hines: Quest for a competitive advantage

Several years ago, an innovation team from Duncan Hines—a division of Pinnacle Foods—set off from company headquarters in Piscataway, New Jersey, headed for an offsite location. The team's purpose was to innovate a new baking product for the mainstream market. The destination city had been selected because it was a leading indexing city of value-focused shoppers—a place deemed highly advantageous for the consumer research Duncan Hines was committed to performing as part of its innovation process.

The innovation team was stuck in a difficult market situation: Duncan Hines's baking products

were hard to distinguish from those of its main competitors, Pillsbury and Betty Crocker. Duncan Hines was close to a billion-dollar brand, but the market itself was slow growing and the Big Three faced American consumers who increasingly wished to eat healthier foods. At the time, consumers who shopped the baking aisle were surrounded by similarly-sized boxes of cake mix in comparable packaging colors. Duncan Hines claimed its red velvet the moistest and best-tasting of cakes; Pillsbury sought leadership in the frosting and decorations segment with its Funfetti; and Betty Crocker claimed superiority in the brownie, cookie, and cupcake segments. Nipping at all their heels was Ghirardelli, with a reputation for excellent-tasting chocolate in its cake mixes and frosting. For the most part, customer item choice was discount-based and brand loyalty was not heavily practiced. All in all, the baking aisle was a sea of noise, with little differentiation among the leading brands.

* Corresponding author

E-mail address: ma.meyer@neu.edu (M.H. Meyer)

The Duncan Hines innovation team needed to break through this clutter to create new products that would drive revenue in the crowded, price-competitive market. How could it generate the running room needed for innovation? This question was no different than that faced by many innovation teams working in mature markets.

Innovation teams in consumer packaged goods (CPG) aspire to achieve at least \$50 million in annual revenue from a new product, or even perhaps attain blockbuster status with over \$100 million. Yet, a study (Watson, 2014) found that 85% of all new products fail to stay on shelves two short years—a huge failure rate for any industry.

As experienced food developers and brand managers, the Duncan Hines innovation team knew it had a tough task at hand. It had to think of new ways to work in order to create differentiated concepts. Its use of traditional market research methods—via which dozens of potential concepts are brainstormed in the office and thrown into large sample screening tests, then refined through further large-scale tests to validate revenue potential—had yielded only incremental product line improvements and no major wins.

Like most other innovation teams in the consumer products space, members of the Duncan Hines team had experimented with ethnography to acquire deeper insights into consumer needs and frustrations. It knew that immersions with consumers would not be sufficient; collectively, the team had created a number of promising new food concepts that had failed to gain acceptance from large retailers—the actual customers for these types of products. In the pages that follow, we describe how

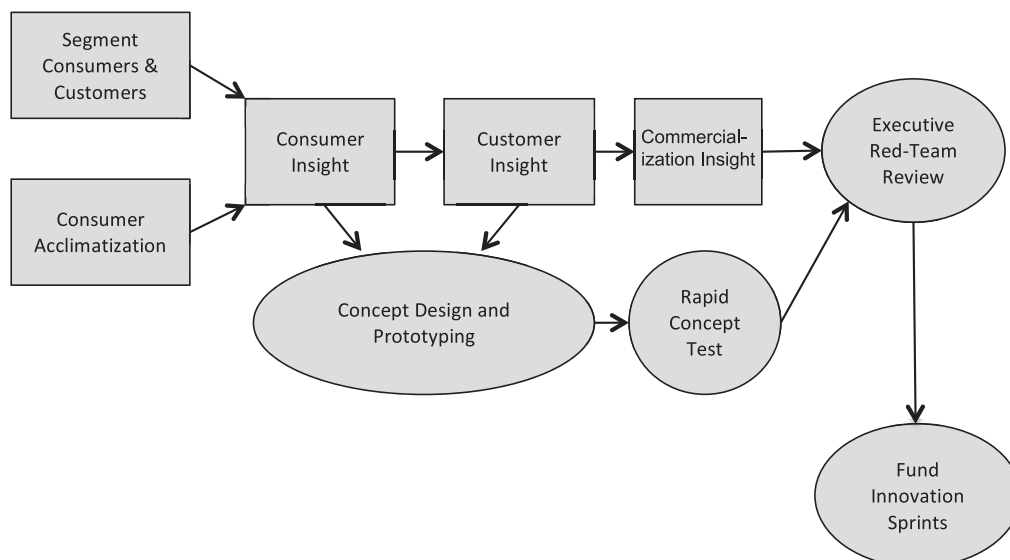
the Duncan Hines team innovated to create new, differentiated offerings within the sea of noise.

2. The 3 Cs of innovation: Consumer, customer, and commercialization

Figure 1 reveals the ten-step, 3C innovation process. The basic overview of this process is:

1. *Consumer and customer segmentation*: Develop a consumer (end user) and customer (channel buyer) segmentation strategy, with a careful eye toward segmenting markets to identify current or new customer groups that are not well served by current products or services.
2. *Consumer acclimatization*: Have participating members in an innovation immerse themselves in a day-in-the-life of different potential target consumers/users. Innovation team members must have true empathy for target consumers—who are not necessarily like them—before embarking on any ethnography.
3. *Consumer/User insight*: This is one-on-one immersion by innovation team members with a handful of highly representative consumers, digging deeply into preferences, needs, and frustrations with current products and services. The ‘who’ for the consumers is driven by the segmentation strategy; the ‘number’ ranges between 10 and 30 individuals—which, for the type of immersions needed here, takes real effort and dedication to the task; and the

Figure 1. The 3C innovation process



- ‘where,’ in the place of purchase and the place of use.
4. *Customer/Buyer insight*: These are in-store or dealer/distributor ‘hunts’ with current and new potential channel partners. This is a hunt for key selling propositions within the competitive set. A channel partner must be convinced to adopt and prioritize new innovations in specific categories; it is naïve to assume that this will happen automatically.
 5. *New concept development*: This is focused new concept creation, driving to solve both consumer and customer needs and frustrations revealed in the ethnographies. Design visions to guide concept development can be helpful here (examples in the pages to follow).
 6. *Rapid concept testing with target consumers*: In the past, innovation teams would screen dozens of concepts through large, batch market research mechanisms, or spend several months fielding a series of focus groups to screen ideas. Now, more rapid and purposeful approaches exist, and these can be used to quickly refine new concepts.
 7. *Concept prototyping*: Prototyping is the rapid, iterative process whereby an innovation team quickly puts together proof of concepts to show other team members, consumers, and senior management. Many tools now exist for rapid prototyping across so many industries and product or service categories that no serious innovation process should be performed without early, frequent prototyping.
 8. *Commercialization insight*: This is the insight into winning business models needed for effective business planning to commercialize innovations. Teams must frame a new concept as a good business proposition, as a product line or set of services that generate new revenue and healthy margins. Sadly, otherwise excellent innovation concepts are often shortchanged in this area.
 9. *‘Red-team’ concepts with senior management*: Since innovative product and service development tends to require significant resources for technical and market development, review and approval by senior management is unavoidable. Better that it comes sooner than later, because a positive review can direct resources and substantially shorten development and launch cycles.
 10. *Define the first development sprint*: If approved, the innovation concept enters the development pipeline in short, 45–60 day ‘sprints’ focused on accomplishing specific tasks. The first sprints tend to focus on further ethnographies of target and adjacent consumer segments and developing more functional prototypes with consumer panels. A second sprint often refines the business model and commercialization plan. After these milestones are accomplished, concepts tend to enter a company’s existing stage-gate process for fuller development of supply, distribution, and marketing activities.
- While there are many activities within these basic steps of the process, it is the integration of three key types of insight—consumer, customer, and commercialization—that creates the holistic milieu for effective innovation. While large companies—CPGs included—all have a specific, tightly managed stage-gate process for new product development, the process itself does not create or necessarily foster innovation. The 3C approach will fill the pipeline with interesting, high-potential concepts that can then be worked further by the organization into commercial successes.
- The process depicted in [Figure 1](#) can be implemented in different manners and in different time cycles. We have observed it to be most effective as an intensive off-site immersion with multidisciplinary innovation teams squared off against a company’s major growth initiatives, working in locations rich with the target consumers of that growth strategy, and also with channel partners in close proximity to facilitate the acquisition of new customer insights described above. The week away allows an innovation team to connect with consumers and customers in a way that is hard to do amongst all the usual chores of the main office. Next, we look at best practices for each part of the process.
- ### 2.1. Consumer and customer segmentation
- This is an area in which mature companies tend to be the least innovative, with innovative thinking constrained from the very beginning. [Abell’s \(1980\)](#) classic framework of distinguishing between customers and customer functions, and developing new solutions on new technology platforms, continues to remain a solid approach for segmenting the market for growth. However, within this, innovators must make the important distinction between users and buyers. Too often the buyers are only inferred,

whereas their needs should be an explicit part of the design process. For a CPG company such as Duncan Hines, the real buyers or customers are the large retailers while the consumers (users) are those who bake for their families and friends.

The distinction between consumer (user) and customer (resellers, etc.) is often fundamentally important. Consider, for example, Mars, Inc., which owns or private labels the leading brands in most of the tiers of price performance in the pet food industry; these include Walmart's Ol' Roy, Pedigree, Iams, Nutro, and specialty brands such as Royal Canin. For Mars' innovation teams, the matrix is highly complex: the users are different breeds and ages of dogs or cats; the actual consumers are women and men of different decennial age groups and demographic means; and the actual customers are major retailers such as Walmart, grocery chains, and specialty stores such as PetSmart and Petco. Mars innovates for specific targets within this matrix with an eye to what is best for the pet at given price tolerances, markets to the specific type of consumer, and sells actual product to the retailer. For example, it creates dog food that is formulated for different breeds (Royal Canin), other food for premium shoppers seeking holistic product (Natural Balance), and specific brands tuned to different retail channels (e.g., grocery, club, or specialty stores).

Most consumer product innovation teams fail to dig deeply into what it takes to get a retailer to actually displace current shelf offerings in favor of new products. The innovator must have a clear, compelling story on both buyer benefits and user benefits. This also applies to industrial and medical equipment product innovators, who need to convince their dealer networks or other channel partners to carry a new product, and then teach them how most effectively to sell it.

Leaving the world of CPGs, other industries benefit from this consumer-versus-customer segmentation and insight, too. For example, IBM has innovated specific solutions for (1) different industries, (2) different functions within companies in those industries, and (3) value propositions for different types of decision makers in those companies. It can offer a risk management solution for the chief risk officer in a large bank, a marketing and promotion solution for the chief marketing officer, and a cloud security offering for the CIO.

For consumer products companies, decennial age groups, gender, and cultural affiliations work well. For industrial products, companies tend to use industrial vertical segments, company size, and country location as segmentation axes. Interestingly, the financial services companies with whom we have

recently interacted are rethinking their market segmentation strategies with a consumer products orientation. The age, gender, income, and lifestyle elements come into play as consumer personas for Merrill Lynch are not all that different from those for Procter and Gamble.

The key is consumer segmentation to drive deep on different users' core needs, and to think about how best to align new product and service offerings to satisfy core needs. While demographics help differentiate these segments, they alone are not sufficient. Increasingly, innovation teams are turning to behavioral segmentation. Behavioral segmentation (a needs-based approach to segmentation) uncovers the 'why' behind consumer and customer buying behavior, and groups them based on common underlying needs and motivations. For example, in the detergent market, one consumer group prioritizes cleaner, brighter clothes; another group wants clean clothes, but at the lowest price; yet another group desires a cold-water detergent product to save money on hot water during the wash cycle and extend the life of their clothing; and a fourth group values an all-natural, ecofriendly product that will have less impact on the planet. Tide, a private store label, Cheer, and Seventh Generation are products that respectively align to each one of these behavioral segments, all of which have overlapping demographics. This carries forward into customer segmentation. For example, a manufacturer wanting to do business with Trader Joe's would have to understand that the company's need is to expand its private label offerings to its consumers.

Other factors include geographic location, lifestyle dimensions (e.g., sports-active or not), and cultural or behavioral predispositions (e.g., traditional mindset/risk averse vs. contemporary mindset/risk comfortable).

What if the company's business model is direct-to-consumer? Does the consumer/customer segmentation really matter? For example, if a company is developing mobile apps for sale directly to consumers, it might have less reason to perform dedicated customer ethnography. One must still be careful, however, about leaving customer insight out of the equation because often, instead of actual final consumers, these customers are now partners and complementary innovators who can affect the consumer's buying decision and ultimate satisfaction with an innovation.

Finding new users or new uses among current users is also part of consumer segmentation—and it need not necessarily be a long, drawn-out, expensive exercise. We have observed a number of innovation teams across different industries perform a high-level consumer segmentation in a

few intensive meetings, gather market size and competitive information in a few weeks, and ‘red-team’ the framework as a competitive innovation framework with senior management, all within a single month. Each year, the consumer segmentation can be revisited. The segmentation sets up the program for consumer acclimatization and ethnographies to follow.

2.2. Acclimatization to the world of the target consumer

The goal of this pre-work before consumer ethnography is to have team members develop empathy with target users. Here, members of the innovation team personally seek to live a day-in-the-life of the target user.

Empathy can be developed in a number of ways. Team members can attend events where target users tend to congregate, such as an electronics show, a conference for IT professionals, a food festival, an agricultural equipment fair, or even a particular type of retail store. But a more powerful technique is to provide team members with a budget to purchase the types of products or services on the innovation roadmap. For example, if a company’s growth strategy is to target value-focused consumers, the team can structure activities whereby individuals must live on a defined budget to purchase certain products for themselves and their families. Team members will learn the types of trade-offs made by their target consumers in a way that is visceral, preparing them for the ethnography to come. Having team members keep journals will help record self-observations and experiences.

This is harder to do for mechanical and other forms of industrial equipment, unless the innovator also happens to be a hobbyist or user of the company’s products. Acclimatization can come by participating in a few sales calls to target consumers and/or buyers. But self-experience is always preferable. Consider, for example, an innovation team working on the ‘kitchen of the future’ for a large consumer electronics manufacturer. For three days, the men on the team undertook the task of buying and preparing meals for their families. After the experience, the men realized they personally wanted a refrigerator that might register foods placed in the appliance, monitor the food for freshness, suggest recipe combinations, and—through other sensors—assist in ordering food via a connected mobile app. Through subsequent ethnographies and concept testing, this vision became part of the manufacturer’s innovation roadmap.

2.3. Consumer ethnography: Learning from users

After acclimatization comes the consumer ethnography itself. The context for ethnography is that traditional market research techniques typically fail to produce substantial or disruptive innovations. One- or two-page consumer surveys can provide a very limited amount of information, and often lead to incremental innovation only. If an innovation team wants more, it must get out from behind the desk and dig more deeply in a direct manner with target consumers.

This face-to-face observation and engagement is generally referred to as ethnography (Fine, 1993; Hammersley & Atkinson, 2007), but also has been called empathic design (Leonard & Rayport, 1997). Ethnography has been placed into the broader context of user-centered design, which encompasses ethnography as well as concept design, testing, and refinement with users (Meyer, 2007). Over the past five years, user-centered design has increasingly been thought of as experience-based design, whereby user needs and frustrations are cast within the context of experiences. Improving the total user experience becomes the mission of innovation, be it incremental or bolder in scope (Bate & Robert, 2006; Shedroff, 2001). Apple exemplifies this set of best practices. As compared to other mobile operating systems, Apple’s iOS is easier to navigate and use for mobile applications; its iTunes store represents a revolution in purchasing media online; and the Genius Bar turns the worst part of a consumer’s experience with PCs—getting something explained and fixed—into an appointment-based, informative, and vastly more pleasing experience as compared to competitors’ offerings.

During the ethnography, impressions are made, notes are taken, and—sometimes—actual videos are recorded to capture verbal and nonverbal expressions of problems and frustrations. A diverse body of methods literature exists on conducting user research in this manner (e.g., Meyer, 2007; Meyer & Crane, 2013). The journal *Design Studies* offers a rich source of methods. Colleagues at Delft University of Technology have recently published a comprehensive compendium of methods for user-centered design (Boeijen, Daalhuizen, Zijlstra, & Schoor, 2013). There are three sets of best practices in consumer ethnography. This is not a high art for specialists, but rather, a set of innovation skills that everyone can learn and apply. The three techniques are (1) consumer panel selection, (2) development of use case scenarios, and (3) observation and depth interviews.

2.3.1. Consumer panel selection

Consider the following scenario: A food company has historically focused on serving the primary household grocery shopper (now Gen X or Gen Y). Competition is intense in the company's industry. To innovate, a decision is made to search the needs of both younger (Millennial) and older (Baby Boomer/Empty Nester) consumers. If the same traditional sample is gathered for ethnography, the same old results will occur. As such, the food company innovation team needs to create immersion opportunities with these adjacent consumer groups. Moreover, it must think about different day segments/occasions: breakfast and lunch, as well as dinner; weekends, as well as weekdays; on-the-go versus at home. New customer needs and frustrations will invariably be revealed. Fortunately, a number of regionalized market research firms can be retained to recruit a dozen or more target consumers, screened with demographic filters provided by the team itself. If an innovation team wishes to venture forth, say to California to learn about organic foods, it can retain a firm to assemble its consumer panel.

2.3.2. Develop full use case scenarios prior to interviewing

A use case scenario captures the full spectrum of the target user's activity, allowing the innovator to create solutions to improve the total experience. Use case scenario development documents the user's needs and frustrations during each step of that process, as well as competitive or homegrown solutions. The operative words here are 'before,' 'during,' and 'after.' Referring again to the food company example presented in the last section, the 'before' is shopping and preparation, and the 'after' perhaps dessert and cleanup. The definition of the use case establishes the scope of the ethnography. First, go shopping with the target consumers and see how they choose one brand over another in a store. Then, return with them to their kitchens and observe the preparation, consumption, and disposal of their purchases. Each activity will be an opportunity to improve the total experience. If the application is medical equipment or software, the full use case includes installation, training, actual use, and integration with other systems in the healthcare setting. Ease of installation and integration is an important design driver for many different types of enterprise systems.

2.3.3. Observation and depth interviews

Observation entails watching users for verbal/nonverbal signs or cues of pleasure/displeasure. Typically, an innovation team focuses on a particular

activity in the user's work or leisure setting. Careful observation will pinpoint important behaviors; expressions of belief and attitudes; and preferences for selecting a product/service in a store or online, and then in its use/application. These behaviors, attitudes, and preferences produce the first pass at a set of defined needs—the focus of the innovation project.

Next comes the interview process. This must occur in the target user's place of use, and also in their place of purchase. Understanding buying environments and practices is just as important as actual usage behaviors, and is often overlooked by innovation teams. Remotely administering surveys and telephone calls, or sitting behind a one-way glass mirror window will not suffice; user interviews must be face-to-face. Members of the innovation team must partner with target consumers for intensive, multiple hour-long encounters, deploying the techniques described above.

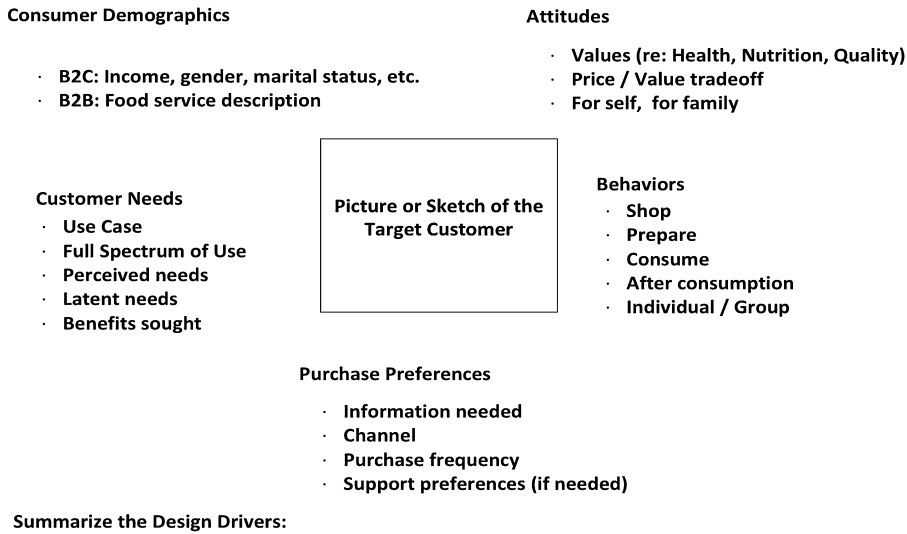
Traditional questions can fall short during these interviews. The conventional approach is to ask: "What do you need?" and "What are your problems with the products or services you currently use?" Often, users know exactly what they need or expect in a new, replacement product. These have traditionally been thought of as perceived needs. However, users sometimes exhibit a powerful frustration they cannot articulate clearly; it is expressed more in a sigh or physical gesture. These represent latent needs. Discovering a user's latent needs can serve as a powerful design driver for innovating new products and services.

Relative to traditional surveys, specific interviewing techniques in ethnography tend to be only partially structured. These take the form of discussion guides in which the innovator is constantly searching for the 'why' beyond specific answers, driving toward a deeper understanding of underlying user motives. This probing technique is called laddering, a well-established method that is still all too rarely used by product innovators, yet easily learned with a bit of practice. All of this is done with careful delineation of the aforementioned use cases involving the product or service at hand, with the 'before,' 'during,' and 'after' of the use case. The interviewing is more of a conversation with the consumer during the course of shopping, purchase, and use/consumption. All the while, the interviewer is probing for clear problems and frustrations to solve—those latent needs that drive innovations (Meyer & Crane, 2016).

2.3.4. The three techniques in practice

Using these methods, innovation teams can develop characterizations (i.e., personas) of each target

Figure 2. A template for consumer personas*



*Source: Meyer and Crane (2016)

customer group. The characterizations may be listed on a single page for best communication, using the template shown in Figure 2. From this, the types of needs associated with each step of the use case can be more specifically delineated (see Figure 3).

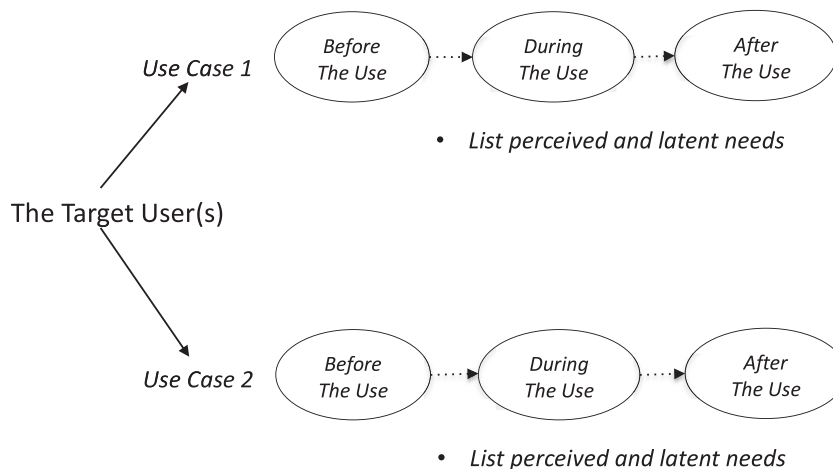
2.4. Customer ethnography: Learning from buyers

We come to the next, often forgotten type of insight: that of the buyer for or direct customer of the firm, and resellers. While they are most often ignored during the innovation process, it is these entities (e.g., retailer, vendor, dealer, broker, reseller, integrator) that frequently determine the success or failure of a new product/service.

The purpose here is to have teams visit potential customers/channel partners in order to better understand the business value of and selling proposition for that channel. In the case of consumer products, this means different types of retailers. Simply listing the customer types can be important for an innovation. For example, food companies might launch a new product for grocery stores and then wait a few years to tailor the product for club or convenience stores. Performing all three executions in parallel is not only more efficient but also drives revenue more rapidly; this is the essence of developing a new product line rather than just a product.

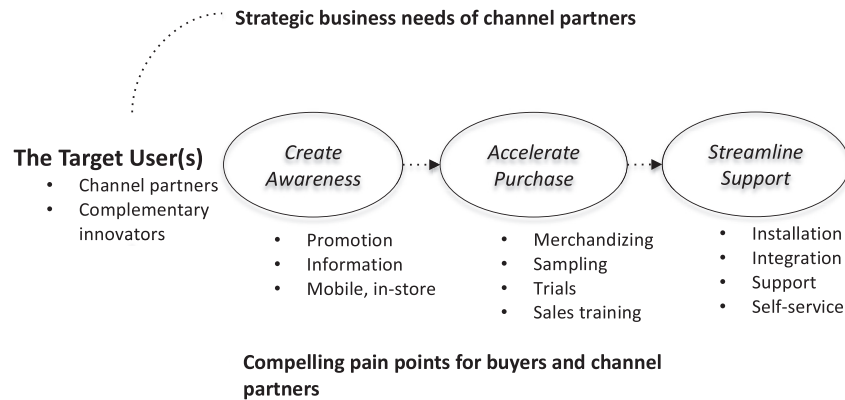
Learning from buyers can be accomplished in ways that mirror those used in consumer ethnography (Baird, Moore, & Jagodzinski, 2000; Crane &

Figure 3. Documenting the perceived and latent needs of users for important use cases*



*Source: Meyer and Crane (2016)

Figure 4. Documenting customer insight



Meyer, 2011). These include going to the buyer's place of business, immersing oneself in their daily activities, and going with them on consumer sales/service calls. Their perceptions of why consumers buy, or don't buy, are essential for success. For example, in the world of retail, a store can help determine the requirements for merchandizing, or specific shipping/container options to enable shelf-ready packaging. The greatest challenge facing any innovator lies in convincing a retailer to replace an existing product with a new one. Clear arguments must be made for increasing revenue in a specific aisle. Customer ethnographies can show an innovation team how best to frame the value proposition.

The customer ethnography approach also applies to business-to-business (B2B) selling. One of the world's largest industrial equipment manufacturers recently launched a bold new line of telematics technology and services. As a market leader, the company's engineers were focused primarily on making more powerful equipment. IT-enabled services were a new domain. The innovation team first performed consumer/user ethnography with equipment operators and fleet owners, and then with the manufacturer's dealers. Its initial focus was on the needs of the equipment itself (e.g., engine oil, hydraulics, tire pressure) and from this, the team innovated a new suite of services for machine 'health.' It then proceeded to human users and created the ability to measure operator productivity, the first of its kind in its industry.

After this end-user ethnography, the innovation team turned its focus to customers of the company's products and services—a global network of independent dealers selling the firm's equipment. This customer ethnography proved equally important. Time was spent in showrooms observing sellers' interactions with construction firms, mining operators, and other heavy equipment users. The team also went on sales and service calls. The driving issues were

not only how telematics would benefit end users in terms of machine health and operator productivity, but also how these services might make dealers more money. In response, the innovation team was able to create components for machine-health sensing, remote diagnostics, and even some remote servicing. It designed good, better, and best service packages, and chose a business model that shared new revenue with the dealers. Dealer training programs were also designed from this work. Altogether, the customer ethnography was an eye-opening experience for the team, and empowered it to innovate for the dealers.

Figure 4 provides a framework to guide customer ethnography. Within this framework, there are four sets of questions to be considered by the innovation team, each of which can lend insight into product and service design.

- **Strategic business needs:** Determining the most important issues facing the customer's business (e.g., revenue growth, operating margin, capital optimization) and its current top priorities provides insight into the alignment of any given innovation with a channel partner or buyer's own priorities. For example, a CPG-related reseller may be concerned with healthier food offerings in a given year, and meal solutions the next.
- **Building consumer awareness:** Asking probing questions can provide vital information. For example: How does the customer create awareness for new products or services? Does the producer need to set aside co-advertising money with its major customers? Does digital couponing have to be considered as part of the promotion campaign? Are new products showcased in some special manner (e.g., end-cap display/retail, featured banner/e-tail)? These insights have direct implications for a team's commercialization plan.

- Accelerating consumer purchase:** Merchandizing strategy is critically important for new CPG offerings. First, there are decisions to be made regarding retail placement. For example, eye-level placement on retail store shelves is known to be far superior to knee-level placement in terms of sales acceleration. Different areas of the store are important for showcasing new products; the innovation team must understand this and procure such spaces for its goods. Further, in-store sampling can also be critical, and it is not free. Consider equipment manufacturers, which must possess demonstration equipment to loan; this inventory is sometimes left with organizations for a specific use period at no cost. Purchase may or may not occur thereafter. There is also the matter of customer or dealer training to make them knowledgeable about a new product/service. Innovation teams often leave this component to the last, even though in many cases a new product or service is only as good as the person selling it. Each of these dimensions can be explored and strategized via deep-dives with representative customers.
- Streamlining consumer support:** Finally, the innovation team must recognize ways to make its new products/services easier to install, integrate, and support among end users or consumers. This is particularly true regarding systems and software. Many technological innovations—regardless of the new functionalities they represent—are useless until data streams are implemented into and from these new systems.

Customer adoption of a consumer-focused innovation cannot be taken for granted. The team needs to ask its customers: “If there was one thing that we could provide to delight you as a channel partner, as well as your own consumers, what would it be?” The team must determine the terms and conditions

required by channel partners to accelerate rapid adoption.

2.5. Concept development, rapid testing, and prototype development

The next three steps in the overall process—concept development, rapid testing, and prototype development—synthesize the consumer and customer ethnographies into innovative concept designs. These concept designs give life to the combined ethnographies and make them tangible. Making the concepts ‘real’ can take many forms, depending on the industry and the amount of investment the firm wishes to make at this stage of the innovation process. Here, teams focus on developing *concept statements*, draft sketches of new product/service designs. If possible, prototypes are developed overnight or over the course of a few days.

Developing concept statements is a tried and true practice of product/service innovation. Table 1 provides a simple template. Concept statements developed in this way help innovation teams focus on consumer and customer value, as well as a differentiated competitive positioning. Table 1 deconstructs the components of a consumer/customer value proposition, including competitive positioning.

Online technology services can now facilitate the acquisition of rapid consumer feedback for team use. Here, a market research firm creates a virtual community that mirrors the team’s target consumer profile. Members of this community act as online respondents regarding product concept, and then engage in chats with the team about the pros and cons of the idea. This type of feedback enables the innovation team to see which ideas are likeliest to gain traction. Of course, this type of online concept testing requires some planning.

Table 1. A template for developing new concept statements

ABC (<i>give it a name</i>) is a family of (products/services/solutions)
That (<i>solves what problem</i>)
For (<i>which target customers</i>) in (<i>which use cases</i>)
To be purchased by (<i>which target buyers</i>)
The specific benefits we expect to provide for consumers are (<i>name the major benefits in terms of features, performance, quality, price/purchase model</i>)
The specific benefits we expect to provide for customers/buyers—if different than consumers/users—are: (<i>which may focus on ways to improve their own business if B2B</i>)
ABC is really different than current (<i>competitors/products</i>) because of (<i>why customers will buy it</i>)
Now, put these elements together into a formal concept statement for testing.

*Source: Meyer and Crane (2013)

During this phase of the process, a team can begin to bring concepts to life. This usually is accomplished via sketches drawn by hand or computer. Some firms retain professional animators for just this purpose. In several hours, the artist produces a series of sketches that reflect major use cases and product/service designs. These sketches make abstract concepts tangible, and some may even be scanned to use as part of online concept testing.

Teams participating in an innovation boot camp will be anxious to begin prototyping the concepts that emerge from the ethnographies. This work often occurs at night in a fun, almost party-like atmosphere, and can take place almost anywhere. The work might proceed in a hotel's commercial kitchen, in the 3D printing studios of a local university (with students hired to help draft the software models), or in an R&D center's dedicated prototyping lab. Packaging designs can be prototyped by purchasing innovative packaging in retail stores and repurposing it for new products. Most important, all individuals on an innovation team should participate. We have worked sessions in which a finance person rolled up his/her sleeves to start cooking a new food product, and a technical person thought through how a prototype might sit on a retail shelf. Within the prototyping process, functional roles give way to team inclusion. Criticisms are playful because the context is one of experimentation, not confrontation.

Overnight prototyping necessitates the bringing of tools/materials by the team to the chosen off-site location. Immediacy is key. If the team waits a week to develop its first prototypes, important inspirations from consumers and customers will be lost. The innovation team can begin showing these prototypes

to select field research participants—all the while learning, pivoting, and improving. The logistics for intensive innovation sessions obviously require careful planning to achieve maximum effect.

2.6. Commercialization planning

With a structured concept statement and initial prototype in place, the team can then proceed to define the product line and services. These are part of a larger commercialization plan for the innovation.

Fundamental business models for new concepts are an important consideration. This entails examining the type of revenue expected, as well as those assets—within and external to the business—needed to produce that revenue. Defined in many ways by various sources, the term *business model* is used here in a simple form: the streams of revenue emerging from an innovation and the resources needed to produce that revenue. While innovation teams often assume that a company's current business model must be applied to new innovations, this can be limiting. For example, many product manufacturers have aggressively stepped into services innovation—a fundamentally different business model. Similarly, software companies have increasingly migrated to cloud-based solutions, an entirely different revenue model relative to server-based software. The steps needed to implement a given business model become the essence of a commercialization plan.

A very simple but powerful template for developing a commercialization plan is provided in [Table 2](#). On the left are the results needed for executive presentation: a pro-forma P&L; a capital plan (if needed); and milestone-driven costs to

Table 2. Commercialization planning

Financial Projections (Business Case) <ul style="list-style-type: none"> ● Pro-forma P&L (high level) ● Capital plan ● Startup costs for learning plan and product development 	Product and Service Strategy <ul style="list-style-type: none"> ● SKU's/Models, Services ● Good, better, best offerings
	Revenue Model <ul style="list-style-type: none"> ● Purchase, license, rent, subscribe ● One-time or recurring
	Packaging Strategy <ul style="list-style-type: none"> ● Primary ● Secondary (bundling, shelf-ready)
	Channel Strategy <ul style="list-style-type: none"> ● Single channel ● Multiple channel, packaging variations
	Merchandizing Strategy <ul style="list-style-type: none"> ● Store placement ● Communications and trial/sampling
	Social Networking Strategy <ul style="list-style-type: none"> ● Approaches to build user community excitement, referrals, ratings

further validate the concept, engineer it, and bring it to market. Think of that validation process as a learning plan.

On the right side of the template are the major approaches or strategies within a business model that drive the P&L and capital plan. At the top is the team's product/service strategy. What are the offered types of products and services? Is there a good, better, best approach?

Next is the revenue model for that product/service strategy. What are the price points relative to the competition? And, perhaps most important, what is the structure of that revenue? Is it a one-time purchase, with repeat purchases? Are there consumables? Is it a service, with recurring consumption? All teams dream of their product(s) being like Gillette or Nespresso: a base-level purchase with never-ending recurring revenue on consumables. Teams even might consider structuring a win-win revenue model, such as a percentage of the revenue achieved by the consumer organization. For example, Aetna Health—an IT provider for physicians—takes a small percentage of all revenue billed with its software, rather than charging for the software itself. Business model choices can be as powerful as the product or service innovation itself. Too often, innovation teams assume that a traditional revenue model must be applied wholesale to new innovations.

Three other approaches/strategies relate to packaging, merchandizing, and social networking strategy. Retail innovations, in particular, require packaging that stands out in the sea of noise typically associated with store shelves. Channel partners must consider in which part/area of the store a new product/service should be sold. For example, an equipment manufacturer needs to think about how its services are packaged with hardware. It should also ponder, among other things: the best route to market (dealers, independent reps, or direct sales force?); demonstration centers; trial plans for new users; marketing and communications materials; and reference sites—all of which cost money to produce revenue. Finally, what social networking strategy will be used? These approaches can build user community excitement, referrals, and ratings. To make a new concept take life as a business, an innovation team needs to consider these dimensions as part of its commercialization plan.

2.7. Red-team innovation ideas with business leaders and develop innovation sprints

The penultimate step in the 3C innovation process (Figure 1) entails presenting senior executives with

concepts, prototypes, and commercialization plans. From this, the innovation team and its executives can develop a set of milestones by which to validate certain aspects of the innovation proposal, and also continue the prototyping. These might best be cast as innovation sprints: relatively fast, focused, and exciting. Sixty-day milestones work best for these sprints.

The most convenient and powerful way of re-teaming innovation concepts is to have two or three executives attend the last day of the innovation session, to hear team presentations. Based on this review, the executive team should fund its top selections with sufficient means to achieve the learning plan milestones presented by the team.

3. Back to Duncan Hines: Innovating for the consumer and the customer

Let's jump back to the Duncan Hines innovation team, which conducted an innovation boot camp to develop products/services for the baking category. The team implemented its own version of the 3C innovation process, step by step, as it explored several interesting consumer segments. Two of these were Millennials and Baby Boomers/Empty Nesters, both of which historically had never been of primary concern to Duncan Hines. The innovation team leaders implemented a number of interesting processes:

- Fixed budgets, some less than \$10 per day, were assigned to all team members in order to feed their families. This day-in-the-life practice made the concerns and challenges of lower-income consumers all the more real to the well-paid innovation team professionals.
- Consumer ethnography studies were organized through local market research firms. Duncan Hines innovation team members went on shopping excursions and attended baking sessions with the dozen consumer partners engaged by the research firms. Team members first observed and then 'laddered' their panel partners on brand selections, baking techniques, and preferences. Insightful information was gathered along the way for both merchandizing and product strategies.
- Customer/retailer ethnographies were conducted separately. In these, team members visited different types of stores within different price points of the trade: grocery store chains; specialty, club, and discount stores; and mass merchants. The innovations discovered, in terms of

products and merchandizing, were strikingly impressive. Duncan Hines' customers (i.e., these retailers) clearly were not standing still. They demanded various kinds of innovation, including shelf-ready packaging.

- After garnering these consumer and customer ethnographies, the innovation team occupied a hotel kitchen to build a series of new food concept prototypes. These included what could be perceived as healthier, simpler-ingredient recipes for Millennials; smaller portion size offerings for Baby Boomers/Empty Nesters; and baking kits for busy parents. Several prototypes were developed, and team members assisted Duncan Hines' company chef in the preparation. Although certainly fun for team members, this represented direct, personal engagement in the full innovation process.
- Concurrent with prototyping, formal concept statements and sketches were fed into an online concept testing service: C Space, by Omnicom. Over the course of the evening, several of the 12+ new concepts 'popped' in terms of purchase interest and distinctiveness. The innovation team made sure that its concept-testing service engaged consumer panels that met the demographic profiles of both its new and traditional target consumer segments.
- The team then developed initial commercialization plans for several of the most promising concepts. These included revenue comparisons with different segments of the baking category, cost of goods models, and marketing costs. Numbers included in the plans were supplied by experienced food developers on the innovation team. The result: a few, simple spreadsheets with forward-looking projections of revenue and costs.

Findings from the innovation boot camp were presented to three senior Duncan Hines executives, who flew to the offsite location for several days to lend their insights and resources to best ideas. Milestones were established for rapid learning and several projects worked their way through the development pipeline.

One of these concepts was launched to market as Perfect Size, a cake designed for Baby Boomers/Empty Nesters who might not need or want a full-sized cake. The packaging for Perfect Size was designed to be distinctive among store shelves: it is octagonal, features bright colors, and trumpets the word "NEW!" Pinnacle Foods CEO, Bob Gamgort, explained the rationale behind the

new product innovation (Watrous, 2015): "Baby boomers . . . [and] younger households . . . have a tough time baking for [just] two people, because the quantities [of current cake boxes] are too large." Perfect Size is result of an innovative approach that is segment-focused.

Duncan Hines was not the only Pinnacle brand to employ ethnography in the pursuit of innovation; Bird's Eye and Vlasic also utilized the method. Innovation teams of these brands subsequently launched interesting, new products into mature, competitive market spaces. Pinnacle's purchase of vegetable-protein food manufacturer, Gardein, is equally compelling for consumers seeking healthier fare. CEO Bob Gamgort advocates game-changing innovation that begins with consumer and customer insight.

4. Key enablers for successful user-centered innovation

It is incumbent upon senior leadership to empower the type of innovation process described in this article. Such empowerment may be facilitated via the following leadership team tactics:

- *Issue innovation challenges within the company's growth strategy.* Market segmentation is central to the company's growth strategy and is the basis for organizing the firm's product/service portfolio. Performing growth-oriented market segmentation before innovation sessions will optimize their effectiveness. Most often, this takes the form of executive-level decisions regarding which current brands or product lines need renewal, or new market segments for ambitious organic growth or acquisitions. These decisions also dictate which individuals should participate in an innovation session. Innovation boot camps become more powerful if they begin with clear market and consumer foci.
- *Be bold in providing a budget for consumer-centered ethnographic research.* As part of a growth strategy, innovation teams must journey to specific locations rich in target users. This may entail the firm sending several dozen individuals to a different city; alternatively, it might mean working with a large corporate customer to co-design new systems or services. One innovation team, for example, flew a small prop plane to different farms across the American corn-belt in order to better understand the needs and attitudes of the farmers embarking on computer-aided precision farming. Executives

must decide to make this type of investment in the innovation process.

- *Build in rapid, follow-on learning processes.* It is important that momentum be sustained following innovation sessions. Teams should present milestone-based learning plans with 60-day activity sets aimed at validating ethnography, designs, and commercialization plans. They should also immediately request and receive constrained budgets for 60-day consumer learning, prototyping, and business planning. Subsequent readouts can either be performed as part of the company's standard development process, or managed by a special subset of senior management in a specialized, entrepreneurial process. Either way, monthly check-ins regarding progress toward milestones ensures rapid progress toward commercialization and sustains enthusiasm once team members return to their daily routines.

It is critically important that the leadership team provides air cover and does its best to remove organizational barriers facing team innovators. Too often, organizations punish innovators whose experiments fail, even though it is acknowledged that the best successes tend to spring from learning achieved through failures. People forget, for example, that the heritage of iPod, iPhone, and iPad lies in the failure of the Apple Newton. Executives need to encourage innovators to keep stepping up to the plate, and quickly assign them new challenges.

5. Conclusion

We encourage firms to pursue ethnographic, field-based innovation, supported by rapid prototyping. Intensive deep dives once or twice a year should be sufficient. It is our belief that the absorptive capacity of most organizations is limited to two or three

bold ideas per year. Select a new consumer segment, assemble a multifunctional team, and send the members off to where target users live, work, and—just as important—buy. This will be the truest source of your next product and service innovations.

References

- Abell, D. F. (1980). *Defining the business: The starting point of strategic planning*. Englewood Cliffs, NJ: Prentice-Hall.
- Baird, F., Moore, C., & Jagodzinski, A. (2000). An ethnographic study of engineering design teams at Rolls-Royce aerospace. *Design Studies*, 21(4), 333–355.
- Bate, P., & Robert, G. (2006). Experience-based design: From redesigning the system around the patient to co-designing services with the patient. *Quality and Safety in Health Care*, 15(5), 307–310.
- Boeijen, A., Daalhuizen, J., Zijlstra, J., & Schoor, R. (2013). *Delft design guide*. Amsterdam: Bis Publishers.
- Crane, F. G., & Meyer, M. H. (2011). The challenges of innovation in American companies: An executive ethnographic investigation. *Journal of Technology Management and Innovation*, 6(4), 193–204.
- Fine, G. A. (1993). Ten lies of ethnography. *Journal of Contemporary Ethnography*, 22(3), 267–294.
- Hammersley, M., & Atkinson, P. (2007). *Ethnography: Principles in practice*. London: Routledge.
- Leonard, D., & Rayport, J. F. (1997). Spark innovation through empathic design. *Harvard Business Review*, 75(6), 102–113.
- Meyer, M. H. (2007). *The fast path to corporate growth*. New York: Oxford University Press.
- Meyer, M. H., & Crane, F. G. (2013). *New venture creation: An innovator's guide to startups* (2nd ed.). Thousand Oaks, CA: Sage.
- Meyer, M. H., & Crane, F. G. (2016). *Innovation: The workbook*. Boston: Institute for Enterprise Growth.
- Shedroff, N. (2001). *Experience design*. San Francisco: New Riders.
- Watrous, M. (2015, May 4). Pinnacle planning 'game-changing' innovation. *Food Business News*. Retrieved from http://www.foodbusinessnews.net/articles/news_home/Financial-Performance/2015/05/Pinnacle_planning_gamechanging.aspx?ID=%7BD3E288C2-470C-45C2-91DF-8AA07003D2A2%7D&cck=1
- Watson, E. (2014, July 31). Why do 85% of new CPG products fail within two years? *Food Navigator*. Retrieved from <http://www.foodnavigator-usa.com/Markets/Why-do-85-of-new-CPG-products-fail-within-two-years>