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PARSONS THE NEW SCHOOL FOR DESIGN

CLOSING THE DESIGN GAP

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INTRODUCTION

Not long ago, I found myself in an airport, utterly confused and stressed. Though I was flying international, it turned out I would be leaving from the domestic side of the terminal, meaning I'd just walked about half a mile in the wrong direction and would have to walk double that to get to the right gate. When I finally got there, having missed the flight, there was little I could do while waiting for the next one. The food options were awful, the space was anything but inspiring, and there was not an electrical outlet in sight, save one that several travelers were desperately huddled around as if it were some 21st-century campfire.

Contrast this with what I experience at JetBlue's Terminal 5 at JFK airport: I enter the airport and am greeted by abundant security lanes. Moving quickly through security, I can see what the options are and where I need to go as I walk down a ramp to the central hub where the wings of the terminal converge. At this hub, there are a variety of shops and services available, with others near the gates as well. Soaring spaces, clear signage, great food, comfortable seating, and power outlets abound, not to mention free WiFi. All in all, it's a much better place to be delayed in.

The first airport exemplifies a common problem with many of the places in which we live, learn, work, and play: There is a gap between our needs and the way our environments accommodate them—let's call this the “design gap.” At Terminal 5, however, the design was guided by JetBlue's business strategy of making flying fun and creating

what they call a “people-port.”¹ So, the building meets the needs both of the people who use it, and JetBlue's bottom line. This is an example of how design strategy—a way of simultaneously focusing the design process on user needs and business objectives—can help close the design gap while creating value for customers and businesses alike.

CAUSES OF THE DESIGN GAP

How does the design gap come to be? How is it that our environments so often underperform, functionally and even emotionally,² leaving a range of basic human needs unmet? And why are fundamental business goals such as cost-effectiveness, communication, and innovation not better supported by our spaces?

The design gap results from flaws in the design process involving the participants, their communication with one another, and the way the design problem is defined. Clients may not know or be able to express their needs. New to the design process and its terminology, they may understandably fumble through it. Their vision might be unclear; for example, they may know they need new office space but have no sense of how they want to work

1. JetBlue's press release for the terminal's opening illustrates their design and business goals well: <http://investor.jetblue.com/phoenix.zhtml?c=131045&p=irol-newsArticle&ID=1199481&highlight>.

2. The pairing of functional and emotional needs is derived from Don Norman's extensive writing on how products can fail to meet user needs; see for example *The Design of Everyday Things* (New York: Basic Books, 2002) and *Emotional Design: Why We Love (or Hate) Everyday Things* (New York: Basic Books, 2003).

in the future. On the other side, architects may not be good listeners, or may be listening for the wrong things. This could be because of a preoccupation with styling, a bias toward novelty rather than refinement, or a degree of specialization that makes them unable to see the big picture. Most significantly, architects and other designers may come to view design as an end in itself as opposed to a means for fulfilling the needs of the end-users.

A building's eventual occupants or users often don't have a voice in the design process that establishes how the building will look, work, and feel. Design ideas may not be made concrete through examples, stories, tours, and mock-ups or prototypes—all tools that enable people to experience the design in progress and provide feedback. Multiple options may not be considered in parallel so that ideas can compete. Design decisions might be based on abstract design ideas, values, or metaphors rather than on evidence. Finally, the design problem may have been defined long before the design process began, precluding the discovery of the real issue. This often has unfortunate consequences, as when a recently renovated bank branch closes because it is in the wrong location.

IMPLICATIONS OF THE DESIGN GAP

In recent years, fields from medicine to media have benefited from an increased focus on user-centered design. Yet architecture has been left behind, becoming both more specialized and less functional. The design process is also becoming increasingly complex, with more participants addressing ever-more difficult design challenges. Compare designing a library a few hundred years ago, when patrons could not even browse books, to today's libraries, which must support hundreds of different types of media and technologies, enable people to access all of them physically and virtually, and incorporate a variety of spaces for them to work in—not only to retrieve information but also to create, share, combine, and refine it.

With occasional exceptions in retail and health-care environments, architectural design today lacks a user-centered mandate as well as a culture of performance assessment during and after design. Too many design decisions are made with insufficient

evidence, too few spaces include rigorous post-occupancy assessment, and most buildings are mistakenly thought of as finished the moment the client moves in, rather than as something that will have to adapt over time. Contrast this disregard for use and users with Apple's strategy behind the iPod

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and iTunes: having elegantly designed the device, the user interface, *and* the content delivery service with users in mind, their business is booming and evolving.

CLOSING THE DESIGN GAP WITH DESIGN STRATEGY

Our built environments need a business-focused, user-centered design revolution. Design strategy is a way of focusing and guiding the design process, reconciling user needs with business goals through a mix of empirical research and structured, measured experimentation.

Design strategy is currently the purview of specialists—design strategists—who are often hired by the client organization as third-party advisors and facilitators. To illustrate design strategy in practice, I'll use some examples from recent work at DEG/W, a strategic consultancy focused on the relationship between the design of spaces and the performance of people within them.³

Faced with rapid, global growth, Google needed a way to quickly convey their design goals and requirements to different architects around the world while at the same time enabling diverse, innovative design solutions. Based on a research process involving interviews, surveys, observations, and workshops, DEG/W developed

³ See www.degw.com. The author is an associate director in DEG/W's New York office.

global design guidelines for Google's offices that communicated design principles, performance criteria, and best-practice examples. For example, one of principles in the guidelines is that ideas are not just generated in offices but also in the social spaces in between. This guideline may be interpreted differently around the world, but fostering casual interaction within every workplace is a goal now actively pursued throughout the company.

The University at Buffalo sought to improve how they support learning with physical and virtual services, spaces, and technologies. Drawn from technology surveys, workshops, observations, path studies, and campus tours, one of DEGW's research findings was that hallways were a crucial part of the campus, particularly given the winter climate, and were also the most popular places on campus for students to use laptops. Working with students, staff, and faculty, we developed a strategy to transform bleak institutional hallways into "learning corridors." More than just pathways connecting endpoints, these corridors are places for students to do things like study, chat, eat, collaborate, present, and discuss. Guided by this overall strategy, the university has started creating learning corridors, in each case interpreting and applying the concept in response to the specific needs and possibilities of a particular location.

For many corporations whose work involves a great deal of technical know-how and equipment, the workplace is structured by the specific technical requirements of the work process. In such situations, the actual users of the equipment know more about how they work than a designer ever could. These users should have a hand in shaping their own space, but they rarely do. To address this problem, DEGW in conjunction with the Canadian Broadcasting Corporation developed a tool called the "Sandbox." The Sandbox brings users and designers to the same table, makes design opportunities and constraints visible, and enables them to co-create a design for their space during a workshop session. The Sandbox and the collaborative design process it supports were subsequently tested and refined in a series of highly successful pilot projects leading to a comprehensive workplace strategy for the broadcaster to improve its use of space.⁴

PRACTICING DESIGN STRATEGY

Design strategy has both inner and outer aspects, existing as both a mindset or characteristic way of seeing the world and as an associated toolkit of relevant skills and competencies. The design strategy mindset interprets design as a way of defining and solving problems using a process that is iterative, participatory, and integrative.⁵ The design strategist is "empathic,"⁶ self-aware, curious, and inquisitive, with a high tolerance for ambiguity. The design strategist is driven by a desire to make ideas tangible in order to get feedback on those ideas from the people who will have to live with their consequences. This approach involves thinking in terms of systems and relationships. If you look at a design strategist's notepad, you are likely to find a map of words and doodles with lots of arrows and circles linking them, rather than an ordered list of terms.

The design strategy toolkit, as the means for putting design thinking into practice, includes such skills as observation, facilitation, visualization, and clear communication. A design strategist must be able to consider multiple options simultaneously: Brainstorming, scenario, planning and prototyping skills are critical as is the ability to subsequently edit and organize ideas. Throughout the process, one must be able to convey information in ways everyone involved can relate to. For instance, no matter how many floor plans or photorealistic views are shown, really understanding the design of a space may continue to elude clients until they are told a story about how the space could be used, thereby getting a sense of a "day in the life" of different users.

To close the design gap, design strategy must become embedded in the architectural design process.

4. For more information on the Sandbox, see http://images.businessweek.com/ss/08/09/0911_inshort/index.htm.

5. Considering multiple constraints and solutions simultaneously and resolving them without making trade-offs is the essence of what Roger Martin has defined as "integrative thinking." See Roger Martin, *The Opposable Mind* (Boston: Harvard Business School Press, 2007), 6.

6. On the subject of "empathic design," see Dorothy Leonard and Jeffrey F. Rayport, "Spark Innovation Through Empathic Design," *Harvard Business Review*, Nov–Dec 1997, 102.

Design strategy—a way of simultaneously focusing the design process on user needs and business objectives—can create value for customers and businesses alike.

There are two ways to achieve this. The first way is for designers and client organizations to incorporate design strategy in consultation with domain experts, as in the examples above. In this mode, consultants focus on teaching a way of addressing design problems through collaborative practice,⁷ rather than delivering one-time recommendations. The second way to embed design strategy into architectural practice is to embed it into the curricula of architecture and design schools. As part of the academic curriculum in a wide variety of fields—starting with those that directly engage with the design process, later moving into disciplines as diverse as engineering, physical and social sciences, and business—design strategy will help graduates better understand the potential of their environments. Design strategy will also allow graduates to apply the problem-solving approach to other aspects of their jobs (for instance, how to design an effective meeting). Classes related to design strategy are already being offered in a number of institutions, including The Rotman School of Management, Stanford University’s D.School, California College of the Arts, and Parsons The New School For Design, with more institutions currently developing curricula in this area.⁸

THE WAY FORWARD

Widespread dissemination of the design strategy mindset and toolkit, whether in the field or as part of a degree program, will help to close the design gap in our environments. While there will always be value in consulting with a neutral third-party expert, in general design strategy is a specialty whose success will in part be measured by the speed of its obsolescence. This is analogous to what has

happened with sustainable design: When sustainability began to garner attention as a design goal, it was solely the purview of outside experts, either to deliver solutions directly or to educate and advise on building sustainably. Fast-forward ten years: Through design education and professional practice in working with these experts, clients and architects alike now commonly have this expertise and leadership in-house. They can now handle all but the most complex or novel projects on their own. At the moment when there is no longer a difference between “design” and “sustainable design,” this specialty all but vanishes. And so it may be with design strategy: When all design is user-centered and business-enhancing, the design gap will, for the most part, be closed. Any remaining exceptions will prove the validity of the strategic approach through their failings as functional spaces.

The barriers to the adoption of design strategy are cultural and procedural. First, a cultural shift is required within the architectural-design profession to focus on user requirements and business goals as primary design drivers. With this shift would come another: seeking the refinement of existing design ideas, as opposed to novelty and uniqueness for their own sakes. These shifts, in turn, are prerequisites for an even more important one—the routinization of post-occupancy measurement of design performance. Currently, the design of health-care facilities is at the forefront of this shift; it is here, in a field where rapidly escalating costs are raising the stakes for all parties, that “evidence-based design” is being most enthusiastically embraced.

Overcoming the second barrier to widespread adoption of design strategy will require changing the design process itself to include a more diverse set of stakeholders; structuring design processes so as to get meaningful feedback along the way; and allowing design to play a strategic role not only in solving problems but also in defining problems. Fifty years ago, faced with a booming population and a plague

7. For a description of consulting that builds the capacities of the client by focusing on the process, see Edgar H. Schein, *Process Consultation Revisited*, (Reading: Addison-Wesley, 1999).

8. Curricular change at the Rotman School of Business and other schools was recently covered by *The New York Times*: www.nytimes.com/2010/01/10/business/10mba.html?sudsredirect=true.

of maintenance problems, America's national parks were headed for disaster. As part of its Mission 66 program,⁹ the National Park Service used the design process as a way to clarify the real problem to be solved: how to sustain the parks while enabling more people to experience them. In doing so, they created a new way to experience the parks: visitor centers that gave people a taste of a park without letting them overrun it. The centers integrated services, administrative functions, and educational programs in attractive structures with expansive views, accommodating the masses but limiting their impact.

Resulting from a design process focused at once on user goals (i.e. to experience the national parks) and business goals (i.e. to manage the parks for all Americans), these visitor centers created value. So should all our spaces. Value is ultimately determined by customers—clients, users, and the public—and may be measured in metrics like satisfaction, engagement, loyalty, patient outcomes, safety, speed to market, traffic throughput, sales, and environmental impact. Whatever the metric, we can close the design gap by better defining the problem and structuring a participatory, iterative, integrative design process. This is the role design strategy can play in the design of buildings and of the information, products, and services within them—a role that is sorely needed if our environments are to enable people and businesses to thrive.

9. For additional information on Mission 66, see www.mission66.com/mission.html.