Submission for the Strategic Management Society Finland Conference

March 2010

Designing collaborative research to study scenario work

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Abstract

We explore the usefulness of a ‘design’ perspective for organizing collaborative research to study scenario work. Design has been receiving increasing attention in the management literature (Denyer et al 2008) to facilitate relevant and rigorous research involving both executives and researchers. Our paper is based on a five year collaborative research programme on strategic renewal. Based on this experience and a review of the design literature, we derive and propose a set of design principles for undertaking collaborative research into scenario work to further the effective generation of usable and rigorous knowledge.
Introduction and objectives

We explore the usefulness of a ‘design’ perspective for organizing collaborative research to study scenario work. Design has been receiving increasing attention in the management literature (Denyer et al 2008) to facilitate relevant and rigorous research involving both executives and researchers. The focus of design on solving field problems (van Aken 2004, 2005) is particularly relevant for researching scenario work because its conceptual development has historically been rooted in professional practices generating solutions to the real world problems of turbulence (Emery & Trist 1965; Ramirez et al 2008a). The approach we propose is consistent with van de Ven & Johnson’s (2006:803) concept of engaged scholarship “in which researchers and practitioners co-produce knowledge that can advance theory and practice in a given domain”.

Our paper is based on a five year collaborative research programme on strategic renewal. Based on this experience and a review of the design literature, we derive and propose a set of design principles for undertaking collaborative research into scenario work to further the effective generation of usable and rigorous knowledge.

Design and ‘design science’


‘Design science’ links design with science (Jelinek et al 2008) and has its roots in Simon’s (1969) differentiation between the study of natural systems and the creation of artificial ones. Building on this, van Aken (2004, 2005), differentiated ‘explanatory sciences’ such as biology, economics, sociology and physics from ‘design sciences’ such as law, medicine, engineering and management. In explanatory sciences, knowledge production concerns understanding, “to describe, explain and possibly predict” while in design sciences, the aim of knowledge production is to assist in the design of solutions for field problems (van Aken 2005:22). According to Jelinek et al (2008:318) “Simon foresaw that a design science approach could help overcome the isolation of specialists by providing a common ground for bringing our diverse interests together in a search for more desirable states of (organizational affairs)”. 
Denyer et al (2008) suggest that in design science research, questions are driven by problems in the field; the knowledge produced is prescriptive (helps solve these problems); and research validity is pragmatic (the knowledge produced delivers the intended action outcomes).

The prescriptive knowledge takes the form of design propositions such as “if you want to achieve Y in situation Z, then perform action X” (van Aken 2005:23) transcending epistemological divisions between general and contextual knowledge. Agreeing with the position of Eden & Huxham (1996) that an activity can only be regarded as research “if it produces knowledge with validity outside the context in which it was produced”, van Aken (2005:31) notes such propositions are scholarly within mid-range theory as the actionable statement can be generalized “to the extent that it can be translated to the contextual”.

Actionable knowledge is produced by professionals seeking solutions to field problems (van Aken 2005). Those doing research seeking such results often have previous and up to date fieldwork experience (as is the case with many authors of key scenario research publications – Wack 1985a, 1985b; Schwartz 1996; Schoemaker 1993; Wright 1999; van der Heijden 2005; Ramirez et al 2008a; Wilkinson & Eidinow 2008). Executives working with such research typically engage in reflective practice (Schön, op. cit.) and have a ‘design attitude’, described by Boland & Callopy (2004:3) as one in which “managers would approach problems with a sensibility that swept in the broadest array of influences to shape inspiring and energizing designs for products, services, and processes that are both profitable and humanly satisfying”.

This ‘design attitude’ also applies to researchers who pay “greater attention to how the knowledge of the academy and the profession can be joined with the knowledge of practice to create innovative solutions” (Mohrman 2007:15).

Research undertaken from a design science perspective is typically clinical - “research on the performance of interventions or artefacts, executed within the context of intended use” (van Aken 2004:228). For Schein (2001) a clinical approach is a joint (scholars and executives for example) inquiry into an issue of primary concern to the field, and takes to heart Lewin’s (1946) axiom that understanding a system is best done by changing it. Thus, all such research action is an intervention yielding new insights (Schein 2001).

The primary research method within design science is multiple case studies using cross case analyses (van Aken 2005). This enables data from an initial set of cases to be analyzed and preliminary propositions developed. These preliminary propositions are then ‘tested’ in additional case studies resulting in the final development of design propositions.

**Lessons from designing the Oxford Strategic Renewal Research Programme (SRRP)**

SRRP was in operation as a joint venture between the European Patent Office (EPO), Shell, and the University of Oxford between October 2003 and Spring 2009 (Ramirez et al 2008b). It researched links between strategic renewal and innovation in large European incumbent
companies. The team included five scholarly and five practitioner researchers. All team members had experience in both research and practice. The research was of a clinical nature, based on cross case analyses.

SRRP knowledge outputs included design propositions for explicitly changing the order of selectors to determine research priorities; a better understanding of how dashboards to monitor progress are used; and relating unfolding intellectual property landscapes to research and development efforts. Such outputs informed the work of participating executives, not only from the research team, but also among a wider group of organizations who served as case studies. In addition, wider learning beyond those practitioners and researchers immediately involved in the project has been facilitated through the production of a dozen conference papers and will be further extended through publications.

SRRP lessons about organizing collaborative research with a design science perspective include:

- Co-producing knowledge with executives not employed primarily as researchers significantly increased the power of reflective discussions and abduction (Pierce as cited in Burks 1946) in the research.

- Having all research team members experienced in both research and practice enhanced the clinical research process; and eased ‘translation’ of theory into practice and vice versa. Formally appointing executives as ‘associate fellows’ at Oxford also communicated the intellectual ambition to everyone (including those in other companies) early on as well as throughout the research (including our holding day-long practitioner events in Oxford to check the relevance of our work).

- The difficulties of accessing case studies (Hamersley & Atkinson 1995) were avoided by having first class participating organizations in the research team.

- Having executives in all studied companies (case studies) who had a genuine desire to intellectually explore areas as reflective practitioners turned research ‘objects’ into interactive research subjects – thus enhancing clinical effectiveness and joint inquiry.

- Allowing sufficient time for the research team to ‘gel’ and develop a sufficient degree of understanding and familiarity to work together was important. One cannot conduct such research in months – it takes years.

- Committing to knowledge outcomes that go beyond the immediate interests of the participants helped to avoid searching for ‘magic bullets’ and to stay focused on the problem, as opposed to seeking the solution (as consultants might want to do).

- Weick (2001:S74) argues that “if the university continues to stand for wisdom rather than a vocation, character rather than technicalities, and mindfulness rather than rationality, then it will remain a strong partner in a Mode 2 alliance and foster a richer definition of the ‘context of application’”. We found that the University of Oxford was an important element reinforcing this mode of research.
A design science perspective for researching scenario work

In this section we outline a design to collaboratively research scenario work using the lessons from the above experience and drawing on the literature.

Since 2003, a specific ‘Oxford School’ of scenario work has been under development. This School takes as its definition of scenario work including that outlined by van der Heijden (2005); Wilkinson & Eidinow (2008); Lang (2008); Lang & Ramirez (2009); Wilkinson & Ramirez (2009); Sharpe & van der Heijden (2007); and Ramirez et al (2008a). van der Heijden considers scenario work as enabling research and dialogue through enhancing the quality and effectiveness of “strategic conversations”. This work relies on scenarios that qualitatively explore challenging and plausible future contexts for individuals in organizations. These scenarios come in sets of two or more without probability being attached to them and are used to address turbulent conditions (Ramirez et al 2008a); improve the use of real options (Miller et al 2003) or early warning systems (Fink et al 2004); or enhance strategic thinking and the development of new options (Schoemaker 1995; Ramirez & van der Heijden 2007).

The research design contributing to how this ‘School’ aims to further understand scenario work includes the following principles:

1. The teams include reflective practitioners and scholars, and all team members act as researchers co-producing knowledge (thereby diluting the academic/practitioner divide).

2. All team members have significant experience in scenario work and are familiar with the essential literature, ensuring a shared understanding about the subject matter and real world problems.

3. The research strategy is a clinical one with preliminary design and research propositions developed and explored in relation to a range of settings (cases).

4. Sufficient time is allowed for the team to co-produce insights and research outcomes.

5. Individuals from several participating organizations join the research effort thus helping access to a broad range of research sites.

6. The research results in design propositions to be used not only by the organizations participating directly in the research but by many others involved in scenario work. These propositions take into account reviews of the literature and social science theories, benefiting from the usefulness of mode 1 research to do mode 2 research and contribute new propositions for further mode 1 research (van Aken 2005).

7. Housing the research within the University of Oxford is considered as a significant help in ensuring that the research stance obeys to Weick’s (above) propositions.

8. Give early consideration to how to publish the research outcomes, including perhaps publishing internal reports prior to public ones. There is a challenge related to publishing design science based research given the emphasis currently on research that is more explanatory in nature.
9. Holographic links (Morgan and Ramirez, 1984) to be designed for both the research method and the scenario work that is studied. This is consistent with the nature of the field that is researched, as scenario work itself reflects design science.

Conclusion

We outline how taking a design science perspective to undertake collaborative research on scenario work is valuable. This approach can effectively harness the expertise of scholars and executives to co-produce knowledge to help in tackling real world problems – knowledge that can go beyond the participating members of the research team, and which simultaneously co-produces scholarly outputs in mid level theory terms.

References


