Track 5.b Introduction

Strengthening the Design Capabilities of Professional Organisations in a Complex World

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Introduction

In Hong Kong of the year 2017, a new academic community convened to attend to pressing issues regarding design as source of innovation. The inaugural Academy for Design Innovation Management Conference (nee Design Management Academy) attended to a sense of urgency regarding the adoption of design capabilities within organisations as source of innovation. The title of the conference, *Research perspectives on creative intersections* was therefore pertinent, with papers exploring how design and designers were intersecting with new business challenges. Two years later in London (2019), rhetoric has notably shifted from matters of adoption to strengthening design capabilities within organisations, thereby enabling those organisations to unlock the possibilities and subsequent benefits of design. These possibilities include but are not limited to strategic and cultural renewal, design of new processes and meaningful engagement with hard-to-reach stakeholders.

To address the complex nature of today's societal and economic problems, professional organisations now recognize that traditional tools and approaches may not provide the required solutions. To address complex challenges, many managers and business leaders have consciously turned to design approaches over the past decade, including both public and private sectors (Bason, 2010; Dorst, 2015b; Irwin, 2015). To increase design capabilities, these organisations have established innovation labs with designers, have recruited designers in strategic positions, and/or have started building the design competence of existing staff through educational programs, often provided by design consultancies. Yet to date, describing the resultant impact of teaching. Individual design competencies on organisational design capabilities (Salvato & Rerup, 2010) has proven elusive.

There is limited evidence of the impact of design capability building within private and public sectors, although many seem to agree that workshops and short courses in design thinking do not lead to the required change. We identify that ubiquitous post-it-note workshops have become the associated image of designing shared by many practitioners. Yet this simplistic association reduces design to undisciplined brainstorming – an association that may be counterproductive to greater elevation of design as means to address complex societal challenges. Furthermore, capability building programs do not always build on contemporary educational and social theories of workplace learning which highlight the social and complex nature of how professionals learn (Hager, 2011; Orlikowski, 2002). This situation is further complicated by the fact that design for complex societal problems differs from traditional design practices, and should be *adapted* to the needs of this 'target field' (Buchanan, 2015; Dorst, 2015a; Smulders, Dorst & Vermaas, 2014; Van der Bijl-Brouwer, Kaldor, Watson, & Hillen, 2015). This means that design practices need to be adapted to deal with the complexity inherent to societal problems and organizations, and the political nature of dealing with divergent stakeholder needs. Happily, we observe that the scope of this Academic for Design Innovation Management

Conference in London (2019) has broadened to reflect the rich array of contexts in which designers now find themselves with contributions spanning across the public and private organisational spectrum.

Introducing the contributions to this session

The applications of design in complex contexts are diverse, as demonstrated by the wide variety of application areas represented in the papers that were submitted to this track session, ranging from the government, the financial sector, a supreme audit institution, an academic library, the science community to an airline. Each of these organisations has unique structures, processes, and histories which require customized adaptations of design and of the way it is introduced.

In the first paper of the session, Kim & Van der Bijl-Brouwer present an explorative study of the introduction of design practice within governments and conclude that embedding these practices is not just about developing skill-sets, but also requires organisational change. Rothkotter, Garner & Vanja present a literature review of the application of design in a science-based innovation context. Their results show a range of different types of design capabilities apparent in science-based innovation. They discuss the challenges at the creative intersection of science and design. Meijer-Wassenaar and Van Est work for the Netherlands Court of Audit and present a study of their work of introducing design practice to their organisation. They discuss how design practice needs to be adapted for use in supreme audit institutions. A second application of design in an academic context is presented by Gasparini who shows how design capabilities can be built within academic libraries, and how that brings (and requires) openness and dialogical spaces. Close-Debais & Matthews present an evaluation of the perceptions of design capability by staff from a financial service organisation. A critical discussion of what design competency is and how it can be built follows. Finally, Stoimenova, Stomph and de Lille present their action-research study in which they used design to develop 'organisational prototypes' for the ways of working, infrastructure and culture of an airline. Stoimenova and colleagues argue for continuous prototyping so organisations can adapt to a complex and dynamic context.

We have learned from our track that implementing design capabilities is not just a matter of exchanging one way of working for another. Design capabilities are novel and unprecedented in most of the present application areas we have witnessed in our track. Design capabilities in performative state could bring specific contributions that are believed to shed new light on existing (complex) challenges, unlocking solution spaces, in most cases unfamiliar to the actors involved. Based on the papers in our session we have identified three organisational subjects that are important to consider when building design capabilities. First, the topic of organisational learning that is undoubtedly related to implementing design capabilities must be more closely attended to. Second, developing design-rhetoric to better reflect organisational contexts in which capabilities are being built. Lastly, and very much interrelated to one and two, the need to acknowledge organisational changes that occur as collateral effects of implementing design capabilities.

Individual, collective and organisational learning

Two key questions to consider when approaching the task of strengthening design capability are; (1) how we learn, and (2) how we learn collectively in the context of professional organisations. From an individual learning perspective, theories such as experiential learning (Kolb, 1984; Moon, 2004) and practice-based or situated learning (Lave & Wenger, 1991) are commonly applied when teaching design skills in a professional context. Learning programs were proposed and/or discussed in five papers in this track session, all with an experiential 'learn-by-doing' element. Three of the papers showed cases of situated and practice-based learning where non-designers were actively engaged in 'design experiments' to introduce designerly approaches to their own organisation. For example, Stoimenova et al describe how airline staff were actively engaged in 'prototyping' ways of working and how that created noticeable change in the capability of the team. In this way design capabilities are built from 'within' the organisation with non-designers by demonstrating the possibilities of design, much akin to the work of Price, Wrigley and Matthews (2018).

While theories of individual learning have a long history, and organisational & team learning came up as a concept in the nineties (Argyris & Schon, 1996; Senge, 1990). More recent theories of professional learning focus on the complexity of organisations, and acknowledge that learning needed for successful performance in an occupation cannot be specified in advance or imparted in a formal course (Hager, 2011). Instead these theories conceive of knowledge as situated, negotiated, emergent, and embedded (Gherardi, 2009), and acknowledge that learning is not independent from context. Instead workplace learning and performance are

considered to be significantly shaped by social, organisational, cultural and other contextual factors (Hager, 2011). With the shift from collective and professional learning to a situated understanding of organisational learning, building design capability shifts from predefined context-independent design programs, to building learning spaces that allow design capability to evolve to allow adaptability of design practice (Elkjaer, 2004). A nice example of this is shown in the paper of Gasparini, who presents a range of different capability building interventions for public libraries, resulting in the design of 'dialogical spaces' where participants could feel safe, share knowledge, stances, and ideas freely.

A design language and vocabulary

A reoccurring topic that came up in the paper presentations was the language that was used to articulate what design is. The language impacts both the understanding of what design is (and what it is not), as well as the more emotional acceptance of new ways of working.

The first goal is about explaining to staff or colleagues how the act of designing has the potential to contribute to the purpose of the organisation in different ways. Gasparini described in this track session how building a design and project vocabulary are of paramount importance for building and sustaining design capability. For example, part of the design vocabulary discussed in the session was Buchanan's four orders model, which was used in both the Court of Audit study (Meijer-Wassenaar and Van Est) and the Science based innovation study (Rothkotter, Garner & Vanja) to explain the how and what can be designed (Buchanan, 2015).

The second goal of design language is related to the emotions involved in the discomfort that can often be experienced when new ideas presented that do not align with current views (Frese, Wegener & Smulders, 2018) and ways of working (Smulders, Dorst & Vermaas, 2014; Wegener & Smulders, 2019). The researchers from the Court of Audits for example explained how they developed a 'customised' language with terms that are related to elements of design, but are explained in terms of the language used within the organisation. The conference track session raised discussion of the 'Trojan horse' as a means to introduce design practice without explicitly calling it design. Applying design related activities like experimenting and visualising need not be referred to as 'design' as these activities are grounded in many disciplines. We see this distinction as a way to prevent entanglement in ambiguous discussions on what design is and what it can bring. An emphasis on action, demonstrating and experiencing design, is what engages stakeholders and overcomes hesitancies to a novel way of working (Price et al. 2018).

The development of a vocabulary and language are important elements of designing (Dong, 2007). Boland, Collopy, Lyytinen, and Yoo (2008) explain how "the design attitude includes an expectation that an organisation's familiar language will be subject to scrutiny" and, "that new vocabulary elements are expected as an emergent outcome of seeking to create a more desirable state of affairs" (p.22). They further argue that a critical awareness of vocabulary might also benefit organisation design. The discussions in this track session further contribute to this claim and suggest that building a new and customized vocabulary that draws on a linguistic perspective of designing as learning can strengthen design capabilities.

Organisational change

When addressing design capabilities in organisations, designers and design scholars are faced with an organisational-level phenomenon. Organisational capabilities are firm-level assemblages of lower-level routines (Nelson & Winter, 1982) and go beyond individual competencies (Salvato & Rerup, 2010). Therefore, to understand strengthening design capabilities of organisations, a sophisticated understanding of organisational change is needed for building organisational capabilities and underlying routines. The different papers within this track conceptualise organisational changes required to strengthen organisational capabilities for design as changing *practices*, changing *processes* and the *process of inquiry* inherent to organisational change.

Changing practices in organisations as a way to strengthen organisational design capabilities was a focus in several papers. For example, Meijer-Wassenaar et al. draw on Sparrow (2000) to conceptualize organisational change as requiring a change in practices instead of just changing regulations.

Changing processes, as bundle of practices, was another way of conceptualizing the organisational changes needed to strengthen organisational design capabilities. Close-Debais & Matthews highlight that building design capabilities in organisations requires changes in methodologies and practices (p.2). Similarly, Gasparini

conceptualized organisational change as "repeated interventions (each having a different design goal), and over time, led to integration of these ways of thinking and working with daily routines, transforming the work practices in the library" (p.2). Interestingly they link organisational change with organisational learning through referring to the process of inquiry by Dewey (1938) , as previous scholars in design have done (Junginger, 2008; Melles, 2008).

The process of inquiry inherent to organisational change is exemplified by Stoimenova et al. Their work highlighted the processual nature of organisational change as, "emergence of an adaptive organisational structure by tracing its evolution from the introduction of methods and tools to the full adoption of a new way of working" (p.2). Interestingly in their work they change organisational processes as stepping stones toward the process of organisational change. This reflects discussions in organisational change literature, highlighting that the changes of organisational processes (conceptualized as organisational routines) is an analytically fruitful way to study organisational change (Becker, Lazaric, Nelson & Winter, 2005; Feldman & Pentland, 2003). In line with this processual perspective on organisational change, Kim & van der Bijl-Brouwer problematize the very concept of 'embedding design'. Their discussion drawing on design and organisational development literature conceptualizes embedding design as "combined effort of introducing design practice and sustaining and amplifying design-led change energy until it transforms the public organisation" (p.3). Their work highlights the need to change practices, the processual nature and the requirement to transform the whole organisation toward a preferred state.

Together these studies highlight the required organisational changes when building a capability for design in an organization. Design often results in new concepts that not necessarily comply with existing ways of working (Smulders et al., 2014). An organisational design capability requires bringing new concepts from design to realisation, needing changes to existing practices, processes and engage in more fundamental organisational change (Junginger, 2008; Wegener & Smulders, 2019).

A research agenda for design capability building

When addressing design capabilities in organisations in a complex world, designers and design scholars increasingly are faced with pedagogical and organisational considerations. In this introductory paper we have highlighted topics such as educational models for individual learning and collective learning, the language and vocabulary used, and an understanding of organisational change. The different papers within this track reflect these different ways of conceptualising learning and the organisational changes required to strengthen capabilities for design. These discussions and papers are important stepping stones toward a fuller grasp of what it means to strengthen design capabilities in professional organisations in a complex world.

To further advance the field of design capability building, we propose a future research agenda that combines building a more expanded empirical base of effective capability building strategies, with a grounding of these strategies in relevant disciplines, including organisational learning and pedagogy, linguistics, and organisational management. Questions include for example:

- What does a 'mature level' of design capability in organisations look like to achieve their organisational purpose and goals? How can we measure that?
- How can we develop design and project vocabularies that strengthen design capability building?
- How can we ensure organisations are able to reap the benefits of deploying design capabilities?
- How do we build effective learning spaces to collectively reflect and organise dialogues that promote an ongoing practice of (organisational) learning?
- In line with the above, how do we organise for experiments based on these learnings that result in an evolving adaptive practice?

We argue that addressing these questions requires an interdisciplinary approach, bringing together theories and insights from design with those from for example learning, language and organisational studies. This requires us to move beyond our mono-disciplinary academic design community and engage with academics from these other fields. It also requires an engagement with practice, by actively experimenting with new approaches to strengthen design capabilities. Indeed, this diversity of disciplines and professional backgrounds was clearly represented in the audience and participants of the track session. We hope the session contributes to building a connected community of practitioners and academics to advance the body of knowledge on how we build, strengthen and sustain design capabilities in professional organisations in a complex world.

Acknowledgements

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