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Case Studies of Strategy, Organization and Culture in Heterarchies

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With a foreword by
Prof. Dr. rer. pol. Dr. h. c. Dietmar Vahs

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Foreword

"Panta rhei" - Everything is changing, only one thing seems constant: the reference to increasing pressure to innovate. It would be an innovation to start a scientific text with a different topic. However, this pressure can be regarded the central trigger for far-reaching changes in the organization of companies that cannot yet be foreseen. Digitalization, globalization, demographic changes, ever shorter development and product cycles: more and more industries are characterized by hypercompetition. While China has been belittled as a copy-cat in the past, Chinese companies have already surpassed the West in many areas following their strategy "China 2025". In order to survive in the medium and long term, companies must more than ever be able to adapt flexibly to rapidly changing conditions. This ability of companies to adapt to new environments, to find their evolutionary niche and to transform themselves to fit the niche fast enough can be regarded as THE core competence of the future.

At the same time, digitalization offers many opportunities. In particular, new forms of cooperation are now possible, transparent and flexible across hierarchical, organizational and national borders. These can also be an advantage in attracting young talents, because more than ever employees attach importance to meaningful work, participation and leadership at eye level.

Alternative forms of organization promising to better facilitate flexibility and innovativeness, such as adhocracy, heterarchy or holocracy, have been known and described in organizational theory since the 1960s. However, it is only in recent years that the number of post-bureaucratic organizations, characterized by flat hierarchies, flexible project teams and a high degree of informal communication, has also increased in corporate practice. At the same time many traditional corporations such as Deutsche Bahn, Bosch, Daimler, and Siemens rely in parts on self-organizing and agile teams in order to keep pace with speedboat-like startups.

By definition, innovations are uncertain, complex, and risky. In retrospect, real innovations were mostly the result of intricate paths, marked by numerous setbacks, plan changes and persistant innovators. The attempt to "manage" the unknown, i.e. to plan, steer and control, mostly produces only incremental changes. In times when entire industries are faced with disruptive changes, small improvements will no longer suffice. To be able to play a leading role, companies need more courage to innovate more radically: directed inwards, i.e. chang-

es in the corporate structure and culture, as well as directed external, i.e. new solutions targeted at the market and customers.

Also the discipline that is concerned with fostering innovations in organizations has to evolve and does so. This book contributes to this by questioning the foundation of classic innovation management and examining a possible alternative. If heterarchies offer a more conducive environment for innovation than bureaucracies, how do they innovate and what can we learn from them?

Sarah Schoellhammer's fundamental work shows that in the innovation-friendly climate of heterarchies, innovation is enabled rather than being planned, controlled and sheltered from the mainstream organization. It also points out that holistically innovative companies are less a question of formal structures and processes than of culture and leadership. Authentically and insistently exemplifying the central importance of innovation and innovation-friendly values is of central importance. Formal structures as manifested corporate culture certainly have an influence on lived values. However, it is certainly not necessary to start a revolution and introduce a circular organization to learn from heterarchies how to innovate better.

It is still unclear what the innovation of innovation management will ultimately look like, whether it will remain incremental or more radical. What is certain is that the only constant is change; also concerning the discipline of organizing for change and innovation itself.

I wish readers both in the areas of science and corporate practice an interesting and insightful reading experience with this outstanding work.

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Director of the Institute of Change Management and Innovation (CMI)
Esslingen, October 1st, 2019

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C1 (2,3,4,5)...Case 1 (2, 3, 4, 5)
CEO .... Chief Executive Officer
C&L...Culture and Leadership
CTO .... Chief Technology Officer
DI ....Digital Transformers (case study organization)
e.g. ....Exempli gratia, Latin for 'for example'
et. al. .... Et alii / et aliae / et alia, Latin for 'and others'
FI   .... FIRECO (case study organization)
GL ....Global Industries (case study organization)
HRM ....Human Resource Management
HO .... Home Care Network (case study organization)
i.e. .... Id est, Latin for 'that is'
IM .... Innovation Management
INQUA ....Initiative Neue Qualität der Arbeit
KPI.. Key Performance Indicators
n.d. ....No date
org...Organizational
PE .... People Software (case study organization)
P&S..Processes and Structures
p.   .... Page
pp. ....Pages
S&D.. Strategy and Direction
SME.. Small and Medium-Sized Enterprise
R&D ....Research and Development
SWOT .... Strengths, Weaknesses, Opportunities, Threats
USA ....United States of America
Vol. .... Volume

Abstract

As innovation is an inherently ambiguous, complex and risky undertaking, there is often a presumption that shelter for innovation from the mainstream organization is the best approach. This shelter, too, provided by classic innovation management, remains working to bureaucratic principles of formalization and centralization, though limitations as to flexibility are acknowledged. Non-bureaucratic forms of organization, such as heterarchy, have long been proposed to better enable innovation. Why and how has been explored more in theory than in practice. The gap, describing and analyzing how innovation happens in heterarchies, is to be closed by exploring their strategy and direction, processes and structures, and culture and leadership for innovation. A multiple case study was undertaken, exploring organizational and innovation management practices in one small, two medium-sized and two large organizations, drawing from semi-structured interviews and a range of other sources. Cross-case analysis suggests that how innovation is managed in heterarchies is both distinct from and shares characteristics with the 'classic' approach; with variation within heterarchies. It is distinct in the extent to which there is less formally managed 'shelter' for innovation, and so greater exposure, but in a generally innovation-supportive climate. It is similar as the culture and leadership in heterarchies mirrors the norms and values associated with an innovation culture. This study is a contribution to knowledge in that it sheds light on how innovation happens in heterarchies, described in theory as particularly innovation-supportive. That contribution can be summed up as evidence that heterarchies are holistically innovative organizations, where innovation thrives because it is 'exposed' rather than sheltered, as an integral part of the innovation-supportive culture. That exposure brings with it a different set of challenges for leaders and employees to those normally associated with achieving and managing innovation. While such a picture in general was anticipated the details on the strategy, structure and culture of heterarchy are revealed. Further, the contribution here is evidence that heterarchies support innovation; they do so more by cultural norms and values than by formal organization; largely dispose of formalization and centralization both in general and for innovation, such as an official innovation process. The features of what such exposure of innovation entails can be explored and lessons for practice generalized within and beyond heterarchies. Innovation as it has been exposed here in heterarchies in the double sense, rendered visible and seen to be unsheltered, has

many implications for innovation in organizations, which are not mainly heterar-chical.

1   Introduction

1.1   Background

Organizations of all kinds are increasingly faced with challenging customer demands, rapid changes in technologies and increasing competitive pressures. As a result, they need to ever more flexibly respond and be better innovators. Drucker (1998) declared: "Today no one needs to be convinced that innovation is important. (…) How to innovate is the key question." 20 years later many debates in theory and practice exist about 'how to innovate'.

The discipline of innovation management aims to systematically improve corporate innovation performance, though it is acknowledged that innovation as an "unpredictable activity" cannot be wholly planned (Hunter *et al*., 2012). Still, this has given rise to classic innovation management, which "covers all tasks related to the planning, deciding, controlling, and monitoring of generating and implementing new ideas into marketable solutions," that is managing the innovation process (Vahs and Brem, 2013). There is often a presumption that shelter for innovation from the mainstream bureaucratic organization is the best approach, because innovation is an inherently uncertain and ambiguous undertaking, the journey from idea to launch being complex, non-linear, and risky (Van de Ven, 1996). This shelter, too, operating within the processes and structures of classic innovation management, is working to bureaucratic-hierarchical principles of formalization and centralization (Klotz, 2010). Limitations of innovation management in terms of flexibility are acknowledged; yet the adequate balance of freedoms and structures for innovative undertakings remains debated (Pfeiffer, Schütt and Wühr, 2012).

Non-bureaucratic forms of organization have long been proposed to better enable innovation. There is an extensive nomological network of terms and constructs to describe these, ranging across time from Burns' and Stalker's Organic Organization (Burns and Stalker, 1961) and Mintzberg's Adhocracy (Mintzberg, 1979), to more recent concepts like Holacracy (Robertson, 2007). These share a concern with strategies, structures and cultures that emphasize empowered individuals and teams, and primarily horizontal coordination in networks. These are associated with flexibility and capacity to enable ad-hoc emergent activity more than following a top-down plan. The contemporary theory which is adopted here to differentiate the organization form of interest

amidst the nomological profusion of terms available, is the theory of heterarchy (Reihlen, 1996; Stark, 2009). It is best positioned to be contrasted directly with hierarchical-bureaucracy, which enables the further elaboration and exploration of this at present.

Heterarchy in this thesis is defined as an encompassing model of organization, which contrasts with formal and stable hierarchical-bureaucracy particularly by its capacity to flexibly adapt its structure according to specific requirements. Thus, it integrates a multitude of possible organizational structures in one (Crumley *et. al.*, 1995). Heterarchy allows and requires, by definition, all parts to participate in this, actually or potentially. This is not, as some may imagine, a form of democracy. In a heterarchy power is dynamically allocated to the individuals perceived the most suitable, depending on tasks at hand and problem-solving skills of individuals and their situational expertise (Reihlen, 1996). Such is the theory of heterarchy.

In practice heterarchy seems limited to some maverick organizations that have experimented with non-hierarchical concepts on the firm level, "flat" or "bossless" organizations, reducing or removing managers (Hamel, 2011). Others adopt approaches based on principles for agile development projects (Ries, 2011) or Design Thinking (Schmiedgen *et al.*, 2015), which emphasize the role of self-regulating teams and fast experimentation. Together and more broadly these can be seen as instances of the adoption of non-bureaucratic forms of organization (Reihlen, 1996), where the limitations of bureaucracy in terms of flexibility have been to some extent transcended.

1.2   Research Questions and Aims

Heterarchies appear to favor innovation and are thought of as good, even great, forms of organization for innovation (Reihlen 1996). This is due to being organizations richer in characteristics supportive of innovation, including individual creativity (Sarooghib, Libaersa and Burkemperb, 2015), team effectiveness (Litchfield, Karakitapoğlu-Aygün, Gumusluoglu, Carter and Hirst, 2017) and innovation friendly systems and cultures (Colombo, von Krogh, Rossi-Lamastra and Stephan, 2017; Jaakkola and Hallin, 2018).

The theory that heterarchical organization can manage innovation well, given how their organizational form as whole is conceived, appears to have been supported by some empirical studies. This is not surprising as creativity is fostered

by organizational diversity, multi-layeredness, redundancy, organizational slack and rivalry (Spelthann and Haunschild, 2011), which heterarchies possess.

Prior research on heterarchies has often focussed on how they organize in non-bureaucratic ways (Hamel, 2007) or on their innovativeness (Bhargava and Sinha, 1992; Liu, Magjuka and Lee, 2008). Yet 'how' innovation, at these levels, is managed in heterarchies is obscure. The detail of practice in heterarchies remains uncertain and under-researched, and lacking the detail which is relevant to innovation management. To expose innovation management in heterarchies, to uncover and explore it, can provide the detail which can identify how heterarchies do innovation. This is of interest in itself; and may also expose how others in contexts that are and will remain bureaucratic might learn from this. The literature, conceptualization and theory all suggest that innovation in heterarchies is more coordinated by informal, cultural mechanisms than formal structures (Reihlen, 1996; Stark, 2009).

This shall be investigated on a high level in this work:

1) "Are innovation activities in heterarchies coordinated more by cultural norms and values or by formal organization, such as processes and structures?"

Beyond that, to advance our knowledge and understanding of innovation management in heterarchies the broad organizational themes of strategy and direction, structure and process, culture and leadership for innovation (Goffin, Herstatt and Mitchell, 2009; Stern and Jaberg, 2010; Cooper, 2013) can be adopted and elaborated upon more systematically and in detail.

The core research question here is:

2) "How do strategy, structure and culture shape innovation management in heterarchical organizations?"

How innovation is managed in heterarchies would be expected to contrast with classic innovation management, as described in major texts of the discipline. The constituent research questions then are about the extent to which the broad themes of innovation management, strategy and direction, processes and structures, and culture and leadership for innovation do differ between heterarchies and classic innovation management.

Thus, the further research questions are:

2a) "Innovation mangement within bureaucracies suggests a clear innovation strategy, but what initially guides innovative efforts in heterarchical organizations?"

2b) "Where the classic view suggests specific innovation processes and structures, how does an idea move from problem identification to market launch in heterarchies?"

2c) "Compared to the innovation culture and leadership described in innovation management, which organizational values and norms support innovative undertakings in heterarchies?"

The contribution of this research is to present knowledge about innovation management practice based on non-bureaucratic principles as potential alternative or complement to classic innovation management. That knowledge can be applied at the individual, project team and organizational levels in all kinds of organizations, heterarchies and hybrid forms of bureaucracies. Thus, these might also help organizations that are not wholly or mainly heterarchical increase corporate innovative capacity by using more effectively the collective intelligence and creativity of their people.

1.3   Structure

The structure of this work is described in the following and illustrated in Figure 1.

Figure 1.1: Structure

Chapter 1 introduces the reader to the background of the research, presents the research aims and questions, and gives an overview of the thesis structure.

The relevant literature is reviewed in chapter 2. First, the review covers the characteristics of innovation. This is followed by its prevalent organizational context, bureaucracy, in theory and its impacts on innovation practice. Next, the overview of classic innovation management is provided by considering the themes of strategy and direction, processes and structures, and culture and leadership. The bureaucratic elements in classic innovation management are defined. The characteristics of heterarchies, as alternative non-bureaucratic organizations, and their innovation practices are then outlined. The literature review concludes with a description of the research gap.

Chapter 3 describes the approach to answering the research questions. Initially, the purpose and aims of the research project are presented, using the conceptual model developed by the author. Next, the underlying philosophy and approach are described. The research methodology proposed and completed is a set of organization case studies. Mixed methods used for gathering and analyzing data are explained. The appropriateness, challenges and validity of this research approach are addressed.

Next, the research results are presented. First reporting the findings from five individual case studies in chapter 4, followed by the cross-case analysis in chapter 5.

The contribution to knowledge from these cases and cross-case analysis about innovation in heterarchies are discussed in chapter 6. Implications for other organizations are provided at the individual, project team and organization level. Opportunities for further research are outlined.

A final conclusion is drawn in chapter 7.

2   Literature Review

In this chapter the relevant literature is reviewed. An overview of covered topics is provided by Figure 2.1. These also form the basis for the initial conceptual model presented in chapter 3.2.
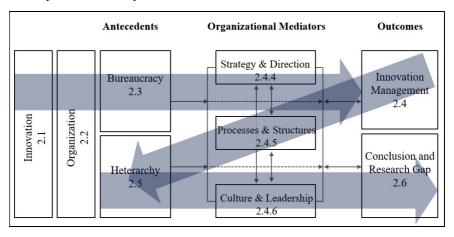

Figure 2.1: Topics covered in the literature review

First, the characteristics of innovation and its organizational context are outlined, particularly the concept of bureaucracy, prevalent in organization theory and practice. Next, there is an extensive section on innovation management and what is termed 'classic innovation management' literature and practice. This is based on reviewing major textbooks of the discipline. As theories of innovation from various disciplines exist these can be mentioned, though not all reviewed comprehensively. Further, heterarchy as alternative organization concept is introduced, focusing on what is known about innovation in heterarchies. The chapter concludes by describing the research gap in the literature.

2.1   Innovation

In the literature and organizational practice there is a general agreement that innovation is of central importance to firm and macroeconomic survival and growth (Drucker, 1998). Beyond that, consensus regarding the concept of innovation appears to be restricted to the understanding that innovation describes

something new, as the Latin origin of the term implies. 'Innovatio' derives from 'novus' (new) and can be translated as novelty, renewal, and introduction of something new (Vahs and Brem, 2013, p. 22).

Initiating the discipline of innovation, Schumpeter in 1912 first describes innovation as the "discontinuously occurring implementation of new combinations of means of production" (Schumpeter, 1964, pp. 99-100). Innovation fuels general economic progress through regular but discontinuous developments of "creative destruction" of established industries and the competences on which these are built (ibid., pp. 99-100).

Innovation has since been investigated at various levels of analysis such as individual, team, firm, industry, country and from many different perspectives (Damanpour and Aravind, 2012; Shipton *et al.*, 2017), in various disciplines, including sociology and psychology (Amabile, 1998), business and management (Drucker, 1998), and engineering management (Bullinger and Bading, 1997). Unsurprisingly some have concluded that "the term 'innovation' is notoriously ambiguous and lacks either a single definition or measure." (Adams, Bessant and Phelps, 2006, p. 22) The elements of a definition in this context are described next.

2.1.1   *Newness as The Central Characteristic of Innovation*

There is agreement on the fundamental criterion of innovation being newness (Damanpour and Gopalakrishnan, 2001; Vahs and Brem, 2013). There are diverse views, however, on what objects should be regarded as innovations, how new something has to be to be called innovative, and from whose perspective. This is elaborated upon in turn.

Innovation can be understood both as a process and as an outcome (Damanpour and Aravind, 2012). Perceived as an outcome, innovation is "a new technical, commercial, organizational, or social solution that aims to achieve organizational goals in a new way" (Vahs and Brem, 2013, p. 1); this refers to increasing the mid- and long-term competiveness of an organization (Damanpour and Aravind, 2012, p. 484).

Innovation aims to address new customer needs or fulfill existing needs better than the competition in order to achieve a competitive advantage. Innovative firms do best amidst fierce competition over price and profiting from a 'first-mover monopoly' (Vahs and Brem, 2013). This is why Brown and Eisenhardt pose that: "Product development is among the essential processes for success,