

The Evolution of the Design-Inspired Enterprise

by Gabriella Lojacono and Gianfranco Zaccai

A focus on design translates into a focus on customers' true needs and unarticulated aspirations, ultimately creating better-informed, more nimble companies.



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In the literature on design, product development and innovation, the word ‘design’ refers to many things: a creative art, a phase of product development, a set of functional characteristics, an aesthetic quality, a profession, and more. In the lexicon of more and more companies, however, the word has come to denote the totality of activities and competencies that gather all relevant information and transform it into a new product or service.

Design is now understood as a core activity that confers competitive advantage by bringing to light the emotional meaning products and services have – or could have – for consumers, and by extracting the high value of such emotional connections. This evolution is creating the *design-focused enterprise*, an organization that uses consumer-centred product development to move quickly and effectively from intimate customer knowledge to successful product and service offerings.

Much has been written about design’s ability to increase productivity, product performance and the value of the emotional connection with customers, but little about design’s contribution to an overall better understanding of the con-

sumer. There has been discussion of the role of consumer knowledge in driving innovation, but not of the practical techniques for letting consumers’ unspoken, often unconscious, needs and desires emerge and for infusing such insights into all functional teams.

Nevertheless, consumer-centred product design is an emerging best practice in many industries, particularly those characterized by practical products that hold no emotional appeal; in which competition is based on increasingly less profitable attempts to cut cost or improve performance; where once-distinctive products are becoming commoditized; or where there is little room left for product innovation.

Among these best practitioners, design is viewed as the art and science of putting all the pieces together – technical, financial, operational and emotional. As most companies already lavish quite a bit of expertise on the technical, financial and operational aspects of what they do, it is this equal focus on the emotional connection with customers that stands out as novel. This newly co-equal dimension influences and informs the others, producing new and unexpected results.

Design-focused enterprises still have strong technology, operations, marketing, research and manufacturing competencies, but these are guided by an organization-wide, shared understanding of who their customers are and how the design of their products or services can best shape the customer experience.

Traditional consumer research – surveys, focus groups, etc. – asks people what they want. However, while customers can reliably express their preferences for incremental improvements in existing products and services, they cannot reliably express their higher-order needs and aspirations, which may call for radical redesign or entirely new offerings. Although these higher-order aspects are what form the basis of a customer's emotional connections to any offering, the customer himself may deem them irrelevant, insignificant or even embarrassing, or may simply not be conscious of them. Because traditional consumer research is unlikely to bring such insights to light, it often provides technical, marketing and operational departments with inadequate information and debatable strategic objectives, resulting in rejection by the marketplace. Design-focused companies, on the other hand, use design research to glean such insights, which help guide them to a profitable emotional connection with their customers.

For example, when **Procter & Gamble** sought to provide a better way to clean floors, it discovered that its cus-

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BMW found that drivers of its high-performance cars were not stressed by high-speed driving but by parking, so the company integrated proximity sensors and an acoustic signal to assist drivers. Interestingly, BMW realized that a com-

pletely automatic system would have been an affront to the pride its customers take in their driving skills; it correctly determined which emotional connection to make and which one not to violate.

When **Master Lock Co.** learned that its customers were not as interested in its locks *per se* but on the possessions the locks protected, it switched tactics from

selling padlocks as hardware to selling *security* for specific possessions. Similarly, when **Sunbeam Products Inc.** (now known as **American Household**) discovered that people who bought its Coleman barbecues associated the brand with fond childhood memories of camping, it changed the focus of its marketing from highlighting the product's performance to reinforcing the pleasant memories it evokes.

Methods of Design Research
It has been shown that front-end activities, such as brainstorming, which precede the detailed design, prototyping, pilot production and manufacturing ramp-up of

a new product, can powerfully influence the outcome and significantly determine downstream costs. But brainstorming and concurrent development have to be informed by customer values and aspirations. In a design-focused enterprise, the front-end activity is design research, a systematic process for understanding the consumer's unexpressed needs and desires, then envisioning and testing new ways to meet them.

The best practice in design is to integrate people from different backgrounds into a design research team. When **Johnson Controls** wanted to develop an electric room thermostat for hotels, the company assembled a design research team of technical consultants, architects, hotel managers, building managers, HVAC installers and hotel guests. The team's task

was to gain firsthand insight into the customer's world and what specific products or services meant to them. Multidisciplinary teams are even more effective when the team is made up of multidisciplinary individuals who can mentally juggle the trade-offs among the competing goals of various disciplines. When ergonomics says one thing, the company culture says the opposite and customers say something else again, multidisciplinary individuals can integrate the three disparate sets of clues into an optimal solution.

In the cases we observed, design research teams started with a variety of 'ethnographic techniques', watching and recording what people do in real life. They followed consumers into stores to watch them buy padlocks, into their homes to watch them mop floors, and even into their bathrooms (via videocamera) to watch them take showers. This provided an understanding of the environment in which the product would be used. For instance, by observing customers in their homes, **Cambridge SoundWorks** learned that men who buy premium audio systems like to display them in their living rooms, whereas women would rather hide them behind plants or furniture. In an attempt to appeal to both sexes, the company launched its Newton Series in 2001, which featured powerful speakers designed to blend in with living room furniture. It became the company's most successful product to date.

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Design research also employs 'psychophysiological techniques' such as bio-feedback, eye tracking, vocal analysis and facial coding to understand the emotions underlying observable behaviour. By correlating physiological characteristics such as heart rate, brainwave level, skin response or body position with a person's preferences, researchers can design the offering to maximize the desired physical responses.

'Brand personification' is another technique used to make hidden values and emotions perceptible. When Master Lock asked consumers to associate their current classic padlock with a person, the name most often mentioned was **John Wayne**; when they were asked to associate it with another product, the frequent answer was a military Jeep. Asked with whom or what they equated Master Lock's prototypes of innovative new concepts for padlocks, consumers most often named **Arnold Schwarzenegger** and the Humvee. When the company created a promotional campaign to launch the new locks, it was informed by these associations.

Testing prototypes with consumers is nothing new, but design researchers make sure to do so in a real-life context. Thus, Master Lock's design research team observed customers using prototypes of the new padlocks on their own luggage, toolboxes, gun cases, garden gates and trailer hitches.

Methods of gathering data can be compared in terms of their degree of customer involvement. Some traditional methods, such as brainstorming, are entirely internal. Surveys involve consumers, but the consumers can only answer what they are asked and can only express what they consciously know. Focus groups allow more freedom of expression, but still cannot probe the unconscious. Design research, by observing consumers buying and using products in real life, with no external guidance, offers the highest possible consumer involvement. Skilled observers have a chance to see non-verbal evidence of subconscious feelings.

Skipping design research can be costly. For example, high-end German automobile manufacturers were stunned when U.S. customers would not buy cars without cup holders. While drinking coffee in the car seemed unthinkable to Europeans,



it wouldn't have taken much design research to learn how important it is to U.S. car buyers. The manufacturers, forced to retrofit, created some of the most complex, expensive, unreliable and least-user friendly cup holders ever produced.

Design research findings are not typically assembled in the form of data and reports but are instead stories and characters, often captured on video. Such findings resemble and evoke real experience more powerfully than data and reports can, vividly conveying the desired emotional connections between people, products and services, and they help a company to triangulate these findings with appropriate technologies and economic objectives.

Following are useful design research techniques:

Issue mapping. Identifying all the stakeholders and decision influencers involved with ordering, stocking, displaying, promoting, buying, using, servicing and disposing of a product or a service helps to paint a fully dimensional picture of its impact and interaction with consumers and the marketplace.

Metaphors. Having consumers suggest similar products or scenarios, as Master Lock did, can help consumers express their emotional connection to a particular product, while stimulating researchers to think

along new lines. A good metaphor may end up as part of the design to communicate the emotional connection to the consumer.

Consumer archetypes. Personifying the typical consumer can be enormously helpful in keeping everyone's thinking focused on the emotional connection to consumers. The archetype can be a real person or a composite creation. For example, **AMF Bowling Worldwide** used archetypes to help make sense of an extremely broad

related to a project on the walls of a meeting room, design research team members can immerse themselves in information. Being literally surrounded by a wealth of inputs in a room can cause designers to make connections among elements that might have initially seemed unrelated.

Building Design Focus Into the Organization

Corporate strategy is often shaped by macrodata – industry trend analysis, com-

segmentation. This made the rationale for the resulting strategy far more tangible than any written description or statistical data could have done. Each market segment was represented by a consumer archetype: real people who the researchers had met and with whom people in R&D, manufacturing, sales and finance could naturally empathize.

Companies can use this technique to communicate their connection with customers to important outside stakeholders, from **Wal-Mart** buyers to Wall Street investors. In a risky and unusual move, Master Lock shared its presentation and prototyping with selected mass-merchant buyers. By allowing Master Lock to 'tell a complete story', this approach won the buyers' enthusiasm and collaboration, and it garnered the company valuable time during which key buyers agreed not to reduce their shelf space despite their declining market share.

Even with such vivid communication tools, it is necessary to continually repeat the message so that it sinks into the fabric of the organization. Once organization-wide empathy is achieved, however, every aspect of the organization can add value to the emotional connection. Not only can the traditional design areas of product

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potential target market for a major product development. Facing a mature market in the United States, the maker of equipment and furniture for the bowling alley industry set its sights on overseas markets, where bowling often has novelty and even significant prestige and where the penetration of bowling centres is still very low. AMF assumed that it needed to design for those markets specifically, and it embarked upon user-centred design research. However, the research revealed that regardless of market, the distinguishing characteristics among bowlers had to do with why they bowled: for competition, to perfect their game, for the joy of participation or for the sense of occasion. These archetypes allowed AMF to efficiently develop a product system that had global applicability.

Work-flow mapping. The visual mapping of the steps an individual takes to complete a given activity has been a standard technique for 75 years, but it can reveal new insights and opportunities when combined with the other techniques listed here.

Storytelling. Creating storyboards, associating imagery and other techniques can be used to elicit feelings and aspirational insights from consumers.

Bulletin boards. By taping, pinning and hanging all sorts of objects and information

petitive analysis, technology assessments, demographics – and carried out by specialists focused on quarter-to-quarter sales, technical invention, measurable performance and operational efficiency. These individuals are often in separate departments that do not communicate well with each other, and the voice of the customer is often drowned out by the voices of various departments. In contrast, the findings of design research become important tools for

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building organization-wide identification with the customers' needs and aspirations, keeping everyone's eyes on the same prize. As people develop, manufacture, stock or maintain a product, they are much more likely to keep in mind a real person who they've watched in a video washing his car, or putting her kids to bed, than on a page of market survey results.

At Master Lock, video ethnography, in-context interviews and early conceptual sketches and models were integrated into a presentation for the proposed new

packaging, point of purchase, corporate communication and the Web site be coordinated to meet consumer needs and aspirations, but engineers can find ways to meet those needs and aspirations while still delivering function and performance.

In fact, implementing a design-inspired strategy tends to provoke some redesign of the company itself. Once Master Lock realized how much could be accomplished with its new approach, it took steps to embed consumer-centred product design at all levels. Rather than simply selling hardware to

hardware buyers, the sales and marketing groups were reorganized and staffed to serve different market segments, such as automotive and recreation. Product, packaging, point of purchase, corporate communication and the Web site became coordinated, supporting the segmentation strategy with messages and visual languages appropriate to each consumer archetype. Engineering became responsible for increasing perceived value as well as actual performance. Manufacturing developed more flexible channels for getting more new products to market sooner without compromising quality or efficiency. The company also became more open to incorporating outside innovation that complemented its design-inspired strategy.

Cheaper Mistakes and Faster Solutions


The successful practice of customer-centred product design varies from one design-focused firm to another, but the companies we observed have many of the above-discussed best practices in common. They

also all saw the value in, and had the capability of, making as many mistakes as possible in the front-end phase, when they could learn the most at the lowest risk and cost.

For example, Master Lock's first foray into the automotive market was the production of an innovative steering-wheel lock. Although the company's reading of the market potential was accurate, it misjudged the obstructive power of an entrenched competitor. Master Lock was able to quickly change course and pursue a new customer in the same segment that had already been identified by its existing design research – the trailer owner. With customer archetypes and video clips imparting to all parts of the company the common image of a consumer for whom the trailer means 'freedom and security', and whose worst fear is that the trailer might be stolen, Master Lock had enough focus and cohesion to rapidly develop and introduce a unique trailer lock. This successful entry into the automotive market gave Master Lock a position from which it

was later able to successfully reintroduce its steering-wheel lock.

Design-focused companies don't get everything right the first time, but they can make quick course corrections due to the depth of their customer insight and their techniques for rapidly and vividly conveying new ideas to all parts of the company in order to put that knowledge into action.

In a world in which consumers cannot always convey (and may not even know) what would delight them, design-focused companies are best equipped to glean the information through careful and imaginative observation, to respond accurately, quickly and flexibly, and to define and lead in rapidly-evolving markets. 

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