

PREPARING DESIGN STUDENTS FOR A NEW ROLE IN THE ORGANIZATION

Sabine Junginger

Lancaster Institute for Contemporary Arts, Lancaster University

ABSTRACT

With an increasing awareness of their organizational surroundings, more and more design students want to learn how to bring their skills into the organization, rather than applying them merely to products for sale. The reasons are many fold and range from personal aspirations to working for the common good. At the same time, more and more organizations are exploring design thinking and design methods as alternative paths to continuous change and lasting profit. This puts the idea of organizational change in the focus of design education. Yet, the relationship between design and change remains largely unexamined. I argue that the study of design and change will benefit both designers and organizations, as it clarifies when, where, how and why change can take place. While design education cannot mitigate a general lack in design research, it can contribute to an increasing understanding of the links between design and change. This will prepare future designers for a role in internal organizational change and strengthen the role of product development within the organization. The purpose of this paper is to lay the grounds for research and teaching on this topic from a design perspective.

Keywords: Change, systems, management, design

1 INTRODUCTION

In its essence, design—the development of all kinds of products—is all about change. Herbert Simon [1] remarks on this implicitly when he states that “everyone who improves an existing situation into a preferred one”—i.e., anyone who engages in an effort to *change something into something better*—is a designer. Especially in the design domains of industrial and product design, the dominant impetus has been to shape the future, i.e., to change things as *they are* into things as *they might be*. But more often than not, people cannot envision a product without envisioning its context. That is, people tend to extend their current understanding of the present, shaped by currently held values, beliefs, and norms, when they envision what tomorrow is going to look like. When we want to find out what tomorrow could look like, the questions and the activities change. In new product development, revolutions and advances very much depend on breaking out of existing categories [2]. This is one of the reasons why future designers benefit from understanding the implications of systems, design and change. I focus on two distinct approaches to product development that directly impact the kinds of changes designers can make: product-centric versus systems-centric. Also of interest are the kinds of changes organizations are seeking from design. These shifts parallel the developments of the Four Orders of Design established by Richard Buchanan [3]. Having looked at systems, design and change and studied the kinds of changes

designers have traditionally been called on by organizations, we can take a look at emerging theories on design and change. There are currently several efforts underway in the management and organization sciences to shape the role design might have in the organization. All have an immediate effect on the kinds of changes design can effect, and yet, there is little reflection from a design perspective. The paper ends with ideas for design educators to integrate the study of design and change into their classroom activities.

2 SYSTEMS, DESIGN AND CHANGE

There have been several efforts over the past few years to clarify the links between design and change. A series of events and presentations, including the exhibit and accompanying book on *Massive Change* by Bruce Mau [4] or *The Power of Design* the theme of the 2004 annual conference by the American Institute for Graphic Arts [5] highlighted this inherent characteristic of design. However, there is growing evidence that design often aids organizations in their efforts to avoid change [6, 7]. In these cases, changes made to a product do not reach into the organization, because the organization itself does not participate in the design inquiry. At the heart of this is how an organization or a designer views a product. Margolin argues that a product is “the human-made material and immaterial objects, activities and services and complex systems or environments that constitute the domain of the artificial” [8]. In contrast, common product definitions in design continue to link a product with something “to be sold” [9] and as “part of a company” [10].

When a design team bases its design research on the product to be designed, it is choosing a product-centric approach. In its most obvious and common form, product-centric design is a design process that begins with the form, function, and materials of the product in development. In a less obvious form that still classifies as product-centric, customers participate from the early concept or at different stages throughout the development. However, this form of product-centric, shares with the more obvious one that it, too, does not question the organizational framework. The goal remains to fit external factors to the (existing) organization. With that, product-centric development approaches are limited in their capability to innovate and invent. This is true for their product outcomes as well as for the products that can result from a product-centric approach. In fact, it might be what Bruce Nussbaum [11] is touching on when he says design trumps technology in today’s innovation efforts. In organizations, innovation depends on imagining different possible (and impossible) products of the future.

In contrast, a “systems-centric approach” (for lack of a better term) actively includes the organization in ongoing design research. In fact, it turns product development into an inquiry into the organization. A systems-centric view might be described as one as fitting the internal organization to external factors. Thus by definition, a systems-centric approach involves organizational change. Organizations are living systems [12]. They are systems, to use Churchman’s words [13], “with humans in them,” unlike for example, a clock that represents a mechanical system “without a human.” Throughout design’s evolution, the ideas of product-centric versus systems-centric have had an impact on the kinds of changes designers were called on and the kinds of changes designers felt a calling for.

3 DESIGN SERVING THE ORGANIZATION

Design has always served an organization, yet the kind of service it provided has changed several times over the past 100 years. In alignment with Buchanan’s four

orders of design's general move from symbols to things to actions to environments, design's role within organizations, too, changed with each turn. External graphic artists and illustrators were hired early on to promote manufactured products through eye-catching advertisements. Soon after mass manufacturing took off, product design emerged and big corporations established in-house design departments. Designers took on the role of adding style to the products themselves [14, 15]. Ever since, designers' contribution to the organization aimed at selling more products, increase market share, and establish leadership within an industry. Design contributed at various stages in a product's life cycle by helping to boost sales or lower its production cost [16] or by enhancing an organization's technological advantage through product differentiation in the marketplace [17]. More recently, designers took on a significant role in building and maintaining a brand. These changes amount to a move from the organizational periphery towards the organizational core, or strategic apex, as Mintzberg [18] calls it. And yet, when it comes to core organizational issues, such as changing an organization, or developing a strategy and vision for the future, organizations still overlook design and rely on traditional business experts from strategy, marketing, accounting, and project management. Even when it comes to exploring the question of how design can serve the organization in its core problems, it is experts from business and management that are shaping the discussion. The following are examples of design-related management and business concepts, each of which has implications for the ability of design to change the organization.

4 MANAGEMENT, DESIGN AND CHANGE

If the organization is a living system, one might describe the current rise in design related to management and organization studies with the "sprouting" of design in the organization. The following list is not complete, though I believe it does capture the most dominant and the most important developments in regards to design and change.

4.1 Evidence-Based Management

Evidence-Based Management (abbreviated EBM) is a significant development in management practices that signals a shift from decision-making to decision-generation. With an emphasis on making and evaluating (trial-and-error), EBM encourages members to engage with uncertainties rather than to stick with certainties. Evidence-Based Management has its roots in the medical realm [19]. It connects more to design methods, as it focuses on continuous iterative process that includes prototyping, testing, evaluating, and refining. From a design perspective, it is interesting to notice that EBM is not explicit about design thinking. In the extreme this could mean the employment of design methods in the absence of design principles. Curiously, EBM is now entering the architectural curriculum in form of Evidence-Based Design. This is significant because it might be interpreted as a shift from a formal, product-centric design approach towards an architectural outcome that embraces a more systems-centric perspective. This is highlighted in the suggestion that the organization should be treated as a prototype [20].

4.2 Managing as Designing

Managing as Designing has its roots in the design and construction of a new business school at Case Western Reserve University. Managing as Designing emphasizes the value of *designing* to managers. Studying the design process of Frank Gehry, Boland and Collopy [21] became interested in design thinking and design methods to address "wicked problems" [22] in the organization. A conference, a book, and a video

presentation established Managing as Designing quickly. However, there have been few developments recently and it appears that EBM might have emerged in response. The contribution of Managing as Designing is its shift from Design to *Designing* in the organization. Boland and Collopy have therefore created a bridge for design into the organization itself and with that increased the potential for design to effect changes.

4.3 Design Management

Design Management started out as an effort by designers to move up in the organizational hierarchy, into the ranks of managers. Designers would acquire management skills and then be in a position to lead an organization's product development projects. He or she would do so in a more effective manner than a manager without a design background, as he or she would understand the creative processes and the needs of creative talent. The potential for design managers to instil changes in the organization seems great. However, more often than not, design managers are trained to control, contain and sustain design initiatives. This leaves little room for inquiry and invention. Design Management, with its focus on managing the design process is actually contributing to a limited role of design in the organization. With that, Design Management as it is currently understood and practiced, actually prevents design thinking and design methods to infiltrate the organization. In an ironic way, Design Managers might actually function as gatekeepers that keep design away from the organizational core.

4.4 Design Sciences

Design Sciences is emerging in the areas of behavioural organizational studies, particularly organizational change [23]. The term in itself is problematic, since design, while systematic and rational, is not a science in the traditional sense. At this point, it appears that researchers engaging in the design sciences are mostly concerned with applying scientific tools to study and capture design thinking and design methods. Promoters of design sciences tend to argue that they are employing managerial tools to "translate" the complex and fuzzy aspects of design into manageable programs and spreadsheets [24]. The effect on design in the organization is significant. By imposing a scientific framework on design thinking and design methods, the very potential of design to effect change is compressed and absorbed by the existing organizational environment. This leaves little "power" to effect change.

4.5 Design Thinking

Design Thinking seems to be the most comprehensive effort to date to explore the role of design from a management perspective [25]. Design Thinking does emphasize design's ability for inquiry and thus seems to free design from the existing organizational framework. This then offers the greatest potential for change—unless Design Thinking becomes removed from design methods.

5 EXPLORING DESIGN AND CHANGE IN THE CLASSROOM

While the previous elaborations on design and change are intended to provide a theoretical framework to approach this topic in the classroom, there is also a great need for case studies on design and change. The field of design suffers from a general lack of design case studies. Most design case studies can be found outside the field of design, particularly in management and sociology journals. Yet, while these include useful accounts of products and their social impact, these scholars seldom indulge in a useful

discussion of the design methods and the design thinking. Those authors who do touch on the design process and designers tend to emphasize the social interactions of designers and non-designers within firms [26-29]. What is needed are design case studies that enhance our understanding of how products come into being, and how this development process pushes and pulls the organization in unfamiliar ways into unfamiliar territory. Such case studies will also facilitate the communication between designers and managers in the context of organizational change.

The classroom offers several opportunities to educate students on current findings and to encourage their own studies into the topic. To facilitate a conversation with a large group of students during an IDSA conference seminar, I split the group into three teams. The first team had to come up with a list of organizations they had ever designed for. The second team had to come up with a list of organizations they personally interacted with (i.e., student loan, healthcare, bank, university, etc.) and describe at least one experience they remembered when interacting. The third team was asked to recall instances of organizational resistance when they worked on a design project. Each team had to present their results to the other teams. This set the stage for a lively discussion on the role of designers in organizations and change. As Maggie Breslin [30] demonstrated in her master's thesis essay "Case Study: Ziba Design & The FedEx Project," design research and design education can go hand in hand.

6 CONCLUSION

I conclude that there is a need and an opportunity for design education to increase our understanding of the complex relationship between design and change. This can be done by developing design case studies and by integrating these topics into existing design curricula. Both students of design and organizations will benefit from a better understanding of when, where, how and why change can take place through design.

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Sabine JUNGINGER
 Lancaster University
 Lancaster Institute for Contemporary Arts
 The Roundhouse
 Lancaster University
 Lancaster
 LA1 4YW
 s.junginger@lancaster.ac.uk