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HAVING RELEVANCE AND IMPACT: THE
BENEFITS OF INTEGRATING THE
PERSPECTIVES OF DESIGN SCIENCE AND
ORGANIZATIONAL DEVELOPMENT

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Having Relevance and Impact: The Benefits of Integrating the Perspectives of Design Science and Organizational Development

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Abstract

This introductory paper argues that building intentional design capabilities is a primary approach to bridging theory and practice. To address the complexity and challenges of today's organizational environments, the OD profession's focus on humanistic development should be complemented by equally strong attention to bringing expertise to help design solutions to thorny problems. This requires attention to management as design, and the development of a design science to provide content and methodological knowledge to guide the design process. Treatments of organizational design science, just as other design sciences such as architecture, must juxtapose the development of the guiding knowledge of the field with the descriptions of designing processes that bring to bear the perspectives, aspirations, and experiences of varied participants. The combination of the perspectives of Organizational Development and Organization Design Science is critical to provide a knowledge foundation to build organizations that are sustainable and meet the needs of their stakeholders.

In my first course as a doctoral student I read the powerful treatise of Herbert Simon, *The Sciences of the Artificial.* I was deeply affected by his compelling argument that organizations are our own creation and the clear implication that we can not stand outside as dispassionate observers trying to understand and explain them as scientific realities, and pursue a research program aimed at finding "truth." We have to understand organizations as human designs—as artifacts designed to achieve the goals and purposes of human beings. Organization Development grew in part in response to the fact that human beings were often not designing organizations to allow members to develop and thrive. The concept of Organization Design Science has emerged in response to the difficulty human beings have in designing organizations that can handle the complexity in today's world. Literatures on strategy and organizational improvement suggest that we are also not good at implementing what we design nor at developing the new capabilities the organization needs to survive and thrive. Hence, the need to become better at designing and implementing organizations that can carry out our purposes and provide settings where we can develop and thrive.

It is against this back-drop that this special issue has taken shape. It addresses the questions of what Organizational Development and Organization Design Science can learn from each other, and whether their perspectives can be beneficially combined to yield the capability to design and implement organizations that are understandable, approachable, and effective to the many human beings who work in or are affected by them.

Design and the Organizational Disciplines

Although the topic of this special issue might suggest that design views have been absent from organizational development and change management consulting, design perspectives have

a rich tradition in Organization Development. The SocioTechnical Systems perspective is essentially a design approach that was developed through the work of Eric Trist, Fred Emery, and Bill Pasmore, among others. The work of Donald Schön on reflective practice and Chris Argyris' concepts of design causality and actionable knowledge are likewise predicated on the notion that through reflection and the application of frameworks, organizational participants can find ways to more effectively accomplish their goals. In addition, although not focusing specifically on humanistic development, the stream of work on organizational design by Jay Galbraith has specifically looked at frameworks and has provided design principles to guide organizational participants in redesigning their organization to accomplish its strategic objectives. In a book based on design research that built on the work of Galbraith, the STS framework, and the organizational learning literature, several of my colleagues and I (Mohrman, Cohen, & Mohrman, 1995) have provided a process with principles and frameworks to guide design and change implementation in knowledge firms that intend to create team capabilities to integrate the various knowledge specialties required to carry out complex interdependent tasks.

Design is also implicit in the broader fields of organizational psychology and sociology, where various streams of work have developed several important notions: 1) that knowledge and social order are socially constructed in practice (e.g., Berger & Luckmann, 1966; Bourdieu, 1990; Giddens, 1993); and 2) that we design our organizations over and over in the course of making sense of what is happening as we carry out the work of management and the transformation work of the firm (e.g., the body of work of Karl Weick); and 3) that episodic larger scale change occasions the need for planned change (e.g., Weick & Quinn, 1999). Another stream of work that implies the need for design is the strategy based literature on organizational capabilities, portrayed as composite bundles of routines, organizational features, skills and

technologies that enable the organization to effect a desired end (e.g., Dosi, Nelson, & Winter, 2000). The corollary notion that organizations require dynamic capabilities—the ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece, Pisano, & Schuen, 1997)—implies the ability to intentionally design context, structure and process. To a great extent these disciplines have been concerned with theoretical explanation and description, rather than design. One might conclude nonetheless from these various theoretical frameworks that building intentional design capabilities is a primary approach to bridging theory and practice.

The Importance of the Design Perspective

The field of Organizational Development and the planned change literature have focused on interventions to engage members of the social system in dialogue about its functioning, and to provide participative forums for diagnosis, analysis, and sensemaking, and for the intentional construction of change that enables diverse participants to more reliably achieve their purposes. Yet the fields of OD and planned change are accused of having become irrelevant (e.g., Bradford & Burke, 2004; Greiner & Cummings, 2004), in large part because they have ceded knowledge about requirements for business success, and expertise in the design of solutions to the problems that organizations face to others, preferring to focus on social processes leading to change, growth, and development. Additionally, the gap between theory and practice is seen to have grown (Bunker, Alban, & Lewicki, 2004), thus limiting the amount of new knowledge that OD practitioners might bring to organizations.

In today's world there are many indications that we need to do a much better job of understanding and crafting the processes through which organizations determine purposes,

provide voice and opportunity, assemble, organize, and utilize resources, and in general yield solutions that address the formidable challenges facing our small planet and its inhabitants. The increase in the complexity and interdependence of the global economy, the opportunities and challenges presented by the galloping pace of technology advance, large-scale movement of people and work around the globe, a steady change in the locus of work and wealth, and pending shortages of resources and the skilled workforce required for developed nations to address the needs of their populations are just some of the major sources of these challenges. Indeed, this is an inflection point for organizations—a period of episodic and deep, multi-faceted change—that calls for the design of solutions to complex problems and affords an unprecedented opportunity for academics and practitioners schooled in organizational disciplines to influence how these challenges are addressed. Only if bridges can be built between theory and practice, and if the OD profession's focus on humanistic development can be complemented by equally strong attention to designing solutions to thorny business problems, can we take advantage of this opportunity to significantly impact how our organizations and institutions develop and whether they address needs of their stakeholders and achieve sustainability.

Building the Capability for Organizational Design: Theory and Practice

According to Herbert Simon, "Design… is the core of all professional training; it is the mark that distinguishes the professions from the sciences" (2001, p. 111). It has been argued that management and design are inseparable (Orlikowski, 2004) and that design is a discipline that should be fundamental to the professional education of managers (Mohrman, Mohrman, & Tenkasi, 1997). In a conference and subsequent book celebrating the completion of the Frank Gehry-designed Peter B. Lewis Building at Case Western Reserve University, Dick Boland and

Fred Collopy argue that managers need a "design attitude"—an attitude that "views each project as an opportunity for invention that includes a questioning of basic assumptions and a resolve to leave the world a better place than we found it." (2004, p. 9). I would argue that the academics who study management and organizations and the organizational development professionals who work to change organizations and develop human potential might also benefit from a design attitude—from greater attention to how the knowledge of the academy and the profession can be joined with the knowledge of practice to create innovative solutions.

Addressing today's challenges has put great pressure on our institutions to invent and innovate their products, services, and organizing approaches. This requires an ability to conceive of what does not yet exist—to go beyond existing alternatives and design something different than is currently known. Armand Hatchuel, at Ecole des Mines in Paris argues that innovation should be understood through a design lens—that it of necessity goes beyond current knowledge by generating new concepts that address the aspirations of users, participants and institutional stakeholders – concepts that require the generation of new knowledge and alternatives. Defining design as a collective activity aiming to expand both concepts and knowledge, he argues for "design oriented organizations" (2006).

Addressing the increasing complexity of contemporary organizations, Buchanan (2004) argues that the core organizational design challenge is to make the organization accessible to those who must interact with it. He argues for the application of "interaction design," an approach that has been developed and applied in other design disciplines. Interaction design incorporates the task based approaches of organization design in that it incorporates the diverse knowledge and specialized expertise of various participants. It also is human-centered, and in this way is representative of the myriad of "human-friendly" design fields such as usability

engineering, user-centered design, and experience-based design that are described by Bate & Robert (in press) and in their article in this volume. Interaction design entails the facilitation of relationships between these varied stakeholders, and fosters the accomplishment of their goals through the design process.

Both Hatchuel's notion of the design oriented organization, and interaction design as described by Buchanan are heavily reliant on the application of knowledge and the generation of new concepts by participants. The premise is that although it is necessary to go beyond what is currently known, to do so requires bringing to bear that which is known. In examining the nexus of design sciences and organizational development, this special issue of JABS embodies a similar quest: the combination of the promise of OD to bring participants together to envision and effect change, with the design science aspiration to generate and apply knowledge needed by those who would design the future.

There are many design sciences, including architecture, engineering, and medicine, among others. Practitioners in these design sciences build on a body of substantive and procedural knowledge in generating solutions (designs) for their field problems. Clearly, they also develop and bring tacit knowledge and "art" to the design process—and in fact these latter are often the wellsprings of conceptual breakthroughs and/or aesthetically and humanistically elegant solutions. Yet the advancement of these fields and the ability of their practitioners to create solutions to increasingly complex or novel problems depend on growing the foundational knowledge.

Several of the articles in this issue lay out the argument for an organizational design science, and for the articulation of its knowledge in the form of rules, principles, and procedures. The reality of social systems is that they house many simultaneous, interdependent activities and

multiple levels of analysis, and that various participants have quite different "pathways of interaction" with the system (Buchanan, 2004). Given this complexity and uncertainty, it is natural that treatments of organizational design science juxtapose the search for the guiding knowledge of the field with the descriptions of designing processes that bring to bear the perspectives, aspirations, and experiences of varied participants. Attending to the participant interfaces yields the aesthetics of design (Bate and Robert, in press), and is naturally related to the participative ethic of organizational development. The juxtaposition and rationalization of design sciences and organizational development are thus not only natural, but imperative.

Core Issues to Frame the Exploration of a Design Science for Complex Organizations

Important questions arise as this marriage of the two approaches is considered. These deal with the appropriate juxtaposition of expertise- and knowledge- based approaches to designing solutions and the humanistic orientation to the growth, development, and voice of people, and the acknowledgement of the importance of the social change processes of attaching meaning and developing a shared commitment and understanding. These issues include:

- How much formal knowledge can be specified in the form of alternatives, rules and principles and how much is generated in the course of implementing and designing through self-designing, self-organizing processes?
- If social systems are characterized by ongoing self-designing and knowledge is socially constructed, to what extent can knowledge from one setting be reapplied in another setting?

- What learning and adaptation has to be accomplished "in situ", and what role do models, rules and principles play in the localization process?

- How much design occurs through planned interventions, perhaps triggered by episodic change, and how much through the myriad of decisions that are made continuously as people confront challenges and anomalies—or as they simply think of better ways to do things? How do these complement or contradict one another?

- To what extent and how can design benefit from the findings and theories of the theory and research from the organizational and management sciences? Alternatively, can experience with design contribute to organization and management theory? What do the answers to these questions imply for the two professions?

- What expertises and perspectives need to be brought into the organization designing process, and how are diverse expertises and perspectives best integrated to yield a design solution?

- What and whose values should guide the design and how is that determined?

The field of organizational studies could (and probably will not resist the urge to) engage in epistemological, teleological, and ethical debates about the answers to each of these questions, and will differ about the desirability and practicality of pursuing an organizational design science. In the interests of designing a solution to the relevance gap that is said to be facing all fields of organizational studies, and of the pressing need for solutions to pressing and escalating problems, I suggest that it will be more useful instead just to get on with it. We must face these challenges by pragmatically exploring how to conceptualize a design science for complex organizations, and how this perspective and the perspectives of organizational development and change can profitably be interwoven to design and effect organizational solutions. I also suggest

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that we learn by applying the knowledge we have, by trial and error, and by sharing what is learned, in that way "building" the literature of organizational design science even as we test its premises. This approach enables those who want to become actively involved in this exploration to bring, as they inevitably will, their own values and perspectives to bear. The exploration in that way mirrors the challenge of designing any social artifact.

The articles in this special issue are a varied and thought-provoking set of contributions to this end of "getting on with it," combining current perspectives on, approaches to, and examples of the application of design science with analysis of overlaps, differences, and real or potential complementarities with organization development.

The Contribution of this Volume

Although I argued earlier that design perspectives are not new to Organizational Development nor to the Organization and Management Sciences in general, the notion of defining and beginning to build an Organization Design Science is relatively new. This issue of JABS benefits from having several contributors who are the early proponents and articulators of this concept/discipline (Van Aken, Romme, and Bate). The contribution also is enriched by examples from scholars and practitioners who are doing field work that builds on these concepts and who offer a glimpse into organizational design science in practice, into the process of combining the perspectives of theory and practice, and into methodologies that may be constitutive of this new paradigm.

Trullen and Bartunek begin by examining the intersection of Design Science and Organization Development, concluding that while there are many overlaps, there are also key differences. The differences (also pointed out by van Aken) are that Design Science

interventions are not necessarily aligned with some of the core values of OD, including

participation and emphasis on humanistic values, and that they do not involve as much self-

reflection as typical OD approaches. On the other hand, design sciences focus more on action

and on solving field problems, and design-based research offers approaches for hypothesis

testing, replication, and impacting theory by focusing on the underlying mechanisms that bring

about change. Trullen and Bartunek conclude that incorporating Design Science approaches

may be useful to OD in addressing its relevance gap and creating new vitality in the field.

Bate and Robert then provide an example of design sciences in practice as they explore

the application of experience-based design (EBD) approaches to the improvement of

organizational systems in the British National Health System. They provide an example from an

acute cancer treatment unit. EBD represents a departure from the traditional OD focus on the

health and effectiveness of the organization, and focuses instead on the aesthetics of design: on

improving the outcomes and experiences of the users of the organization's services or products.

While maintaining the emphasis on participatory design, EBD expands the range of interventions

and diagnostic approaches that are available to OD practitioners to include ways to make the

experience of the user accessible to the designers, and to include users as co-designers. EBD fits

with current trends in the management and design of many complex organizations to compete by

being customer centric (Galbraith, 2005)—able to deliver solutions and systems that address the

customer's needs and preferences.

Van Aken defines Organization Design Science and then discusses the potential points of

overlap with Organizational Development. He sees Design Science as comprising both the

substantive body of valid discipline knowledge that can be applied to solving field problems, and

its procedural, or interventional, knowledge. Contrasting the design sciences and more

explanatory sciences, he posits that the mission of design sciences is to develop valid knowledge to support the design of solutions to field problems, and he lays out his view of the characteristics of such a science and of design-based research (DBR). He lays out a 3-stage process model of planned design change that goes a long way both to address the change issues that are the meat of OD, and the local, in situ, redesigning and ongoing learning that must supplement formal procedure- and principle-based design processes if the desired outcomes are to be achieved. He argues that both business and human relations values can be addressed through a focus on performance, and on ongoing designing and learning. He sees a role for OD professionals in all phases of design-based change.

Andriessen's article presents an example of design-based research and intervention. He describes the development and field testing of a theory-informed tool (a solution) for reporting intellectual capital that can constitute an intervention into the sensemaking system of the organization with respect to how intellectual capital is understood and valued. His focus is upon using DBR as a methodology to bridge the gap between theory-based research and practice. DBR can contribute substantively to organizational theory by learning during design and intervention about the generative mechanisms and contextual features at work, while at the same time enhancing professional practice as organizational theory and knowledge are applied to develop solutions. Of the articles in the issue, this approach is the most explicitly oriented toward expertise-driven design and close relationships with the organization sciences. Andriessen describes two streams of simultaneous inquiry in design projects, one oriented toward knowledge creation, and the other toward practice.

Romme and Damen are also concerned with bringing the knowledge from organization science to bear on the design of organizations. They introduce the concept of boundary

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objects—malleable frameworks, models, prototypes, rules—that are the focal point for bridging

multiple knowledge communities so that the knowledge of practice and of theory can be

combined in designing large scale change interventions. They advocate the articulation of two

kinds of boundary objects: 1) "construction principles," which they define as propositions drawn

from organization studies that can guide the production of a new organization concept; and 2)

"design rules" that are grounded in the construction principles and provide detailed guidance

about how to design the organization. They posit that starting from the same set of principles

and rules, organizations may end up with many design variations. They illustrate this approach

by offering principles and rules for designing a "circular" organization—a learning-oriented

organization that builds in participation from all levels in the organization while maintaining

clear accountability. In choosing this example, they connect to the traditional values of

organization development through the kind of organization that is being designed, although it

would be possible to employ theory-based construction and design guidance to develop quite

different and less participative forms of organization.

Coughlan, Fulton Suri, and Canales describe a design methodology that also relies

heavily on boundary objects, although of a very different nature. They apply IDEO's learnings

from a long history of using prototyping in designing products and services to the design of

organizations. Interestingly, they see prototyping primarily as a way to change the behavior in

an organization to become more accepting of learning, experimenting, and changing. Thus, in a

fundamental way, they are describing an OD intervention, albeit one that is based on hands-on

experimentation and the building of ongoing design into the organization, rather than the typical

intervention approaches of OD that are based on reflection and analysis. Through its stress on

learning through action (iterative prototyping), this article fundamentally challenges the

prevailing views in the OD community that learning and developing occur through data gathering and analysis, dialogue, self-reflection, and action planning.

Two quite different articles are rich, empirical examples from the same massive change project described in the earlier article by Bate and Robert aiming to "reform" the English National Health Service (NHS). The aim, as stated by Bevan, Robert, Bate, Maher and Wells, is "to bring about a revolution in quality and a 'step change in results,' making healthcare more accessible, effective and safe for an entire country."   These authors focus on the application of design science at the large system level—recognizing that a major challenge is to bridge the gap between the world of the senior leaders charged with developing a national strategy, and the many local units charged with implementing change and improving their own effectiveness, and housing literally thousands of initiatives. Bevan et al. describe the process used to draw from organizational theory, change and design literatures a design process to guide the reform activities—and how they settled on design science because of its emphasis on pragmatism and the creation of actionable knowledge and solutions. As part of this process, they stressed the importance of being guided by design principles that embodied broadly applicable design expertise and knowledge. In a highly participative process, knowledge was distilled from the thousands of improvement projects in order to identify and "package" ten high impact changes, and to create a common understanding of and commitment to the system reform efforts at both the senior and local levels of the system.

The Plsek, Bibby and Whitby article explores an important methodological issue in how a design science discipline might actually evolve; namely, how generalizable design principles might be formulated. Their work is predicated on the notion that practitioners of organizational change and design are guided by tacit design rules that are based on their experience and

knowledge, and they examine four ways to get change professionals in the English National Health Service to articulate their rules so that they can become accessible to others. They speculate on how to create a system to compile design rules, and to certify their level of validity and generalizability based on multiple tests in practice. They also suggest that embedded design principles might become part of what is reported in journal articles on change.

Together, these articles comprise a fascinating glimpse into various images of, embodiments of, and potential approaches to the building of a design science—and to its potential relationship to OD. Authors who have approached their formulations of design science from an organizational theory perspective have been challenged to examine its fit with the tenets and values of OD. Authors who have been highly involved in advancing the field of Organization Development are exploring, both empirically and theoretically, the benefits to be gained by incorporating a design focus—a focus on solutions and actions.

Reading through this volume, it may be apparent that these two perspectives badly need each other. A principle-based design focus without complementary attention to the roles that many stakeholders will inevitably play in implementing and localizing the design and to the importance of human interaction and agency in how the design is formulated and unfolds is but a resource-consuming, academic exercise. Organization development through reflective and diagnostic processes that fail to focus on solutions to complex problems and that fail to use tools to help with the design of systemic changes to complex business problems is an idle activity that makes people feel good temporarily.

It is also evident from this volume that there are many unanswered questions, and that the journey to an organizational design science is just beginning. It is not a straightforward process to translate decades of practitioner experience and of organizational science research that come

from a paradigm of explanation into pragmatic design principles. Nor is it clear what kind of principles can catalyze the exchange of knowledge and perspectives required for design amidst the complexity presented by multiple stakeholders with their unique perspectives and preferred outcomes. The explorations recounted in this volume are a brave beginning and the end vision is not yet fully described.

Why is important that we embark on this journey? Why is the development of a "design attitude" and a design science important? And, why is the integration of design science and organizational development desirable? Several obvious and seemingly mundane answers are deceptively important in today's world:

1) A poorly designed organization leads to difficulty doing work and deriving satisfaction from it.

2) A poorly designed organization leads to the inefficient use of resources, poor performance and unreliability.

3) A poorly designed organization delivers less value to customers, employees and institutional stakeholders—shareholders and communities.

4) A design that is created without input of the knowledge, preferences and participation of those vitally affected will lack the aesthetics required for a positive interface and experience for human beings.

5) Perhaps most important is that the challenges facing organizations today constitute an overwhelming threat to their capacity to respond and thrive. How can the organizational world evolve so that increasing consumption of resources does not threaten ecological viability? How can organizations deal with relentless change and

ensuing complexity and at the same time contribute to community and human wellbeing?

The topic of this special issue --"Bringing Design Science to OD and Change Management Consulting" -- is a highly welcomed and long needed contribution to the field of organization and management studies in general, and more particularly to the scholarly literature that deals with how organizations change and are changed to achieve human aspirations while dealing with increasing complexity. I would like to personally offer thanks to Paul Bate, and Jean Bartunek, who developed the symposium at the Academy of Management that was the precursor of this special issue, and who worked with Dick Woodman to bring the issue to fruition. I also hope these varied articles, which together address many facets of design science and their intersection with OD, will stimulate ongoing research, scholarly and practical dialogue, and evolution of the knowledge and capabilities required to design and redesign the social systems that play a critical role in shaping the lives of most people.

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