CUSTOMER EXPERIENCE

The expanding role of design in creating an end-to-end customer experience

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Lines between products, services, and user environments are blurring. The ability to craft an integrated customer experience will open enormous opportunities to build new businesses.

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Time was, a company could rely on a superior product's features and functions to coast for a year or more before competitors could catch up. Or a well-honed service advantage could single-handedly buffer a company from start-up challengers looking to nip at its heels. No more. As digitization drives more and faster disruptions—and as customers increasingly desire the immediacy, personalization, and convenience of dealing with digital-marketing leaders—the business landscape is undergoing an upheaval.

Products, services, and environments—both physical and online—are converging to anticipate and meet rising customer expectations. That's giving birth to a proliferation of new products, often from unexpected sources. It is also stirring up a storm of new, unanticipated competitors. In this novel mix, product companies will be pushed to create services and service providers to incorporate products into their offerings. Both will face the challenge of developing great user environments as part of customer-centric strategies.

The signs have been apparent for some time. Technologies regularly compound each other's effects, with a dynamism and speed of innovation that has become unpredictable: for example, the combination of global positioning systems (GPS), radar, video object recognition, and infrared sensors gave birth to the development of self-driving cars. In smartphones, manufacturers once focused on features and functions as selling points. Today that emphasis has shifted completely to style, lifestyle, and simplicity of use. These permeate the customer experience and define the value proposition for such products.

This evolving convergence of products, services, and environments affects some industries more than others. Telecommunications, automotive, and consumer-product companies, for example, have already embarked on a convergence journey; other industries, such as insurance, banking, and energy, lag behind them. Understanding the way this phenomenon is taking shape can help companies prepare for the competitive opportunities and challenges. In this article, we explore some of the places where the convergence is taking shape today and some key principles for designing integrated, end-to-end customer experiences.

A convergence triad

In our ongoing work, we observe three basic types of convergences reshaping the landscape for customer-centric strategies:

- *Traditional product companies are transforming themselves into providers of services and ecosystems.* Some innovators, such as Rolls-Royce, some time ago moved beyond merely selling jet engines to selling engine hours in a lifetime service relationship with customers. Elevator operators, such as KONE, emphasize the number of floors their products will serve over time, not just their physical products. Microsoft Azure sells computing as a service, not as software; Philips is transforming the home-lighting business into a "connected business" to improve sustainability, cost of ownership, and smart control by integrating applications such as scene personalization, home automation, security services, and sleep quality into its core product.

- *Service companies are integrating physical products into their customer experience.* Amazon's Echo, for example, provides quick access to the company's services. Evernote and Moleskine have collaborated to create notebooks that seamlessly integrate physical notes; capturing handwritten ones with the Evernote camera allows you to search and organize them digitally. Progressive Insurance's connected-car devices allow the company to charge drivers according to their driving behavior.

- *Companies are investing to create a customer environment that builds a connection with their products.* Online players such as Amazon open physical stores; car manufacturers (Tesla, for example) open fancy showrooms in shopping malls and prime locations, with a completely transformed customer experience. Electronics companies, like Apple, stage the customer experience with open-space concepts, a sprawling Genius Bar, and diverse sales staffs.

In essence, highly successful companies have realized that the boundaries between products, services, and environments have blurred. They know as well that they need an integrated view to design end-to-end experiences that are truly valuable to consumers and successful in the market. It's not just about designing the best product or service but rather about striking the right combination and making sure the integrated customer experience is compelling. This kind of successful, convergence-designed strategy can deliver a durable competitive advantage. Done well, the strategy will also make implementation more intuitive for the company and more seamless for the customers who engage with the product or service. In this evolving environment, maintaining an integrated customer-experience perspective is necessary right from the beginning of any improvement or transformation effort.

Today's consumers do not buy just products or services—more and more, their purchase decisions revolve around buying into an idea and an experience. This change in expectations will give product and service businesses opportunities to create new revenue streams by expanding into adjacent territories. Given these complexities, the shift also requires an innovative approach to business models and a new look at how companies provide value to customers.

Where end-to-end experience design is happening

To better understand how some companies are grasping the opportunity to design end-to-end experiences, it's useful to explore some examples of cutting-edge approaches and the techniques and principles that underpin them:

Raising the temperature in thermostats

For much of this decade the smart-home-thermostat market has been under assault by new entrants using world-class design approaches. Incumbents, largely embedded in professional-installer sales channels, were left with little access to end consumers.

Ecobee, which embarked on a design-led strategy against competitors such as Nest from the standpoint of aesthetics, usability, and features,

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believed that its technology was superior. But it was missing a major component the company felt customers cared about—design. To Ecobee executives, it was not just a matter of the product's color and shape. Rather, they believed that consumers would see value in the overall experience of interacting with the device itself, its mobile app, and its Internet presence. The "squaricle" shape of the device was decided in part by the need to differentiate it from competitors' round or square thermostats and to pair up with Ecobee's remote sensors, which have the same shape. Black was chosen as the color for its practicality, unobtrusiveness, and understated high-tech signaling.

Ecobee's approach was to redesign the thermostat with sensors that work over Wi-Fi systems, so it can moderate the temperature where the user (as opposed to the thermostat) is located. The new design made it possible to launch the product in new channels, such as Apple stores, Best Buy, and Home Depot, gaining direct access to new customers. Ecobee won *PC Magazine*'s Editor's Choice Award for smart thermostats in 2015.[1]

Magic bus
In late 2015, the Swedish public-transport provider Skånetrafiken aimed to enhance the value of bus transportation. The idea was to explore extending the travel experience beyond the bus with new technologies. Designers thought about that experience from an end-to-end perspective—before, during, and after travel.

The company's approach took the form of a design lab on wheels.[2] A multidisciplinary group of technologists and designers, with support from transport companies Transdev and Volvo, prototyped and infused a bus with new technologies. The team employed an agile approach, with iterative prototyping to generate more than 40 innovative ideas (based on interviews with customers) in less than six months. Every two weeks, new ideas

were conceived, prototyped, and tested with users in a number of iterations. New design concepts transformed the space, made seating more flexible, and integrated technology into the bus. One example: a specific spot for standing passengers—an integrated space divider with cup holders, phone chargers, and shelf space. Another, based on the preferences of bacteria-wary passengers, is a sensor system that lets riders send a stop signal to the driver without touching a traditional button.[3]

Skånetrafiken's concept bus took a major step toward reinventing the urban-travel experience. Although it continues to be an ongoing lab and project, it is also now ready to transport riders in southern Sweden, who will provide ongoing feedback to inspire future work redesigning urban-travel options.

A telecom company gazes into the future
A leading Nordic telecommunications company needed to replace its legacy technology infrastructure. It therefore launched an extensive transformation program to develop more relevant and valuable offers for customers and ways to meet their future expectations about the end-to-end experience of service upgrades and changes. Better technology would then serve these new needs in the most efficient manner.

The central question: What will customers want in the future? Is it even possible to tell? In this case, design specialists combined their experience with prototyping and "futuring" techniques to project future scenarios and make them tangible for consumers to explore. The team understood that some aspects of the customer's behavior, habits, and values tend not to change as much as technology or other solutions do. Encouraging consumers to play around with prototypes and to cocreate ideas with the team provided crucial insights about people's functional and emotional needs, dreams, aspirations, and views of the future. This highly collaborative

approach also made it possible to engage key internal stakeholders and to bring in a diverse assortment of capabilities throughout the development process. By listening, providing transformation tools, and engaging with stakeholders, the company persuaded them to contribute their personal experiences and ideas to the creation of end products.

Through such interactions between consumers and the company, the transformation team developed a deep understanding of what customers might expect from products and services five years down the road. That became the focal point of the company's vision of its role in creating lifetime customer value. New investments and other decisions to advance the company's technology-infrastructure-related transformation flowed from these insights.

A design icon charges up the home

A key focus of IKEA's effort to develop its Home Smart line, which introduced technology-infused furniture, was exploring the experience of integrated wireless charging of mobile phones in homes. The ultimate goal was to design a solution that would eliminate charging entirely. IKEA's design team had to reinvent the research process to explore how people would react to these new features in furniture. To support the vision of a simpler, more human-centered home life, it was important that the result not look like technology but still be understood as more than just furniture.

The team launched an immersive process: simple prototypes helped show where people would actually prefer to charge their devices in their homes (users could place stickers anywhere). An extensive, in-home testing process in several countries pinpointed the times and situations when charging becomes an issue. The team expected new technology to pave the way for completely new kinds of behavior, so it paid particular attention to understanding whether consumers would intuitively understand the underlying functionality of the products.

Home testing, which allowed families to try products for several weeks rather than only during workshop sessions, helped the company to see how the concept would fit into everyday life and influence current habits and routines. In parallel, the team spent time with consumers in stores to learn about the retail experience and the environment where the new products were sold. To create the right store experience, it was critical to get insights on how consumers would understand and perceive this new integrated-charging feature.

The result was the world's first line of furniture with integrated wireless-charging capabilities—part of a successful initiative to bring smartness into homes and make it accessible to the mass consumer market.

Five principles of the design-led customer experience

Each company's efforts to shape design-led experiences will unfold differently. But it is possible to draw lessons—several principles for shaping a design-led customer-experience strategy—from these examples, unique as they are. As companies increasingly turn to design strategies, it is helpful to keep the principles in mind to guide their efforts.

1. Understand the customer's needs and perspectives. Companies often approach innovation from a technological point of view and already, at the outset, have strong ideas about what the solution should be. To arrive at a new, integrated solution that taps into the power of convergence, it's better to start from a people perspective. Companies can begin to study key aspects of the customer's experience and try to understand and resolve core pain points by answering a few questions:

- What do customers really need, desire, and aspire to?

- What are they trying to achieve by consuming a product or service?

- What kinds of behavior are connected to the experience, natural or constructed?

- What do customers think about the product, the service, and the experience? And why do they think the way they do?

Often a company ought to consider shifting its mind-set: away from a technological solution ("what product or service can we provide to the market?") to a consumer-oriented one ("what customer needs do we aim to fulfill through this integrated solution?"). An unmet need, even if for the most part unexpressed, frequently turns out to be a company's next business opportunity.

2. Draw inspiration from other industries.
Companies increasingly look beyond existing industry boundaries and try to adopt better approaches from unrelated contexts. Some examples:

- A hotel company that wanted to improve its customer experience drew inspiration from the world of senior-executive assistants. The company reasoned that the best assistants anticipate the needs of their executives, sometimes even before the executives are aware of those needs. By applying that principle to its customers, the hotel company emphasized service that anticipated their needs, as though it already knew even first-time visitors.

- A software provider of e-trading platforms wanted to redesign its core product. When it decided which information to place centrally and which could be relegated to a peripheral view, it took a hard look at airplane cockpits.

3. Get a glimpse of what's on the horizon. By definition, design is a creative and exploratory process. Looking into the future allows a team to project an industry's

circumstances as far as 15 to 20 years away by framing the landscape of products and services. The primary elements to consider are typically societal shifts, such as changes in behavior, demographics, and social norms, as well as technological improvements.

The exercise can also be useful with a much shorter time frame by projecting emergent trends that can already be observed to a certain degree: for example, the new EU payment directives in banking—PSD2—will remove the banks' monopoly and allow nonbanking players to initiate payments and access account information. How will this change the landscape of the banking industry? What if you could use Facebook or Google to pay your bills? What about the effects on other industries? What new business opportunities could be created when these developments combine with other shifts that happen simultaneously?

4. Empower multidisciplinary teams. Designing a convergent, end-to-end customer experience requires the broad involvement of stakeholders across the organization and beyond. They will have expertise in fields such as design research, anthropology, and business, and spheres of influence, such as product development, marketing, or finance. Creating a multilayered experience requires a variety of design capabilities, such as designing products, services, user experiences, and interactivity. Such multidisciplinary teams can break through silos and foster cross-disciplinary collaboration. Decision makers from all stakeholder groups should align together and embrace uncertainty together, developing capabilities throughout the entire design process. The use of existing resources can keep the investment in time and costs low.

5. Use agile techniques to prototype experiences and business models. The challenge of mastering many convergent opportunities is that solutions often reside in complex ecosystems that either stand

alone or depend on other, related systems. Think of air travel, for instance, as a combined experience of products, services, and environments. Despite this level of complexity, companies can achieve rapid progress through prototyping, which quickly brings to life new opportunities and perspectives for effective implementation.

An experience can be prototyped through simple cardboard models, role playing, or clickable digital prototypes. This approach focuses on eliminating mistakes and highlighting possibilities for further development. Alternative business models can be visualized and prototyped to explore where value is added, costs occur, and efficiencies or new revenue streams lie in wait. We find that it's most efficient to iterate a prototype of the customer experience and the business model—these pilot efforts can secure the best outcomes before scaling. The goal should be managing prototypes in an agile way, through sprints and frequent feedback from users, with a focus on developing business value.

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The convergence of products, services, and user environments is just taking flight. In this environment, large and unexpected business opportunities will appear, along with unlikely competitors. To prosper, companies must balance agile, design-led development processes with the continual redesign of customer journeys. ■

[1] John R. Delaney, "Ecobee3 smart WiFi thermostat," *PC Magazine*, January 26, 2015, pcmag.com.
[2] Veryday, which participated in the bus-transformation project, was acquired by McKinsey in 2016.
[3] For a perspective on the bus-transformation project, see video, "Reinventing the urban travel experience," Veryday, November 29, 2016, vimeo.com.

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