Experience Modeling
How are they made and what do they offer?

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The authors describe Sapient's development of experience models and the collaboration that takes place among researchers, visual design communicators and information architects. Case examples illustrate the value of experience models, most importantly as tools to identify strategic business and design opportunities not previously considered by clients.

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A simple line intersected by arrows was drawn across a white board. The arrows pointed to anecdotes including those of a 60-year-old man who calls his mom at the first sign of a sniffle, a mother who insists that her children discard their toothbrushes if they are coming down with a cold and a 30-year-old professional woman who continues to take vitamin C for two weeks after recovering from a cold. A team of researchers had been developing this diagram for six hours when one of them pronounced, "It's not just about having a cold, it's about getting it and getting over it!"

This may not sound like a major breakthrough, but to the researchers at E-Lab (which is now Sapient's experience modeling group) and to its client, a large pharmaceutical company, the insight was profound. From this revelation, the group went on to create a graphic model outlining four distinct phases to experiencing a common cold. Why is this significant? As it turns out, the experience of common colds has previously not been well understood. Pharmaceutical companies, including Sapient's client, tended to view getting sick as a one-stage phenomenon, so they sold products targeting only that one stage.

The practice of breaking down an experience and visually communicating its key elements is what we at Sapient call "experience modeling." We see this modeling of user experience—a practice developed by E-Lab—as a crucial step in helping our clients identify strategic business and design opportunities.

Experience modeling begins with ethnographic data collection. Sapient, with the acquisition of E-lab, has been a pioneer in this observational research approach. Our research team consists of anthropologists, psychologists, sociologists, literary theorists, historians and artists—all trained observers of human behavior and cultural context. Instead of relying on focus groups, we collect data from the contexts of people's everyday lives. This can involve videotaping people washing their hair or observing site developers as they register for a program license online. Instead of quizzing consumers directly about what they want, we observe behavior and ask open-ended questions in order to surmise how people will respond to new offerings. The goal is to look at a small number of people in great detail rather than try to establish statistically significant results through quantitative research.

However, what separates Sapient's approach from other consulting firms is how we analyze and use the data we have collected. Typically, the results of any user research might be summarized in a research report, which may also include user profiles and scenarios. But at Sapient we distill our collected

research into experience models. Models have long been used by scientists as tools to think with—representations of complex relationships that provide others with an "a-ha" moment of insight. With the same goal in mind, we create experience models to capture and convey our analysis of the data we've collected in the field.

Our method of modeling experience has evolved through years of experimentation and improvement at E-Lab and now at Sapient. We continually develop new types of models to meet each unique situation. We generally provide each client with a number of experience models to address a range of issues and user groups. One of our most common approaches models the evolution of an experience over a distinct period of time—segmented into phases that are meaningful to the user. As demonstrated by the common cold example above, the difference between how a company and its customers define the phases of an experience can, by itself, be illuminating.

Another common approach is to model the course of customers' relationships with a product or service. An example of this type of model—looking at cellular phone usage—follows. Models such as this one were developed to show how different user types evolve from viewing a cellular phone as a single-function appliance to experiencing it as an essential life tool. These lifecycle models outlined what customers valued at different stages in the adoption path and what prompted them to upgrade their service. The insights from the models led to design recommendations that would allow the client's website to accommodate the specific information needs of customers with different orientations to cellular phones, and at different stages in their evolution as cell phone users. For example, the finding that certain users rely heavily on peer advice when deciding on service options led to the inclusion of third party input in the forms of links and reviews. Other types of users were found to purchase phones primarily as tools to manage family and social relationships. These users were likely to fully adopt the phone as a tool and maximize its capabilities to the extent that it allowed them to manage these relationships with increasing sophistication. As a result, it was recommended that the website highlight features such as multiple-person information management. The model provided an understanding not only of the different ways that people make cellular phones a part of their lives, but also of how these different approaches to cellular phones evolve over time. This understanding informed the effective bundling and linking of types of information in the site design.

How do we go about making these models? The process of distilling data into a meaningful and accessible representation generally takes anywhere from several weeks to several months and requires the involvement of core project researchers and sometimes also members of design and consulting team. We start by setting aside a project room lined with white boards, tack boards and poster size post-its. This room becomes the container and catalyst for the group's analysis. Researchers move in and out of this room, alternating between individual and group work.

The final models are then developed primarily through close collaboration between researchers and visual communicators. Visual communicators join the research team at the very beginning of the project and for periods of analysis. After learning about initial findings and observing the frameworks that researchers are using to represent them, they generate draft models. These models are posted in the project room with two goals: to get feedback on the models and to stimulate the team's analysis. These preliminary models may be

This model shows how one type of user evolves from viewing a cellular phone as a single-function appliance to experiencing it as an essential life tool.


Team members sketch out preliminary frameworks using precut "shapes" to illustrate the relationships among data points (e.g., quotes, photographs and other images). As the team's frameworks and ideas evolve, so does the appearance of the room. Researchers continually "turn the room," replacing older content with newer ideas. To maintain a running history of the analysis, contents are captured with text or digital images before they are replaced.
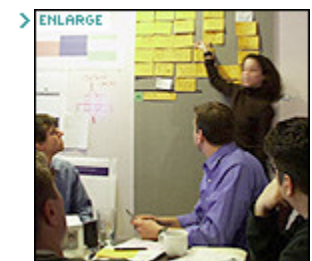
At various points in analysis, story review sessions are held in the project room with a larger audience that includes additional researchers, visual communicators (graphic designers trained in interpreting and communicating research findings) and sometimes also strategists, information architects, designers and site developers. The project team presents an initial story about how the data fits together, pointing to visible data and preliminary models to convey key themes. The audience then collaborates with the team to develop the story and to refine the models.

refined or completely discarded—the important thing at this stage is that they generate critical thought. Early on, the models are often paper drawings; later they are represented digitally—sometimes in interactive forms.

The diagram below shows an experience model's phases of development for a project on workspace design. This model was created for an internal project about how people at Sapient work in teams and use work spaces. The model originated from a data sort of all the work activities observed by the researchers and evolved as these activities were collapsed into broader conceptual categories. The final experience model illustrated that productive collaboration requires spaces that support individual as well as group work and spaces that allow for workers' varying degrees of tolerance to interruption.
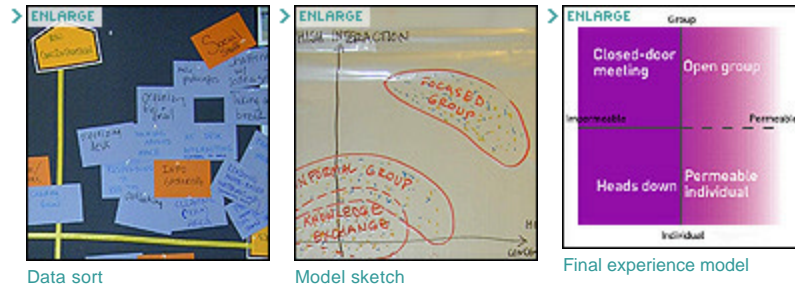
Data sort

Model sketch

Final experience model

How are experience models used?

Experience models should not only provide understanding but also advance thought. An early draft model provides a visual representation of the team's thinking that serves to propel the analysis forward. Once a model is complete—when the team feels satisfied with its coherence and complexity—it is shared with the client and with other members of the consulting team, who use it as the basis for honing the client's business and design strategies. With the model, the consulting team and client collaboratively identify business and design strategies through a process called "opportunity mapping." They analyze the gaps between the client's current offerings and what its customers want and expect. The team and client then prioritize identified opportunities in terms of their business value and importance to customers.

However, even before opportunity mapping begins, experience models provide value to clients. Models allow both the client and the consulting team to get under the skin of the user before they plan new business or design strategies. This is key, as the frequent failure of business initiatives and web offerings clearly indicates. Like all of us, corporate executives and their marketing teams often overestimate their ability to assess others' perceptions and motivations—even when it comes to something as familiar as getting over a common cold.

Notes

The authors wish to thank Nicole K. Farrar, Simon Pulman-Jones, Jeanette Blomberg, Mark Burrell and Martha Cotton for their contributions to this article.

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architecture, products and the Internet. She has studied how aspects of the environment affect emotional states, self-perception, consumer-behavior, social interaction and work processes. In addition, she has examined how people express personality in their immediate environments and how people assess other's personalities based on their living and work environments. Other areas of past research include self-schemas, cultural differences in health psychology, narrative analyses of development and change, and process and outcome research on traditional and alternative health care. Prior to joining Sapient in July of 2000, Morris completed her postdoctoral work in clinical psychology at Stanford University.

Arnold Lund is a director of User Experience and Thought Leadership in Sapient's Denver office. He is responsible for identifying new user-centered design techniques, and in ensuring compelling user experiences are created that deliver business value. Lund has spent more than 20 years working in the area of human factors, conducting user research and designing for a variety of emerging technologies. He began his career at AT&T Bell Laboratories and was subsequently hired by Ameritech as senior director of Human Factors and Emerging Technologies where he helped start the Science and Technology organization. Before joining Sapient, he was director of New Media Design and Usability at Qwest Advanced Technologies. He served as the general and technical program cochair for the 1998 ACM SIGCHI Conference on Computer-Human Interaction, and currently is the program chair for the Human Factors and Ergonomics Society's Computer Systems Technical Group. He has been active on the HFES/ANSI-200 human-computer interface standards committee since 1989. He is also on the board of the BCPE (the board of certification in human factors and ergonomics). He has published nearly one hundred articles and chapters in the areas of human-computer interface design and research, emerging technologies and R&D management, and has more than 13 patents and patents pending.

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