

THE LONG-TERM PATTERNS OF ORGANIZATIONAL RISKS:

Examining the Persistence of Risks and Their Impact on Management in
Organizational Change

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Akseli Malinen
Aalto University School of Business
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Author Akseli Malinen

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Abstract

Change in the corporate world is ubiquitous but beset with risks. Long term patterns of change have been studied extensively and from many theoretical perspectives, but rarely from the vantage point of risks.

This study aims to tackle the empirical sub-problem of what happens to organizational risks over time if traced within the confines of a specific industry over an extended period of time. It does so by answering the sub-questions: 1. What are some of the patterns by which organizational risks change over time? 2. Is the way that an organizational risk changes over time dependent on the longevity of the risk? Furthermore, 3. Do the patterns of change in risks share any parallels with broader tempos of organizational change?

The explorative qualitative research is designed as an inductive longitudinal multiple-case study. The unit of analysis is organizational risks that are manifest in risk factors texts from the annual reports of three telecommunications equipment manufacturers. The recurrences of individual risk texts are traced over 15 years, and the resulting time-series distributions of risks being introduced and removed are compiled using the change events that happen on an annual basis for each firm. Further comparison of change patterns and risk texts across the organizations, and the direct mapped visual data from the tracing of risks is used in pattern analysis in support of conceptual development with the objective of finding qualitative explanation and description of how the risks change over time.

The findings are that 1. risks can be categorized based on their persistence in subsequent years' reports as persistent or temporary risks. 2. If there is added a further categorization of risks based on whether they are unique to one organization or more widely recognized industry-wide, a relationship pattern emerges that most temporary risks tend to be unique to one organization while the vast majority of persistent risks can be found on multiple companies' lists within the industry. It suggests that as risks become longer lasting, they are more likely to affect everyone. Nonetheless, a small fraction of persistent risks ignore this 'rule' by not being shared across firms, which could be used to infer a heightened strategic significance to those risks, because their existence breaks the otherwise stale symmetry in long-term risk between competing organizations. Furthermore, the risks largely change as would be expected if the assumption is that they change in accordance with wider patterns of organizational change. The risks went through periods of stability separated by brief flareups of sudden, widespread change consistent with the punctuated equilibrium model of organizational change. Changes in risks also follow periodic patterns during periods of incremental change.

Keywords Risk, strategic issues, organizational change, strategic change, long-term planning, risk management

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Tiivistelmä

Muutos yritysmaailmassa yltää kaikkialle, mutta siihen liittyy myös riskejä. Pitkäaikaisia muutoksia organisaatioissa on tutkittu laajasti ja monista teoreettisista näkökulmista, mutta harvoin riskien näkökulmasta.

Tämän tutkimuksen tarkoituksena on käsitellä empiirisesti sitä, mitä tapahtuu organisaatioriskeille, jos niitä jäljitetään tietyn toimialan puitteissa pitkän ajanjakson ajan. Tarkemmin määriteltynä se hakee vastausta alakysymyksiin: 1. Kuinka organisatoriset riskit muuttuvat ajan myötä? 2. Muuttuuko riskit eri tavalla riippuen siitä miten pitkäkestoista riskeistä on kyse? Lisäksi, 3. Muuttuuko riskit samalla tavalla kuin organisaatiot muuttuvat laajemmin tunnettujen mallien valossa?

Alustavasti aiheetta selventävä kvalitatiivinen tutkimus on suunniteltu toteutettavaksi induktiivisin pitkäaikaisin monitapaustutkimusmenetelmin. Analyysiyksikkö on organisatoriset riskit, joiden oletetaan ilmenevän kolmen kommunikaatiolaitevalmistajan vuosikertomuksissa olevissa riskitekijöitä listaavissa teksteissä, ja niiden muutoksissa. Yksittäisten riskitekstien syntyminen, toistuminen tai poistuminen jäljitetään 15 vuoden ajalta kunkin yrityksen vuosittain tapahtuvien muutostapahtumien avulla, ja välituloksena saadaan riskien aikasarjajakaumat. Muutoksia vertaillaan yksittäisille yrityksille kartoitetuista visuaalisista aikasarjadiagrammeista, sekä syntyviä kuvioita yritysten välillä, ja saatua tietoa käytetään käsitteellisen kehityksen tukena tavoitteena löytää laadullisesti ymmärrystä tukeva selitys ja kuvaus sille, miten riskit muuttuvat ajan myötä.

Tulokset ovat seuraavat: 1. Riskejä voidaan luokitella niiden pysyvyyden perusteella pysyviin tai väliaikaisiin riskeihin. 2. Jos riskit luokitellaan edelleen sen perusteella, esiintyvätkö ne yksinomaan yhden organisaation listoilla vai laajemmin useamman yrityksen riskeissä, syntyy kuva konseptien suhteesta toisiinsa, että väliaikaiset riskit ovat useammin ainutlaatuisia vaikuttaen vain yhteen organisaatioon, kun taas valtaosa pysyvistä riskeistä ovat useamman yrityksen tunnistamia. Vaikuttaisi siltä, että mitä pidemmäksi riskit käyvät, sitä useammin ne jakautuvat laajemmin myös muihin toimijoihin toimialalla. Kaikesta huolimatta pieni osa pysyvistä riskeistä jättää huomioimatta tämän "säännön" siinä mielessä, että ne ovat pysyviä eikä niitä jaeta useamman yrityksen kesken. Pysyvien yksittäisten riskien kohdalla voi olla syytä vetää johtopäätös, että niillä olisi korkeampi strateginen merkitys ylitse muiden riskien, koska niiden olemassaolo rikkoo muuten monotonisen symmetrian kilpailevien organisaatioiden pitkäaikaisten riskien keskuudessa. Lisäksi riskit näyttivät suurelta osin muuttuvan, kuten voisi odottaa, jos oletus on, että ne muuttuvat laajemman organisaatiomuutoksen mallien mukaisesti. Riskeille oli ominaista pitkät vakauden jaksot, joita erottivat lyhyet äkillisen ja laajan muutoksen tapahtumat, jotka vastaavat organisaation muutoksen väliaikaisen tasapainomallin mukaisia odotuksia. Muutokset riskeissä näyttivät myös etenevän jaksollisesti jatkuvan muutoksen osalta.

Avainsanat Riski, strategiset kysymykset, organisaation muutos, strateginen muutos, pitkän aikavälin suunnittelu, riskienhallinta

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1 INTRODUCTION

The word ‘risk’ can take on various meanings depending on the context (Gephart et al., 2009). Sometimes ‘risk’ can be used to indicate the danger of a physical hazard or malady, a direct threat. At other times, ‘risk’ can refer to a gamble that only a courageous or foolhardy person would accept in the hopes of gaining an advantage, a variance-based view of risk. However, when it comes to organizational risks, neither of these descriptions of ‘risk’ is completely accurate. It is true that just like the concrete safety hazard, risks in the managerial setting take on a mainly negative connotation (March & Shapira, 1987). But unlike direct threats to human health or the environment, the organizational risks discussed in the current study refer to uncertain issues that threaten to leave an organization behind on its objectives. They are persistent and pervasive problems that are not easily mitigated. They are the conjectured possibilities that an organization will suffer adverse consequences from taking actions, usually emanating from regular operations, but also prominently stemming from efforts to change.

Aside from the direct connotations of risk, the wider way we conceptualize risks in society is also changing (Gephart et al., 2009). Sociologist Ulrich Beck has discussed how we increasingly live in a ‘Risk Society’ (Beck, 1992) in which individual sources of risk are difficult to pinpoint and are dispersed around the globe (Gephart et al., 2009). Being subject to an abundance of long-term uncontrollable risks has become the new reality under which businesses and society must operate in (ibid.). The impact on businesses and society is universal, yet the exact effects are unclear. The importance of risk research is growing alongside the weight of the burden on organizations.

1.1 Research problem

Accordingly, the thesis seeks to improve our understanding of how risks affect today’s organizations by examining how organizational risks co-develop with their host organizations over the long term and whether the change behavior of organizational risks has any relation to notions of effective change management.

1.2 Connected literature

Yet why would organizational risks be of interest to stakeholder groups outside of the prospective investors who seek to safeguard the value of their investment? Change in the organizational setting comes at an immeasurable pace. Yet, managers in charge of organizations are tasked with keeping the figurative ship afloat through the rough seas. When there is trouble looking far into the distance past the tall waves of unexpected events, it is reasonable to at least scan the field of vision for the nearest hazards and take heed to avoid them. In management literature, this type of proactive near-term management around approaching obstacles that can include risks, has been devised as Strategic Issue Management (Ansoff, 1980; Dutton & Duncan, 1987). Furthermore, the way companies steer from obstacle to obstacle, from issue to issue, in an ‘issue stream’ (Langley et al., 1995) or ‘issue network’ (ibid) has been suggested to lead to intertwined patterns of decision making (ibid) that in turn leads to consistent patterns of actions that can retrospectively be considered to constitute an organization’s realized strategy (Mintzberg, 1978; Mintzberg & Waters, 1985). The way that issues in an issue stream occasionally spring out as actions is depicted in Figure 1. As a result, the realized strategy often diverges from the one that was originally intended or planned (Mintzberg & Waters, 1985).

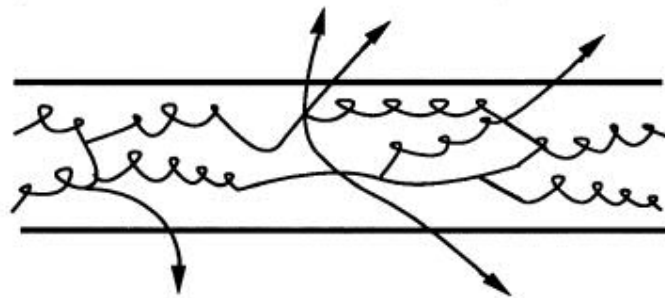


Figure 1. Issue streams involve complex interactions that occasionally come out as actions (Langley et al., 1995, p.275)

I would argue that risks, as future-leaning issues that lack predictability, fall into a category of strategic issues that has not been discussed in detail in past literature. While strategic issue management incorporates the recognition, prioritization and prescribing of action based on relevant trends and patterns that come to managerial attention (Ansoff,

1980), the strategic issue management literature is slightly less clear on how issues that are persistently unurgent, yet of medium importance should eventually be dealt with. Ansoff (1980) suggested monitoring those low urgency issues with moderate impact closely but left the continuation beyond to be decided by longer-term processes, such as periodic strategic planning. I see similar indecisiveness around persistently difficult organizational problems in other examples of managerial research that deal with day-to-day management. Notably, an anarchic model of managerial decision making called the Garbage Can Model of Organizational Choice (Cohen et al., 1972) shows that difficult problems can follow decision makers around from one organizational choice to another without getting resolved, because whenever a choice gets a problem attached to it, the associated decision-making becomes overbearingly more challenging, which leads to issue non-resolution. Thus, the persistent problems can only be resolved when there is an alignment of problem-solving resources, such as managerial attention from the right people that have the power to make changes, and workable action plans that can lead to problem resolution (ibid.). Hence, these theories add up to a picture, whereby ordinary day-to-day challenges as well as urgent matters can be addressed with swiftness, while more challenging problems or issues, such as what to do with organizational risks, require measures outside of the ordinary process to be resolved. In the case of risks that persist into the long-term, they may never get resolved; only noted down and passed down the line of heritage for future consideration.

This behavior where frequent minor day-to-day challenges are possible to overcome, while large and difficult problems may have to wait is consistent with previous empirical evidence of how organizations change following a punctuated equilibrium pattern (Romanelli & Tushman, 1994). The punctuated equilibrium theory suggests that organizations undergo lengthy periods of stability where small incremental changes do not amount to transformational changes (ibid). These quiet periods are punctuated by short bursts of revolutionary change (ibid) that allow an organization to occasionally reorient itself to compensate for changes in the external environment (ibid).

The punctuated equilibrium model is an example of discontinuous change (Weick & Quinn, 1999). However, there is research into a pattern of change that suggests continuous change behavior is also possible (e.g. Brown & Eisenhardt, 1997). Organizations that

change continuously make multiple small incremental changes that accumulate to become transformational over time (Weick & Quinn, 1999). Brown & Eisenhardt (1997) studied some highly performant organizations from the computer industry of the 1990s that had restricted their organizational structure to at a low enough level to stay flexible, but still had sufficient structure to not fall into chaos. They found that for those organizations, it was possible to undergo significant transformations without having to go through the rapid shifts that would have created a discontinuity with the past. They further suggested that the ability to change radically through frequent small adjustments is linked to routines that bridge the present with the future. For example, the practice of prototyping and having in place orderly transitions between project organizations was considered helpful (ibid).

Since organizational risks can be observed through both the short-term and long-term cycles, following their change patterns should offer an excellent vantage point to study how organizational changes unfold from a privileged perspective that includes a view on the full holistic display of long-term variations of stability and change, medium-term attempts to change in an orderly fashion, and quick changes in response to urgent crises, all aiming towards the accomplishment of strategic long-term goals.

In my view, there is an issue-oriented gap unto which management theory could be extended by focusing more towards the fixtures in the horizon compared to existent literature on strategic issue management. I see risky issues as a unique type of persistent strategic problem that in strategic issue management literature has been ascribed with less importance due to infeasibility of immediate actions that would lead to resolution (Dutton & Duncan, 1987), and a lack of pressing urgency (Ansoff, 1980). Organizational risks can have a significant material impact on the organization by their definition, yet their typical status of high temporal uncertainty and ambiguity cause their urgency to perpetually stay at a pre-crisis level, and since they are also rarely trivially resolvable, risky issues are not high on management's day-to-day issue priority when it comes to choosing actions.

Nevertheless, collectively, and long-term, risks are likely to cause significant impacts on the organizations that they afflict. Thus, how they get managed is interesting. As time

goes on, even minor influences in how the organization is steered around risks could lead to a drift in a certain direction, which could be retrospectively visible as a pattern of action. Patterns of action over time, if consistent, have been suggested to effectively turn into parts of the organization's realized strategy in the long term (Mintzberg, 1978). Hence, by studying the long-term patterns of organizational risks as they change over time in some corporations, it may be possible to inductively learn new insights about how less studied strategic phenomena, such as autonomous strategic processes (Burgelman, 1991) operate and blend with other organizational processes in the long-term.

1.3 Research gap

Consequently, there can be identified an addressable gap in existing literature that touches on risks, strategic issue management, and the tempo of organizational change literature. Existing theories of how issues and problems with risks attached can be managed in the short-term do not necessarily fully cohere with the long-term persistence and impacts of organizational risks. Furthermore, the long-term behavior of organizational risks and their strategic outlook is not well understood either.

In terms of issue management, previous research has concentrated on the management of major and pressing issues that form the priority of strategic issue management (e.g. Ansoff, 1980). In contrast, the management of strategic issues that are perpetually unurgent, and of medium importance have not received the same amount of consideration even if the combined effects can be expected to be of strategic significance in the long term. For many risks that have a low probability of occurring, the associated negative consequences are persistently rooted in an uncertain future, because they are unlikely to occur in the short-term, but a constant threat is still maintained. Strategic issue management is well thought out in the case of major and pressing issues, but issues from the opposite end of the spectrum, i.e. minor and future-leaning issues with risks, could use more theoretical consideration on how their management relates to urgent issues that are the traditional focus of strategic issue management, and to support the theory-building it would be useful to cumulate evidence of how they are dealt with in practice.

The study is an indirect response to calls for more research attention towards sequences of issues going forward in time (Langley et al., 1995). Organizational risks by definition imply potential material impacts on the performance of the corporation or non-profit organization. Those risks that persist into the long term can present unique lasting issues for management, and since the profile of risks and outcomes can be spread out over time, the effects and probability of occurrence can be amplified in the long term. They present the opportunity for unique effects that perhaps should be accounted for in the management of organizational change. Regardless, I would argue that the area of organizational risks and their effect on organizational change deserves more study.

Furthermore, I would suggest that the tempo of organizational change literature (Weick & Quinn, 1999) would benefit from a more rich evidence-based outlook of how organizational change unfolds if the well-studied view of overall revolutionary transformations is complemented more with examples of how different small specific aspects of the organization change over time, such as the organizational risks, and relating those aspects to how they contribute to the overall rhythm and direction of change. The existing literature has been centered around large transformational changes in the strategy, structure and management composition. I would argue that there is a gap in the understanding of the pace of fine, minor changes, such as those of organizational risks that can contribute to the puzzle of understanding change in the organization as a whole with the assumption that minor details add up to constitute the big picture.

1.4 Objectives of the study

Thus, in an attempt to elucidate how organizations maneuver around long-term obstacles in the form of organizational risks, the objective of this study is to provide an initial empirical exploration of how organizational risks develop over time in some real organizations. The higher-level goal is to improve our understanding of how organizations progress through time in general, whether they change through strategic change or problem-oriented evolution.

1.5 Research question

The research question is:

What happens to organizational risks over time in the context of a specific industry?

By mapping out the patterns by which organizational risks change over time, the hope is that it may be possible to develop a picture of how the risks change relates to other long-term patterns of change observable in the process of organizational development.

1.6 Structure

The work was organized based on a standard qualitative thesis structure (Zalan & Lewis, 2004).

It starts with an introduction that contains the motivational background, research problem, connected literature, research gap, objectives of the study, research questions, and the structure.

The introduction is followed by a literature review that is divided into three parts. The first part explores the meaning of risk through the lens of past literature to lay the foundation for the research. The second part builds on the identified meanings by relating them to practical problems in risk management through a comparison of risks with strategic issues and generic management problems. The third part of the literature review examines known organizational change rhythms and relates them to what was learned about risks in the previous sections. Finally, the literature review ends with the theoretical framework that condenses the discussion and paves the groundwork for the new knowledge generation work. The theoretical framework is essential for linking the new research with the existing body of work near the topic. New refinements to the framework suggested by the empirical parts of the research are what is used to push the boundary of knowledge forward.

The literature review is followed by a methodology chapter that develops the basic ideas posed by the research questions, refines them into sub-questions, and then further into a

viable research approach. Data collection, and data analysis methods are discussed. The chapter ends in an evaluation of the research process.

The results of the study are presented in findings. Subsequently, there is a 'discussion' chapter that relates the new findings in relation to existing literature, interprets the findings and discusses the limitations. Finally, a conclusion chapter summarizes the answers to the research questions, explores the managerial implications and provides recommendations for future research.

2 LITERATURE REVIEW

In this chapter, I evaluate risk literature, strategic issue management literature and organizational change literature, and argue that there is a critical gap in their intersection which could be leveraged for novel perspectives into the management of organizational risks and change.

First, I explore past literature on risk's meaning to get a better idea of what the research question is asking. Recent movements in risk literature have resulted in a distancing of the concept of risk away from traditional (e.g., March & Shapira, 1987) variance-based views of risk in the context of management. Typically, risk research based on the variance-based view seeks to blame accidents and wrong decision making on the fallibility of the individual decision-maker for not being able to correctly analyze situations, and thus not responding to risks properly (e.g., Tversky & Kahneman, 1974; March & Shapira, 1987). Increasingly prominent postmodernist ideas (Miller, 2009), on the other hand, such as an action orientation (Miller, 2009), allow the analysis and criticism to transcend beyond the level of the individual by looking at for example the wider social system's 'loose or tight coupling' (Orton & Weick, 1990; Perrow, 2011), or the organization's ability to create a 'high reliability' environment (Weick, 1987) that is safe for all stakeholders. Taking the perspective away from single decision points to fluid organizational action chains that happen at multiple levels (Miller, 2009) opens the possibility that risks can pose persistent organizational problems in the long term.

Subsequently, I review literature that can offer viewpoints on the practical management tasks posed by risks. I use the example of strategic issue management (e.g., Ansoff, 1980; Dutton & Duncan, 1987) to argue how risks can go unaddressed in the short term, with the expectation that some risks may as a result become problems for the long-term management of organizational change. Then, I assess risks in relation to the Garbage Can Model (Cohen et al., 1972), which I argue shows that solving management problems related to risks is challenging not only on the individual level, but also on an organizational level, and the challenges that come with them transcend strategic issues of the short term. Overall, the models highlighted in this section demonstrate that practical issue prioritization considerations in managerial praxis (Whittington, 2006) may intensify

persistence of risks with potential implications for patterns of organizational change. Furthermore, it highlights the existing literature on how risks change over time based on existing models of management, finding practical managerial answers to the research question on how risks change over time.

Finally, I assess organizational change literature from the perspective of how it can affect the timing of risks being created or extinguished. The section examines how organizations are thought to change over time in prior literature, because of the expectation that risks, being embedded within the activities of the organization, will be affected by change patterns of the rest of the organization. Whether organizations change in punctuated equilibriums (Tushman & Romanelli, 1985; Romanelli & Tushman, 1994), continuously (Brown & Eisenhardt, 1997) or in episodes (Hendry & Seidl, 2003), risks are likely to be present and the ability to manage them in an appropriate manner will be critical. The assessment explores how organizations are thought to change over the long term.

In the end, a theoretical framework is put forth as well as hypotheses that form the motivational basis for the research approach of the study.

2.1 Modernism, postmodernism, and the concept of risk

To begin the exploration of literature related to organizational risks, it is useful to first review the different meanings of risk adopted in competing streams of literature to pinpoint what is meant and to avoid confusing concepts. Mixing different meanings is a real concern, because ‘risk’ can be used in a plurality of ways that come with consistent sets of associations that are linked with those perspectives, and them only. Even if attention is paid to distinguish between the distinct meanings, the main ways of using risk are still difficult concepts to define comprehensively because there is no common theoretical framework that most would agree with, not even within the context of the same streams of research. However, two broad approaches to risk research can be identified: modernist and postmodernist (Miller, 2009). This study considers both as valid ways of seeing risks, but it is important to keep them separate, so as not to mix concepts, which would lead to unnecessary confusion.

The first of the two approaches to risk that will be introduced is based on modernism (Miller, 2009), which is a movement in philosophical sciences that has its roots in the Enlightenment (Miller, 2009, p. 158). Modernist research is often based on a positivist or postpositivist (Eriksson & Kovalainen, 2008) philosophical position that considers that risks exist as the real intrinsic probabilities of events and assumes that the exact valuations are not knowable (Miller, 2009), but estimates are considered to approach the real valuations as they get better (Eriksson & Kovalainen, 2008, p. 19). More specifically, under a modernist framework, risks often refer to the estimates of a variance in outcomes from decision events (Gephart et al., 2009). Risks under modernist assumptions are calculated or guessed predictions rationalized or constructed as having a probability or general likelihood of occurring, and a severity of impact in case the risk ‘materializes’ (March & Shapira, 1987).

Postmodernism, on the other hand, is a loose family of ideas assembled around running contrary to the modernist view (Miller, 2009). Postmodernist thinking criticizes assumptions in modernist thought, such as the reductionism (Eriksson & Kovalainen, 2008; Corbin & Strauss, 2008), which is the belief that complex reality can be reduced into simpler rules with generalizing power (Corbin & Strauss, 2008), and the remnants of naive positivism in modernist theory. Postmodernism often especially emphasizes the socially embedded aspect of human interaction (Miller, 2009) by form of for example social constructionism (Berger & Luckmann, 1967; Eriksson & Kovalainen, 2008). The postmodernist embeddedness (Miller, 2009) and relativism (Eriksson & Kovalainen, 2008) are in tension with the cold and calculative premises of modernist thinking (Miller, 2009).

The differences in implications for organizational risks of the two approaches become apparent already by examining their contrasting aspirations for ideal states of the world. The objective of modernist research is to establish a perfectly controlled world through science (Miller, 2009). It is heavily reflected in the way modernist risk research focuses on finding ways to control, harness and mitigate risks for the betterment of the society. Conversely, postmodernist research shifts from the goal of perfect control of the world, and risks, to an examination of multiple perspectives and experiences of the world and an evaluation of the role of social actors in actively creating that world (Miller, 2009).

Postmodernist research is more accepting of multiple views co-existing and conflicting with each other (Eriksson & Kovalainen, 2008) with a lesser commitment for objective truth. Postmodernist risk research often recognizes the role of humans in the creation of risks, both in their direct role of thinking the risks into existence as a social construction (Berger & Luckmann, 1967) and for being socially and ethically responsible for enacting (Weick, 1988) the risky activities into practice that have the potential to inflict negative consequences on themselves or others.

With stark differences in ideal end states, the lens of which they use to view risks, researchers that follow a modernist or postmodernist view also tend to favor different research methodologies. Postmodernist research tends to favor qualitative research (Eriksson & Kovalainen, 2008) that explores more richly and openly a social reality in specific contexts, while research that follows a modernist postpositivist perspective often attempts to find rules with strong generalization that applies in all contexts, preferring quantitative methods (Eriksson & Kovalainen, 2008).

Table 1. Contrasting modernist and postmodernist assumptions (Miller, 2009, p. 166)

Dimensions of Contrast	Modernist Assumptions	Postmodernist Assumptions
<i>Unit of Analysis</i>	The individual is the primary unit of analysis for understanding organizational risk.	Risk is a social and multilevel phenomenon.
<i>Risk Preferences</i>	Risk preferences are given and left unexplained.	Risk preferences, perceptions and responses are learned.
<i>Risk Quantification</i>	Risk is objectively quantifiable.	Risk is subjective and unquantifiable.
<i>Nature of the Environment</i>	The environment is given and probabilistic.	The environment is complex, socially constructed.
<i>Ethics</i>	Ethical considerations are omitted.	Ethical considerations are integral to risk assessment and management.
<i>Risk Responses</i>	Decisions are the key way that organizations respond to risk.	Actions, not just decisions respond to risk.

In Table 1, modernist and postmodernist assumptions can be seen side by side. This thesis starts from the premise that while they may seem contradictory, modernist and postmodernist views on risk are not necessarily mutually exclusive (Miller, 2009), but rather, they can co-exist and can lead to different interpretations of risk in managerial 'praxis'. Praxis is the way practices are interpreted and made into use in practical day-to-day circumstances (Whittington, 2006). Modernist approaches emphasize a focus on objective and rational decision making, and thus seek for concrete and imminent risks, whereas postmodernist risks are the manifestations of more complex social interactions (Berger & Luckmann, 1967), and are reflected in more widely disseminated cultural practices.

Accordingly, in many examples of postmodernist risk research, the main focus in terms of the phenomenon under study has been shifted from the analysis of individual decision making on various issues to a focus on better understanding the social context of risk (Miller, 2009). The organizational aspect is emphasized. It is recognized that decisions happen as a small part of a greater process that is embedded in a larger organization, which in itself is embedded in wider society and various intersecting cultural subgroups with layers of overlapping social realities (Miller, 2009).

Outcomes of risks are not only considered from the standpoint of their immediate effects to the organization or the people in the position to make decisions, but also ethical considerations are considered of the effects that risks have on stakeholders across boundaries (ibid). Social groups, such as occupational communities (Lave & Wenger, 1991) or communities of practice (Brown & Duguid, 1991) with their distinct collective identities become primary actors in the risk practice (Miller, 2009) in the place of the individual rational manager (Simon, 1955) invoked in modernist representations.

In the interest of answering the research question of this study, i.e. how risks develop over time, a key point of tension between modernist and postmodernist conceptualizations of risk lie in the modernist ideal of rationality. By the modernist mindset, risks are often seen as environmentally given or driven, or the hands of the managers are perceived to be forced by the 'facts', and there are objectively correct sets of actions in response to the risk that represent what a rational actor would do at face of objective reality. On the other

hand, from the postmodernist perspective, risks are socially constructed (Berger & Luckmann, 1967) – they rise through social processes (Miller, 2009) rather than being dictated by strict pairings of prospective actions and predicted outcomes, and at least by the relativist (Eriksson & Kovalainen, 2008) paradigm, there does not exist any privileged perspective that would have the one and only correct way of determining what can be called risks, and what responses to risks should be taken over other alternative views. Accordingly, each set of risks and responses is intractably linked to a specific context and set of actors and does not necessarily make sense taken outside of that context.

These differences in emphasis affect how risk can be viewed from the perspective of long-term organizational change. Managing risks is a critical part of management of organizational change because responsibility for risk outcomes in the long term is forged with the fate of the overall organization. In the process of choosing a path for implementation, managers are tasked with evaluating and choosing between actions that relate closely to organizational risks and outcomes.

One factor related to organizing change around risks is whether organizational risks can be considered to exist objectively (Miller, 2009). In other words, when discussing risky actions, it is pertinent whether the risks refer to specific concrete threats and opportunities that can be pinpointed to specific threat contingencies. If a risk is related to a specific event or contingency with a known time and place, there is a clear window of time when any mitigative action can take place prior to the risk potentially manifesting itself. Thus, the risk is set to resolve itself in time.

Postmodernist theory would disagree with the objectivity. If risk is assumed to be socially constructed (Berger & Luckmann, 1967), whether a risk exists is a subjective proposition (Miller, 2009; Maguire & Hardy, 2013). Risks hang in the balance of ‘normalizing’ (Maguire & Hardy, 2013) and ‘problematizing’ (ibid) forces that wrestle for the legitimacy of the risk. For as long as there are proponents that consider the risk legitimate, the risk can continue to exist in the subjective reality of an individual or group, thus, it would be acknowledged as part of that social reality and inform action accordingly. With modernism, there is always an objective reason or purpose for which a risk exists, whereas

with postmodern perspectives, the risk can take on a freer existence, but still be definitive in shaping the future of the organization.

Beyond whether a risk can exist objectively, there is another point of contention that brings to the forefront tension between the modernist and postmodernist theories of risk in the context of this study's objectives of understanding the long-term role of organizational risks. That is in whether they consider risks to be quantifiable (Miller, 2009), or in other words, whether it should be possible in an ideal world to assign probabilities to the different outcomes of risks. For example, modernist cognitive risk research has explored how well managers evaluate or miscalculate the probabilities of risks (e.g., Tversky & Kahneman, 1974; March & Shapira, 1987). In assuming quantifiability they expect managers to be able to put numbers on the probability of outcomes before making decisions (March & Shapira, 1987). Accordingly, there is an attempt to improve the management of risks by highlighting harmful cognitive biases (ibid) that may be negatively influencing management's accurate assessment of risks. Postmodernists are critical of assumptions of quantifiability. Some maintain that risks are not quantifiable (Maguire & Hardy, 2013). They argue that in a society where risk is continuously evolving, there is no fixed, predictable set of probabilities, but rather an ever-changing, fluid, chaotic, and dynamic world that is constantly evolving with multiple moving factors and possible contexts that makes effective quantification practically impossible (Miller, 2009).

Such a world in flux is beset with uncertainties. Where the uncertainty in risk comes from is another key point of contention in the literature that impacts how risks can be approached from a management perspective. Uncertainty is a measure of how confident a manager can be in the estimates of outcomes (Duncan, 1972, p.319). A modernist variance-based view of risk assumes that parts of the world are inherently uncertain or probabilistic (March & Shapira, 1987; Gephart et al., 2009), meaning that the probability associated with the risk is intrinsic to the world and thus it is impossible to predict the risk's outcome beforehand, nor is it possible to pinpoint the risk to a mechanism that causes it to deal with the cause directly. Postmodernist theories of risk in organizations are often more nuanced in attributing the source of uncertainty to a variety of sources that emanate from social phenomena, including the risk being due to complexity in the system

(Leveson et al., 2009; Miller, 2009) or that uncertainties arise from close coupling between separate parts of the system (Orton & Weick, 1990), or a collectively created culture that is unsafe (Weick, 1987). Regardless of modernist or postmodernist approach, uncertainty is a central element that defines risks, and thus any qualitative examination of organizational risks should be vigilant and sensitive for themes related to how uncertainty is dealt with.

Managing quantifiability or the lack thereof and other forms of uncertainty are essential challenges from the standpoint of organizing change that become tougher the longer the time horizons. Quantifiability affects the ability to weigh alternatives and to put objectives and goals in order of priority. Uncertainty, on the other hand, affects the ability to trust conclusions. If the two occur together, being unable to weigh alternative lines of action due to unquantifiability and not having enough information to reach certainty about consequences makes acting difficult. Moreover, the uncertainties and troubles finding accurate numbers get further exacerbated when trying to extend reasoning to the long-term horizon.

Hence, some postmodernist thinkers reject the feasibility of creating fully safe organizations. For example, Charles Perrow's normal accident theory (2011) suggests that accidents, mishaps, and crises of various magnitudes are inevitable over time in complex systems. The key response according to him is in managers, organizations and society taking action to avoid engaging in risky activities altogether (ibid) and shutting down existing sources of risk if the consequences of them inevitably failing in the long term would be unthinkable to society (ibid) or the organization's continued life. Thus, following Perrow's reasoning, even relatively unlikely risks, if the effects are sufficiently serious and the causes plentiful and unaccounted for, should be evaluated as posing organizational problems in the long term.

Karl Weick (1987) is more optimistic about the prospect of avoiding organizational failures from negative risk outcomes. He offers the enactment of safe social systems as a solution (Weick, 1987; Weick & Roberts, 1993). Enactment (Weick, 1987) is the act of weaving constructed schemes into new social reality that can be implemented collectively. Weick suggests that it is possible to enact safe social systems by

incorporating slack that safeguards against human fallibility (ibid). In doing so, he shifts the blame of disruption and failure from the individual to how the system is constructed.

Even though the process of enactment is nominally a shared social undertaking, Weick (1987) proposes a relatively individualistic approach on how that collective safety can be brought into place. He suggests that reliability from risk can be achieved through simultaneous centralization and decentralization of management (ibid). To overcome crises, the system needs central control through shared culture and values that are hammered in during periods of stability (ibid). Conversely, he suggests that action and decision making need to be decentralized to achieve timeliness of response (ibid).

Thus, following Weick's (1987) High Reliability Organizations logic, risky organizations require re-imagining or reorganization until they can function safely under risky, abnormal circumstances. To facilitate such safety, maintaining lists of risks can be interpreted in the spirit of Weick (1987), as solidifying an organization's preparation for crises. The practice of listing risks raises the likelihood that problematic situations that could cause breakdown of social order (ibid) are thought of and compensated for in the proactive design of the social system. If thoughtfulness of risks (Weick & Sutcliffe, 2006) are properly incorporated into a safe culture (Weick, 1987), it facilitates a readiness to act in a conforming manner if the risk were to transpire. To keep alertness up, there needs to be persistent warnings about the risks embedded in the communities of practice (Brown & Duguid, 1991) or collective mind (Weick & Roberts, 1993) of the organization, which would be consistent with Weick's later writings about the need for 'mindfulness' in organizations (Weick & Sutcliffe, 2006). The risks could be interpreted as manifestations of 'war stories' (Boje, 1991; 2001) of threat told by the communities of practice (Brown & Duguid, 1991) in the process of coping with everyday life, part of the cultural legacy or organizational memory (Walsh & Ungson, 1991) of the organization. I see the organizational risks as functioning in this role of an organizational object that reflects concerns about potential threats, and that is why examining the change behavior of organizational risks over time can betray information about the wider flow of change within the organization.

Whether it is by Weick's High Reliability Organization or Perrow's Normal Accidents Theory, the primary way to address risk in organizations is through action. Fittingly, action is a fundamental aspect to many postmodernist formulations of risk. Where modernists emphasize decision making and decision points (Miller, 2009), the postmodernist perspective shifts the focus on actions and practices (ibid).

Researchers in organizational decision making have long questioned the viability of tracing individual decision points (e.g., Langley et al., 1995) in which choices that change the course of the organization are hypothetically made. This is because decision making on various issues tends to be connected to each other (ibid), and therefore it is unreasonable to consider individual decisions as happening in isolation or at specific points in time.

If individual risk decisions are assumed to not be reasonable to study in isolation, one alternative approach that is prominently demonstrated in postmodernist thinking (Miller, 2009) is for the focus of examination to shift on to the specific actions that take place in organizations. This principle has been applied in the Strategy-as-Practice framework (Whittington, 2006; Vaara & Whittington, 2012), which studies strategy from the perspective of what practitioners do, rather than looking at only the products of the process, or the analytical tools used therein to arrive to those products. Whittington (2006) argued for the need to study in greater detail the strategy practices, practitioners, and praxis in the context of strategy work to improve understanding of strategy formation. The same approach could be beneficial for studying risks.

Accordingly, I see the study of risks in organizations as being in the same stream of research that has taken other areas of management and social sciences towards practice-based research (e.g. Whittington, 2006). Studying risk practices in organizations has potential to increase the understanding of how organizations are steered towards long-term goals. The view gained from risks should function to indirectly complement the more direct perspective of research on strategic change as happening through strategy practices and as studied in the Strategy-as-Practice literature (Vaara & Whittington, 2012). In the end, both the manifestations of organizational risks and the implementation of strategies created by strategy work share the potential to create major long-term consequences for

organizations. Moreover, Mintzberg (1978) has suggested that whenever there are present established patterns of action in how the organization runs itself, fragments of strategy can be considered to be there, regardless of whether there was intentionality behind those patterns (Mintzberg & Waters, 1985). It is plausible that both intentional strategies and those patterns of actions that arise from how risks are dealt with could create patterns that last to shape the interaction of the organization with itself and its environment in the long term.

By identifying how risk practices and praxis are approached in different organizations, and how their approaches have changed over time, it is possible to uncover new insights on the impact of risks on organizational change. The key is in how 'risk' is used, including the quantification, attributed uncertainty and justifications for the risks, and the related actions. In conclusion, the postmodern broadening of the analysis from individual decision making to social chains of actions (Miller, 2009) allows risk to be conceptualized in a broader manner and leaves open the possibility that risks can pose organizational problems in the long term. There are major implications for the research question, as well, in that there could be at least two ways, modern and postmodern (Miller, 2009), that risks could be constructed in organizations, and furthermore, the construction of risk followed in each specific context can be expected to have an effect on how the risks are dealt with over time, and, potentially, on how they impact and interact with the management of organizational change. One view advanced by modernists may see risks as more likely to be objective, and related to individual problems, whereas a second opposing view supported by postmodernists would view risks as subjective, social phenomena with an emphasis on actions over decisions (Miller, 2009). The dichotomy will be explored in the research in relation to other domains or dimensions of interest.

2.2 Managing persistent risks

In the last section, it was argued that postmodernist theories of risks allow for the persistence of risks in the long term, which can pose problems for organizational change. In this section, the management challenges that enduring risks can pose will be explored through the placement of the problems within the frameworks of existing models of

management. This is to explore the research question “how risks change over time” from the perspective of past research. Overall, the models highlighted in this section demonstrate that practical difficulties dealing with certain management problems can lead to persistence of risks when managing organizational change in the short-term with potential implications if extended to the long term.

While how risks change over time in organizations may be a broad question, it has not received a great deal of attention from management researchers previously. Risks, in general, have not been one of the top focuses in management research, and therefore the question of how they change over time has not been covered specifically. Risks are central in some other areas of business literature, such as finance and corporate governance, but in management, speculatively perhaps because of their perceived uncontrollability and thus lack of traction as something management can address, they may have been slightly relegated into the sidelines. Thus, a gap is present in the literature.

Furthermore, and consequently, a full answer to the research question cannot be achieved solely based on prior risk literature. To facilitate the search for answers from previous literature, the question needs to be rephrased, broken down into smaller pieces, and approached with more lax regard for borders between areas of management literature for parts of it to be readily answered. Instead of searching for the full answer at once, meaningful progress can be made by narrowing the search down to encompass only parts of the full question at a time to expand the opportunities for past literature to give relevant answers. In more manageable pieces, it becomes obvious that substantial portions of that puzzle on changes of risks have been addressed. For example, there is a substantial amount of research on decision making in organizations, and how managers approach problems, and how changes get implemented in organizations. All of them can be interpreted to contribute their corresponding facet or singular perspective into an overall understanding of how change can happen in organizations over time, and by proxy, how risks change in organizations over time.

One sub-question of ‘how risks change over time in organizations’ that can be particularly meaningfully approached with the help of prior literature is ‘how risks can be expected to be dealt with in the short term’. The short-term part of the question is answerable because

a domain of management literature exists on how to deal with certain types of management problems that present in the short-term, which sometimes come with risks attached, and therefore have a natural part to contribute to an overall understanding of how risks are dealt with in organizations.

Individual problems that management have acknowledged to have significant impacts on the organization are called strategic issues (e.g., Ansoff, 1975, 1980; Dutton & Duncan 1987), and there is a whole discipline of management research dedicated to studying how to manage them effectively.

Thus, a way to approach the research question of how risks change over time in organizations from the perspective of previous literature is to examine the sub-question ‘how risks change over time in the short term’ through the lens of how issue management literature is set up to deal with risks. However, there is a critical limitation to how far the approach of studying risks through issue management can go towards answering the full research question. Management of strategic issues tends to be short-term focused, as one definition is that issues are problems waiting for a decision to be made, and if action is not taken, the issues can develop into a crisis.

The most straightforward pathway to finding a theory for change of risks that would work under all time frames, short and long, would be to start with the knowledge that can be derived from the management of issues and problems in the short term, and then concentrate analytical and empirical efforts at new knowledge generation on the less explored long-term aspects of risk. A way to get a theoretical head start specifically would be to examine existing theories of how risks are dealt with in organizations, and to evaluate how they perform if extended into the long term. If the question of interest for which a gap needs to be filled from outside of literature is further narrowed down to ‘how risks are managed in the long term’, this could mean starting the theoretical framework with models of management that represent handling of risks in the short term and inferring how they are set up to handle risks in the long term.

For the approach of using strategic issue management to study risks to work even though it may be taken slightly outside of its original context, there needs to be an assumption that issues and risks are related phenomena and that risks can be detected and handled in

the same management pipeline as strategic issues, at least in the short term. This connection is not obvious; therefore, it needs a little more exposition. If conceptual differences are carefully accounted for, how risks are managed should be theoretically approachable from the perspective of various models that deal with the management of problems that include risks and change in organizations and their environments.

Strategic issues have been defined as events, developments, and trends that organizational members collectively perceive to have consequences for the organization (Dutton & Dukerich, 1991, p. 518). Organizational risks, on the other hand, elude an exact definition as discussed in the previous section. However, they often refer to the probability of an event that would have adverse consequences for the organization (Hardy & Maguire, 2016, p. 80). Figure 2 illustrates how the concepts relate to each other by placing them in their respective positions within the context of a statement of a causal relationship between events that have significance to the organization and the consequences of those events.

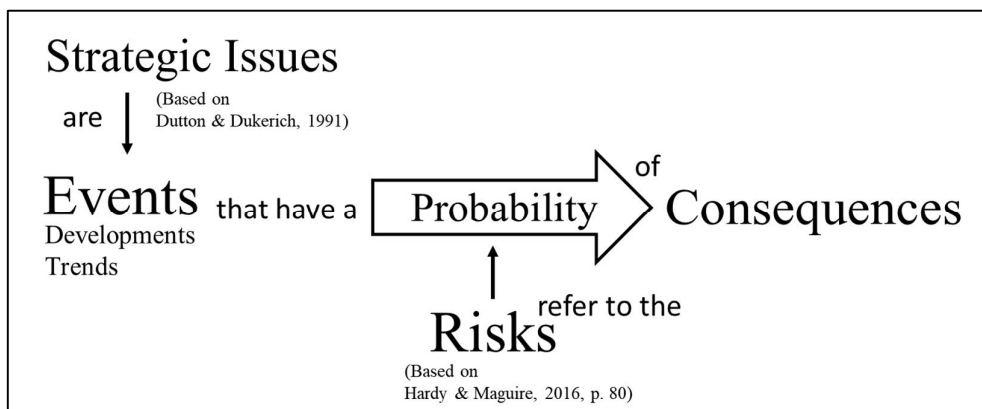


Figure 2. Strategic issues and risks both play a part in causal statements linking events and their possible consequences to the organization

Thus, I would maintain that following the above definitions, strategic issues will sometimes come with organizational risks attached to them if members of the organization simultaneously recognize that an event, development, or trend has consequences for the organization, and that there is uncertainty about the consequences and, finally, that the consequences are materially negative.

Langley et al. (1995) have discussed different types of decision-making patterns in organizations. One of the decision-making patterns that they present is a 'stream of issues' in which management wades through a relentless succession of issues and decisions through time, and the ensuing patterns of action together determine what happens in the organization, and where the organization is headed. They suggest that few issues are truly independent of each other. The decision-making that goes into resolving one issue impacts the decision-making that goes into other issues, and the other way around. Therefore, I would argue that the implied interconnectedness of issue streams makes decision-making on issues that have risks attached to them and other simultaneous or consequent issues that management has to deal with, linked, which in turn makes issue management relevant for decision-making and actions in response to risks, at least in the short term.

Accordingly, in this literature review section, I will start off by discussing how Strategic Issue Management (Ansoff, 1980) approaches the problem of managing issues that include risks as they move through time and what implications there may be for risks in the long term. Then, I move on to examine the Garbage Can Model of management developed by Cohen, March and Olsen (1972) and discuss how it suggests problems in organizations have a tendency to get pushed back into the future without solving them, which provides another angle of support for the hypothesis that risks, as difficult problems, may be particularly challenging for management to resolve using tools available in the short term and thus exhibit the danger of persisting into the long term.

2.2.1 Strategic issue management

Strategic Issue Management is an example of a prescriptive (Mintzberg & Lampel, 1999) set of analytical practices (Whittington, 2006, p. 624) for management that fits the modernist paradigm. It assumes that issues exist independent of the social aspect, and that they need to be detected, controlled, and managed through systematic application of pre-defined tools for management.

Contemplating how risks would be dealt with using SIM offers a conjectural window for imagining how circumstance would unfold in which the managers seek to follow a well-

established management tool, such as SIM, when faced with strategic issues embedded with risks, and what the ensuing patterns for risks may look like.

Strategic Issue Management (Ansoff, 1980) is a system for detecting and responding to rapidly progressing changes in an organization's internal mechanisms or in their external environment. The research problem Ansoff set out to tackle with this new system of management is a perceived inability of strategy planning systems to respond to fast changes. He identifies that previously established management practices such as periodic strategic planning cycles are slow to respond to sudden changes in trends if the developments go counter to previous knowledge. His assumption is that slower management practices must naturally contend with a built-in delay to the system in how quick they can respond, due to long intervals between periods of decision-making activity.

Accordingly, he introduced SIM as an alternative management system to complement the well-established practice of periodic strategy planning. SIM solves the problem of short-term inflexibility by calling for organizations to monitor issues in real time so that they can react to them quicker than if they were following annual or other periodic planning cycles. SIM not only seeks to expedite the response, but also aims to help managers choose proportionate measures relative to what the issue demands.

SIM (Ansoff, 1980) works through the active and early detection of changes and trends. A management taskforce continuously monitors the organization and its environment for relevant trends and the way they are changing, looking for weak or strong signals that could betray that a relevant issue is about to emerge (Ansoff, 1975). Issues that get noticed are then evaluated based on urgency and impact, and identified as belonging to strengths, weaknesses, opportunities, or threats. This is to facilitate the matching of issues with appropriate and timely actions (ibid). Strengths and weaknesses are issues found within the organization, and opportunities and threats within the external environment.

Table 2. Urgency/impact-matrix (Ansoff, 1980, p. 140)

	Impact		
Urgency	Low	Significant	Major
Low	Drop from list	Periodic review	Monitor continuously
Significant	Drop or periodic review	Periodic review or monitoring	Plan delayed response
Pressing	Monitor	Monitor continuously	Respond immediately

Table 2 contains a matrix that shows the main criteria taken into consideration when issues are matched with follow-up actions. Ansoff suggests that in most cases organizations will be faced with more issues than they can deal with. Hence, some form of prioritization is necessary because there are not enough resources to act on everything.

Urgency

Urgency is a qualitative measure of the time left to resolve an issue (Ansoff, 1980). It is based on the difference in time between when an issue’s impact hits, and in the time that is needed to resolve the issue. Ansoff (1980) suggests that the more pressing issues should be responded to first and with the most powerful steps, while for issues that are less urgent it may be enough to monitor them closely, and if they ever become urgent, deal with them at that point in accordance with the urgent issues of the time.

Ranking issues based on urgency would be an intuitive way to approach issue prioritization in the short term and therefore may well reflect managerial praxis in many cases. However, problems can be identified in how the system is set up to deal with cases such as risks, where there is an indefinite, unknown or unclear amount of time until they are set to occur. The ambiguity about urgency is exacerbated in the case of risks that have extremely low probabilities until the odds stack up in the long term. It is plausible that an issue with risks can stay relevant and capable of creating serious negative consequences over time, even though at the same time never becoming urgent enough to warrant action over other priorities in the short term. That would plausibly result in action being postponed indefinitely.

On the other hand, the problems that risks may have with urgency only occur if the risk has an indefinite timing. If the risk occurs at a definite time, the additional hurdles with urgency do not apply, and there should be no problem in evaluating the issue's urgency in relation to other risky or non-risky issues, at least in terms of the time component. This suggests that there could be a natural dichotomy between two distinct types of risks.

Based on how risks interact with urgency as a tool for task prioritization, a hypothesis can be made that contributes to an answer to the research question about how risks change over time. Risks with a large or undefined range in possible timings for their occurrence may have their resolution postponed indefinitely if they are concluded to perpetually remain low urgency, and thus may become a persistent problem for the organization that stays in for the long term. Conversely, risks that are linked to concrete events or a specific point in time would not suffer from the same indeterminacy and may be dealt with as per normal.

Furthermore, risks with unclear windows of possible occurrence, and therefore undefined urgency, and the possibility of being delayed indefinitely align better with a postmodernist view of risk, because of a lack of quantifiability about when it happens and subjectivity about whether it will happen.

Conversely, risks with clearly defined windows of occurrence, i.e. with a linked event or activity, and a normal sense of urgency parallel a modernist view of risk more closely. Those risks may exhibit components of objectivity and quantifiability. An example of such a risk would be a situation where financing of the organization risks running out in the short term. The numbers would be quantifiable, and many would argue, objective, and if the timing is imminent, the timing of the risk would be fairly clear as well, even though the contingency of running out of finance would still continue to be uncertain. This would suggest shorter time spans for risks that are associated with modernist characteristics.

Impact

A secondary criterion around which issues that may include risks are weighted for action is the impact of the consequences to the organization. Issues can for example be evaluated as being of "low", "significant", or "major impact" (Ansoff, 1980, p. 140). A balance is pursued between how impactful the issue is and how resolute a response it calls.

However, from the perspective of risk management, the formation of realistic impact assessments is challenging due to the implied uncertainties. There can be massive divergences in issue outcomes depending on the extent to which the risk materializes. In the worst-case scenario of how a risk's outcomes may be distributed between different options, the outcome may be entirely polarized with either major negative effects or no effects to the organization. Consequently, it may be problematic to evaluate which side of the risk, if any, should be used to determine the significance of the impact for the purposes of choosing the level of action warranted.

One option is to base the management choices on the average expected impact. There are problems with this approach that become exacerbated in the case of risks that have binary outcomes, or in other words if they can only take place in full or not happen at all. In those cases, a response based on average impact would not be reflective of a level of response warranted by either of the outcomes, but rather somewhere in-between the two. The average impact would be slightly greater than the risk not occurring and greatly less than the full effect. The corresponding response following SIM would likely be highly insufficient in case the risk manifests, and slightly excessive in case nothing happens. Thus, it may not seem like a great option. In either case, the level of assessed impact of the risk that impact assessment would be based on would not reflect the full imagined impact on the organization along the lines of which the risk may have become first recognized by organizational members, and which made it an organizational risk. That would make the impact understated compared to potential consequences of the risk.

Another option that would at least reflect one of the possible real outcomes would be to plainly work around the assumption that the risk will not be taking place. If the probability of occurrence were low, this method of impact assessment would be accurate most of the time, even if the failure cases were more extreme compared to using the average impact.

An assumption of no impact could also result from a planning horizon limited to the short term. If the probability of the risk happening in the planning period is miniscule, the impact assessment could be more likely to assume no impact, or minimal impact, even if the risk would have significant impact in case it did occur. If the risk is assessed to have

no impact, SIM would naturally lead to a valuation of the associated issue as not being affected by the risk. Thus, no action would be taken to resolve the risk.

These points lead to the second hypothesis and contributes towards an answer to the second research question, which inquires on how risks change over time. The less concretely defined the risk is, the more difficult it may be to produce a meaningful impact assessment, and if the lack of a credible impact assessment makes the risk appear lower in impact, the risk may be more difficult to deal with, and may become persistent. Thus, organizational risks that fit better within the postmodernist interpretation of risk, in being less concretely defined, may get their impact understated and could therefore be expected to evade action and persist for a longer time. Conversely, more concretely defined risks that have clear impacts fit better in the modernist tradition as they may be more likely to be calculable. Risks having clear impacts would be expected to result in the risks being shorter lived, because their impact can be assessed more accurately, and therefore they can get acted upon swiftly or dropped from the list as unimportant if the impact on the organization is not deemed powerful enough to necessitate action.

Feasibility

Finally, the tertiary and last criterion for prioritization in SIM is feasibility of resolution. Ansoff suggests that if the issue cannot be feasibly resolved, it can be eliminated from consideration. Issues that lack a viable way forward can be safely disregarded when compiling a list for action, since action would not lead to issue resolution regardless.

There are multiple reasons to believe that risks may be more likely to be infeasible to act upon. Risks in the modern world have been characterized as increasingly uncontrollable (Gephart et al., 2009), but avoidable (ibid). As discussed in the previous section, Charles Perrow's (2011) Normal Accident Theory calls for the shutdown of risky activities that cannot be allowed to fail. But shutting down may have unreasonable costs attached to it if it is necessary to cease or shutdown important activities to resolve the risk; activities that may be the driving train for profitability for example. Therefore, action may be infeasible because of excessive shutdown costs required to successfully resolve the risk.

Furthermore, risks that emerge as a result of a close coupling (Orton & Weick, 1990) of important organizational activities with those of external actors, such as suppliers,

customers or governments, can lead management to have little to no direct influence over the risk, because it is the business of others that is causing the risk, which in turn would again create a reason for risks to become persistent.

Since the issue management system is designed for dealing with issues and not risks specifically, fundamental problems can be identified in its effectiveness if a system of its likeness is enacted to manage issues that contain risks. The main shortcomings become apparent when SIM is used to evaluate and act on a stream of issues that contains both risky and safe issues blended together. Issues that lack risks are resolved before issues that come with risks based on all the criteria for prioritization. That is, in terms of urgency, impact and feasibility of resolution, risky issues have a glaring disadvantage, drawback or difficulty in each criterion for prioritization if compared to issues that have high certainty about their consequences.

These arguments lead to the hypothesis that managers using tools, such as SIM, that were not designed for risks specifically, and who confront issues in a probabilistic world using tools designed for a deterministic one, may be ill-equipped or led astray in dealing with risks when using their regular management practices. Furthermore, risky issues may be pushed back, or their existence may be tolerated over a disproportionately long time compared to other issues that have more clarity over their consequences leading to an increased tendency for the risks to persist into the long term.

Risks that exhibit postmodernist features, such as being subjective or unquantifiable may be more likely to endure for longer periods. Those that belong to the modernist variety, as judged by claims of objectivity and quantifiability, may get resolved more swiftly. If these claims can be shown to have truth behind them, it may be possible to determine which risks are likely to become persistent problems from the outset.

2.2.2 The garbage can model

Management may sometimes be required to act on organizational risks that are not attached to any specific strategic issue. This would especially be expected from a post-modernist perspective, where there is a basis for risks to be subjective and unquantifiable.

Consequently, if risks are assumed to sometimes exist outside of the context of strategic issues, it opens a gap in the coverage of what can be learned of short-term risk management from the sole examination of Strategic Issue Management through the special lens of issues with risks. SIM can only represent management practice in the context of actions that go towards resolving risks attached to issues. This is an additional constraint on top of the previously specified limitation which acknowledged that issue management can only be used to examine the management challenge from the short-term perspective.

Another model of management is needed to identify how risks may be managed in cases where the risks are not part of strategic issues but are still managed in the short term. For the risk to not be associated with a strategic issue, a linked issue must not have entered the formal issue management system of the organization and therefore, the risk is being dealt with outside of formal issue management practices.

As it may be recalled from earlier, Strategic issues have been defined as events, developments, and trends that organizational members collectively perceive to have consequences for the organization (Dutton & Dukerich, 1991, p. 518). For risks to not be part of strategic issues, they need to not be part of an event, development or trend that is collectively recognized by organizational members as having consequences for the organization.

The Garbage Can Model of management (Cohen et al., 1972) is suitable for answering the question from the non-issue perspective in this case. It is a simplistic decision-making model that is designed from the ground up to simulate how decision-making could work in an organization where the decision-making process is anarchistic. In an anarchic organization, the decision-making process is agnostic of any planned strategy, devoid of any organized plan of how to proceed, the people involved are lacking shared goals and objectives, and have no commonly agreed formula on how to approach prioritization on which problem to solve first in the process of decision-making (ibid).

The model relies on a few assumptions. The organization is assumed to be made up of a disorganized group of people, choices, problems and solutions that are actively looking to get matched up with each other for choices to be made, and to solve problems (ibid).

Problems are assumed to attach to one choice at a time. Time progresses in fixed intervals, and at each turn decision-makers are assigned to choices that may or may not have problems attached to them. They then attempt to solve the problem by making a choice.

Because the model is of an anarchic organization, the way that the decision-makers get matched up with problems and solutions is assumed to follow simple rules. Whether problems get solved is coincidental. There is no central power that is coordinating the process.

The way that the simulation is set up, problems cannot always be solved. There may not be enough combined 'decision-making energy' from the people assigned to the choice, or the solutions may only become available at a later time. However, under circumstances that resemble the conditions in place, the Garbage Can model shows that it can be quite common for problems to persist, and to follow decision-makers from one choice to another (ibid), giving the decision-makers the impression that they are always working to overcome the same challenges without triumph (ibid, p. 10).

Since the problems jump from one choice to another between each turn, and they can occupy only one choice at a time, a common occurrence is that choices that are initially delayed by multiple problems will be summarily decided when the problems temporarily leave to burden a choice elsewhere (ibid). Cohen et al. (1972) calls this type of choice resolution as being made 'by flight' (ibid, p. 8). Choices also end up being made frequently with minimal energy requirements when a choice becomes available for decision-making while all potential problems are absent. Cohen et al. (1972) call such decision-making as being made through 'oversight' (ibid, p. 7).

In the garbage can model, problems and solutions are randomly placed into various organizational "garbage cans" in the form of choice opportunities without regard for finding the most efficient approach. Overall, Cohen et al. (1972) conclude that the chaotic decision-making process surprised them in how effective it was at making decisions. It can also resolve problems even if it is not particularly good at doing so (ibid, p. 16).

The garbage can model shows that problems that are difficult to solve, such as risks when they are not attached to issues, can present themselves repeatedly in a variety of circumstances and to different people across different management roles. Yet, the risks

may not be resolved until the lucky set of alignments happen across time and efforts to tackle them. When faced with risks that are unresolvable, managers may be inclined to make decisions by “flight” or “oversight” to move forward with their tasks without having to respect the underlying risks.

The implication for the study of risks’ change in the long term is that even if the risks do not make it through an organization’s issue management system, managers may still be able to work around them as part of their regular decentralized decision-making work. A similar type of risk management system that forgoes the central top-down control requirement of the Strategic Issue Management (Ansoff, 1980) was discussed regarding Weick’s (1987) High Reliability Organization in the last section. HRO suggested that a collective work force working under shared culturally reproduced operating principles and value systems learned during periods of stability can be used to keep action coordinated during periods of disruption to the social order (Weick, 1987), such as when dealing with risks. Some organizations have to act without formal management systems that could take the responsibility for identifying and scheduling action over issues with risks. By leveraging decentralized decision-making processes similar to the ones demonstrated in the Garbage Can Model and the HRO, there are always options to manage the risks alongside the normal flow of operations. However, it also results in the actions being pushed forward in time.

Regardless of which model of management is used to view the management of risks in organizations, the way that those models were assessed to treat risks, as far as they pose difficult management challenges, indicates that the risks are unlikely to be resolved rapidly even if they repeatedly receive management’s attention.

Viewing risks from the perspective of Strategic Issue Management also suggests that there may be differences in the longevity of risks envisaged under modernist or postmodernist frameworks. Risks that fall under the postmodernist framework may be longer lived, because the additional ambiguities involved in their management make the implementation of modernist management practices more challenging in ways that lead to delayed resolution of issues with risks.

To get a better understanding of how risks may change in the long term, it is prudent to also consider the long-term dynamics of organizations and risks. For organizational changes over prolonged periods, the importance of strategic change becomes increasingly accentuated. In the following concluding section, I will discuss the patterns of how organizations have been observed to change over extended periods, from the perspective of previous literature. This is to approach the research question “How do risks change over time in a specific industry?” from a long-term perspective. The garbage can model suggested that problems may get resolved when there is an alignment of people, problems, and solutions. It is reasonable to expect that those alignments are more likely to happen when the organization changes. Hence, patterns of changes in risks can be expected to some degree reflect larger patterns of organizational change.

2.3 Risks and organizational change

In the previous section, I examined the management of risks associated with problems and issues. Because the review focused on individual management decisions, it followed a modernist perspective, and had several limitations. How the passage of time affects risks was not taken into account. It was also not considered how the progression of risks can unfold differently on a larger organizational level, for example in connection with long-term planning and formal strategy processes. The social context was largely ignored. This section seeks to remedy those gaps by examining how organizational change has been observed to progress in previous literature in relation to the patterns that emerge at longer time scales. In particular, it is considered what these long-term change patterns established in the literature mean for the investigation of changes in organizational risks.

The idea that risks are associated with organizational change is not new. For example, Dutton & Duncan (1987, p. 286) suggested that organizational changes can have momentum, and that as the pace of change increases, riskier changes become more likely. However, previous studies have not explored the relationship between these two concepts, i.e. risks and organizational change, in the long term.

The reality is that risks are embedded in organizations. Thus, to develop a better understanding of how organizational risks go through their transformations and behave

in the long term, it is important to consider the broader patterns by which organizations change themselves over the same period.

Within the broader field of organizational change, there is an existing stream of literature that has examined the rhythms by which organizations change. Weick & Quinn (1999, p. 365) call it the “tempo of change” literature. It has recently become less relevant due to a movement that has led to more contextualized views of social phenomena in favor of different perspectives on organizational change. For example, it is increasingly assumed that changes take place at the practitioner level (Hendry, 2000; Whittington, 2006; Vaara & Whittington, 2012), and research aims to examine the unique contexts of their circumstances and ways of working. The resulting new perspectives on management have largely replaced ideas of universal organizational behavior, as represented by rhythms of organizational change. However, to determine how risks develop in organizations over time, it can be argued that the literature remains relevant. Accordingly, the patterns of risk change in this study should be discussed using concepts from the tempo of organizational change literature so that new knowledge builds on this earlier literature.

The literature on “the tempo of organizational change” can be divided into two segments depending on whether they describe processes that work through continuous or discontinuous change (Weick & Quinn, 1999). Some have examined circumstances in which organizations change continuously (e.g., Brown & Eisenhardt, 1997), while others have examined the idea that discontinuous changes are the dominant form of transformational change in organizations (e.g., Romanelli & Tushman, 1994). Studies behind the key concepts describing temporal change patterns used in this study are identified in Table 3 and compared side by side.

Table 3. Comparison of studies on tempo of organizational change

Authors	Romanelli & Tushman (1994)	Brown & Eisenhardt (1997)	Cohen, March & Olsen (1972)	Hendry & Seidl (2003)
Title	Organizational Transformations as Punctuated Equilibrium: an Empirical Test	The Art of Continuous Change: Linking Complexity Theory and Time-Paced Evolution in Relentlessly Shifting Organizations	A Garbage Can Model of Organizational Change	The Structure and Significance of Strategic Episodes: Social Systems Theory and the Routine Practices of Strategic Change
Research problem	Empirical validity of the punctuated equilibrium model	How do organizations continuously change?	Explore “organized anarchy” in the context of theories of organization	Explore what the social theory of practice can tell us about where we might usefully focus empirical research on the practice of strategy
Type of logical reasoning used	Mixed methods & Deductive; Statistically validating hypotheses from qualitative data	Qualitative & Inductive; Deriving general insights from comparison of qualitative case studies	Quantitative & Inductive; Learning from a simulation	Theoretical

Authors	Romanelli & Tushman (1994)	Brown & Eisenhardt (1997)	Cohen, March & Olsen (1972)	Hendry & Seidl (2003)
Research Question(s)	Are organizations “typically transformed via the discontinuous change processes predicted in the punctuated equilibrium model”?	How do organizations continuously change in the context of multiple-product innovation?	What “[...] is the manner in which organizations make choices without consistent, shared goals”? “how organizational members become active and how attention is directed toward, or away from, a decision”?	“how the operating and strategy routines of an organization are related to each other” “how both are related to the generation of strategic change”
Sources of data	Public documents about products, markets, strategies, structures and executive team of 25 computer manufacturers founded within 3 years of each other	“Field-based case data” 9 firms in the computer industry; 81 semi-structured interviews, questionnaires, observations and secondary data from on-site & the media	Simulation of a mathematical model based on assumptions grounded on prior empirical observations, theory, and pre-conceptions	-
Data preparation for analysis	Year-by-year histories created by two coding teams each comprising of two coders. One team did it based on external sources, other based on company sources	Independent case studies were made for each site with particular care taken to avoid contaminating them with insights arising from other cases or the big picture.	The simulation has ‘participants’ take turns to pool up their energy to make choices, which may or may not solve problems.	-

Authors	Romanelli & Tushman (1994)	Brown & Eisenhardt (1997)	Cohen, March & Olsen (1972)	Hendry & Seidl (2003)
Analytic procedures	Company histories are processed year-by-year looking for enough changes for a transformational change to have taken place.	Cross-case analysis Commonalities and differences identified Tables and graphs created Iterations of different case-pairs Higher level of abstraction over time	Non-fixed variables are altered to simulate a range of organizational structures and load characteristics, and the effects on decision chain outcomes are noted down and analyzed.	Focus is on Niklas Luhmann's concept of 'episodes' and the way they allow reflexive strategic practice through the suspension of normal structures
Main findings	The statistics widely supported the hypothesized predictions based on the punctuated equilibrium model, except for the assertion that transformative change would be more likely after a slump in performance.	Organizations in fast-moving environments were found to form semi-structures that offer enough stability to facilitate fast and efficient change, but not too much to be burdened by excessive inertia.	Most decisions are made when the problems are not present. The same problems often follow around decision-makers from one choice to another.	Luhmannian 'episodes' offer a different way to analyze strategy making through the emphasis on aspects that delimit reflexive periods from normalcy by details such as location, time, practices and participants.
Rhythm of change	Cyclic: Periods of stability punctuated by rapid radical transformations	Continuous	Chaotic	Episodic
Timing of changes	In large shifts / related to major change events	Routine	Whenever there is an alignment of choices, problems, solutions, and power to make decisions	Non-routine
Magnitude of change events	Revolutionary, transformative	Incremental steps	Organic; Depending on what is on the decision-making agenda	As envisioned, selected and agreed

Authors	Romanelli & Tushman (1994)	Brown & Eisenhardt (1997)	Cohen, March & Olsen (1972)	Hendry & Seidl (2003)
Impediment for change	Deep-rooted structural entanglements that need simultaneous undoing	Inflexible structure & routines. Reactionary leadership lagging behind trends. Fundamentally, an inability to keep pace	Lack of doers and solutions. Difficult choices being pushed forward in time. Decision-making conducted oblivious of problems.	Inability to question the status quo from within
Requirements for change to be possible	Change needs to be total to untangle the structural entanglements	Ability to change built into organizational structure and routines	Low cognitive load on decision-making structures; Access to decision-making power; Slack resources; Access to problems	Distance to routine circumstances; A view from the outside; Thinking outside the box
Implication for risks	Risks may become embedded in the structural web of the organization, and be difficult to get rid of	Risks may be resolved through routine planned change	Difficult risks may persist under conditions of anarchy, i.e. without specific efforts to tackle them	There may need to be a separation with the past for organizational risks to change
Implication for timing/pattern of risk changes	Periods of relative stability may be punctuated by major change events in which deep-rooted risks seep in or disappear	Routine change events may lead to minor changes in risks, or resolve risks that are actionable without resorting to radical change	Risks may last a long time	Risks may be more likely to change when there is a discontinuity with the past

2.3.1 Discontinuous change

Organizational changes that happen through sudden shifts that lead to deviations from the past are examples of discontinuous change.

Events of discontinuous change can be interpreted as transitions from one organizational episode to another (Weick & Quinn, 1999; Hendry & Seidl, 2003). The change of episode marks both an end to the past and the beginning of a new era (Hendry & Seidl, 2003). Weick & Quinn (1999, p. 365) consider episodic change to encompass all discontinuous organizational changes that are deliberate and do not occur frequently. Episodic change is strongly associated with intentional change because it requires the breaking off from a period of stability (Weick & Quinn, 1999, p. 371). The long intervals between changes also makes it more strategic (Weick & Quinn, 1999, p. 368). This makes episodic change a useful indicator for the pace of strategic change associated with changes in risks.

Hendry & Seidl (2003) draw on Niklas Luhmann's social systems theory to suggest an interpretation of episodic change. The idea is that, for change to be truly possible, the old needs to be torn down and replaced with something new (ibid). They emphasize that switching from one episode to another requires a clear separation from the normality of the past. This can be achieved by temporary separation from regular routines, places and ways of thinking. By taking physical distance and temporarily cancelling power relationships, a community can release themselves from their historical burden, and become able to turn their reflective eye on the normal, and to interpret their circumstances in a novel manner. This enables them to make the disconnect with the past. Accordingly, when there is an intentional distancing with the past, a new episode can begin.

The episodic view of discontinuous change is reminiscent of Kurt Lewin's (1951) model of organizational change as a three-step process that involves "unfreezing", "changing" and then "refreezing" (Weick & Quinn, 1999). Lewin suggested that during times of stability resistance to change is deeply entrenched into the organization's structures and values. Therefore, if the goal is to create change that reaches all the way to the hidden depths of the organization to which the stable elements have dug their roots, first there needs to be an effort to "unfreeze" the implicit aspects of the status quo before effective change can be accomplished. Only if an imminent sense of change needing to happen is

created and a newfound adaptability is brought where there was previously only rigidity, only then is it possible to effectuate lasting change. Furthermore, Lewin suggested that as soon as the structures are changed the new state should be frozen again in place to allow normalcy to arise.

Aside from episodic change, organizations have been hypothesized to mostly change in major shifts. Changes will generally only occur in large and rapid bursts of transformation, separated by lengthy periods of stability characterized by minimal changes (Romanelli & Tushman, 1994). It is part of the same claim to also state that small incremental changes cannot accumulate to cause major changes over time (ibid). The resulting organizational behavior is described in the punctuated equilibrium model (Tushman & Romanelli, 1985).

If risks changed in line with models of discontinuous change, this would be visible as occasional changes in several organizational risks at the same time alongside other significant changes in the organization. It is a key pattern to watch out for if organizational risks are to be compared to change patterns in other organizational aspects.

2.3.2 Continuous change

The alternative view is to claim that changes are made in small steps in the form of continuous change. An example of continuous change is when multiple iterations of incremental changes lead to fundamental transformations in organizations.

For example, Brown & Eisenhardt (1997) examined the computer industry of the early 1990s, in which they found that some organizations showed signs of continuous change. They further discovered that if those organizations' structure is maintained at a fine-tuned balance between too little and too much structure in a way that maintains the predictability of order and the flexibility of chaos at the same time, it enables these organizations to change continuously at a pace that can keep up with the high-speed environment of the computer industry (ibid). In addition, those companies have integrated the logic of change into organizational routines geared towards the future. All of this indicates that continuous change is not only viable, but necessary in an environment with constant unpredictable rapid changes.

Continuous change represents the minor changes that are created at the individual day-to-day management level. In Brown & Eisenhardt's (1997) example of the computer industry, the companies had adopted this practice that allowed them to make frequent incremental changes in response to similar pressures as what led Ansoff (1980) to suggest strategic issue management. Rapid, constant changes in the environment, such as in the high-speed computer industry, are not easily dealt with through infrequent adjustments made through slow strategy processes and long-term planning. The answer to how to keep up is continuous change.

Based on theories of continuous change, whether organizational risks also change in this way would be a point of interest. Will there be frequent small adjustments and larger routine changes at moderate intervals that are able to change the overall risk profile formidably over time without help from major change events, such as the ones described in the punctuated equilibrium model?

2.4 Theoretical framework

Organizational risks evolution over the long term was approached from three perspectives: From the differences in postmodern and modern conceptualizations of risk, from the problem-solving management perspective, and from an organizational change perspective. Figure A shows the theoretical gap that was identified.

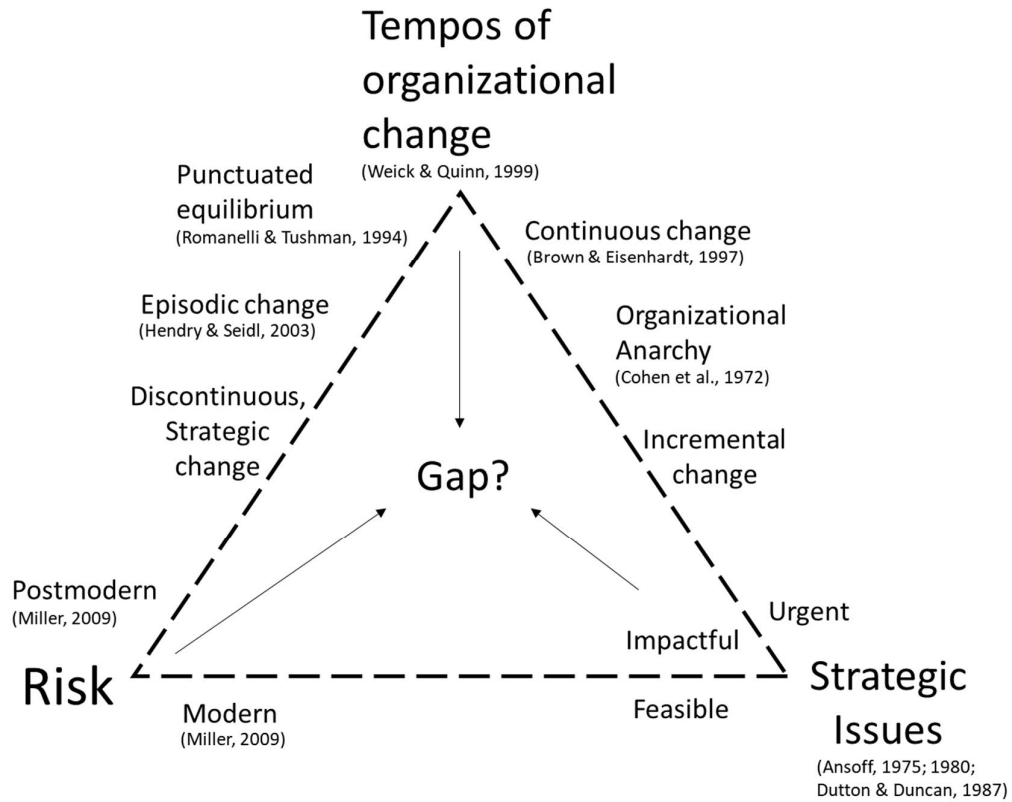


Figure 3. Key concepts and the area to which the theory could potentially be expanded to

It is hypothesized that risks that follow a postmodern format, are likely to be persistent, and solved through discontinuous transformational adjustment. On the other hand, risks that feature the hallmarks of modernist conceptions may be more likely to be short-lived or easy to resolve and will get resolved through incremental, continuous change. Figure B illustrates the proposed relationships.

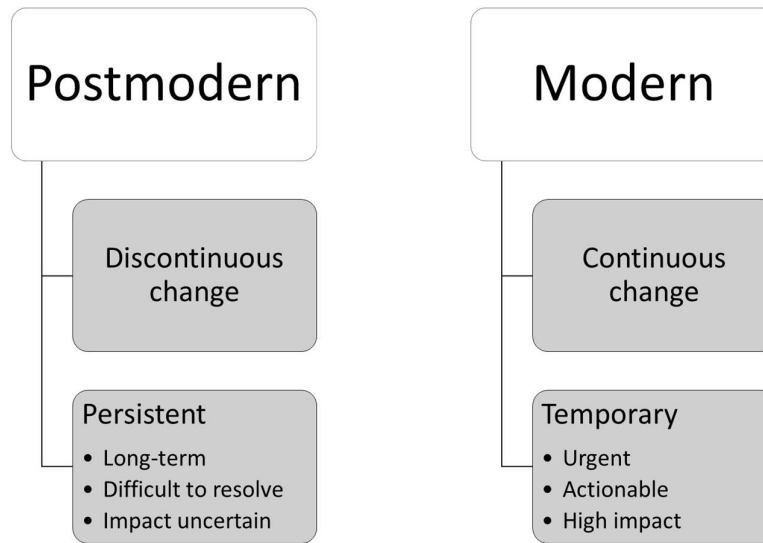


Figure 4. Hypothetical relationship between concepts

It is then the goal of the empirical part of the study to investigate whether this perspective offers a useful framing of the topic, and in general if there is any insights that can be gained by viewing the topic from this theoretical perspective.

3 METHODOLOGY

The aim of this thesis is to provide an exploratory empirical study on the long-term behavior of organizational risks in organizations, and to elucidate the role played by organizational risks in determining long-term direction of development of organizations. To achieve these goals, I seek to answer the research question: How does the set of organizational risks of certain organizations in a specific industry change over time if observed over an extended period in the organization's life?

Based on gaps in prior literature, I identified two areas of interest that show promise in being able to contribute towards an answer to the research question. Knowledge of the gaps is used to refine the original research question to researchable sub-questions to which answers can be acquired. Specifically, the review of literature identified gaps in our understanding of how organizational risks behave in the long term, and how that behavior relates to the type of concept of risk used in risks that persist for a short or a long time.

Three refined sub-questions can be obtained from knowledge of the gaps if that knowledge is used to direct the approach towards promising lines of inquiry capable of filling the intellectual gap represented by the research question. The three questions are:

1. What are some of the patterns by which organizational risks change over time?
2. Is the way that an organizational risk changes over time dependent on the longevity of the risk?
3. Do the patterns of change in risks share any parallels with broader tempos of organizational change?

The first sub-question on change behavior is the central piece of the research aimed at discovering whether the change in risks shows any notable patterns over time. The second sub-question is meant to explore how strategic issues and strategic change manifest in changes in organizational risks over the short and the long term. The third sub-question explores the relationship between changes in organizational risks and wider organizational change especially in relation to the tempo of organizational change literature (e.g., Weick & Quinn, 1999). Together they should give a thorough and

multifaceted answer to the original research question, covering all the angles that could be productive based on the literature review.

Consequently, in this chapter I develop a study approach that answers the research questions and tackles the research problem. I start by discussing the ontological and epistemological foundations of the research. Then, I explicate the research approach in terms of unit of analysis and sampling decisions. That is followed by an explanation of the data collection and analysis procedures. Finally, I explain the criteria used to evaluate the study and discuss solutions to ethical dilemmas encountered during the research process.

3.1 Research approach

The foundations of the study begin from a social constructionist philosophical perspective (Eriksson & Kovalainen, 2008, p. 13; Berger & Luckmann, 1967). That choice of theoretical starting point is intended to align the research with the social practice perspective (Hendry, 2000). The assumed ontological view argues that social reality, including organizations and risks, is built from the ground-up through human interaction and communication (Robichaud et al., 2004, p. 619). Furthermore, the epistemological side of it is that by studying how social practices are performed by practitioners performing praxis (Whittington, 2006), it is possible to direct the critical eye of research on self-reproduced practices to produce self-contemplative knowledge of how the organizations are created in the first place through the social practice of the groups of people whose collective interaction as part of work and living constitute what we call the organization (Jarzabkowski, 2004). That knowledge can then be fed back to the system to modify or improve future practice, or to make the practice more self-conscious of possible limitations and downsides inherent in its reproduction. Effectively, from the perspective of this study, this means taking the perspective of social and organizational systems rather than examining individual decision makers making risk decisions at individual decision points, and analyzing risk problems from the perspective of actions, i.e. the production and altering of risk texts, rather than examining and judging the

reasoning behind individual risk decisions and their consequences (Miller, 2009; Whittington, 2006).

Accordingly, the study adopts a relativist (Eriksson & Kovalainen, 2008) interpretation of risks in assuming that the contents and the truthfulness of the risks are not primary subjects of interest for research, but rather, the point of studying organizational risks is to cast the spotlight of discovery on a corner piece or a pillar of the specific social reality upheld in the collective interactions of the communities of practice that work in these organizations (Berger & Luckmann, 1967; Lave & Wenger, 1991). Assuming that the risks are partially responsible for constituting the meaning of the organization to its participants, studying interactions such as those that produce the risks should offer a powerful tool for understanding how the organizations themselves are continually re-created through interactions. The contents of the risks do not always make sense outside of their specific context. Hence, the research is interested in describing how that reality in those organizations at specific points in time, manifests in certain patterns of risks. Those patterns in turn will betray details about how the original definition of direction for the organization progresses through the perspective of how the risks transform over time.

3.2 Unit of analysis and Sampling Decisions

Next, I will define the units that are under analysis in the study and justify why they were chosen. Then, I will discuss the reasons behind the sampling decisions, followed by a description of the sample settings and characteristics before moving on to data collection.

3.2.1 Description, definition and justifications of the unit of analysis

The unit of analysis refers to the subject that the research is supposed to illuminate, so that new things can be said to be known about it after the research. In this study, the unit of analysis is the patterns of interaction by which organizational risks change over time. The timings of the entrance and exit of individual risk texts can be expected to form patterns. The patterns as emergent phenomena can only become apparent over the long term. During the period, the organizations go through various changes which are assumed to affect the entrance and exit of risks in detectable ways. If done properly, post research

there should exist a few illuminating examples of how these risks progress over the long term, and a rudimentary theory describing how changes in risks take shape over time in qualitative terms.

The justification for using this unit of analysis is that the risks are assumed to bring together information from across the organization's different communities of practice on what different threats can affect the organization in the long term. Studying the patterns by which they change offers a perspective into how the organization's transformation becomes reflected in the combination of organizational risks that are active at various points in time, and whether those patterns progresses linearly towards a consistent end state, or whether the entrance and exit of new risks happens continuously with no clear direction or in a cyclical process with no end (e.g., Van de Ven & Poole, 1995). Furthermore, studying the changes in organizational risks is directly called for by the research question and is the premise of the research.

3.2.2 Sampling procedures

A multiple case study method was chosen, since comparability between cases has been seen as a desirable characteristic in sample choice (Eisenhardt, 1989a). The companies in the sample were also selected so that they list each other as competitors both at the start and the end of the study period, which is intended to facilitate "constant comparison" (Corbin & Strauss, 2008), an analysis technique employed in grounded theory-based methodologies.

A longitudinal as opposed to cross-sectional sample was essential to give the organizational risks enough time to exhibit the change patterns that are supposed to be explored as part of the study. Finding comparable data for all companies was also only possible for a limited period, which set a maximum temporal window that constrained sample choice in that dimension.

To compensate, the sample could have been grown horizontally to other industries, but a conscious decision was made to limit it to one. Firstly, there is a practical tradeoff between the amount of organizations that are taken under study and the quality and depth of analysis that is possible for each case, since at some point thoroughness and vigilance in

investigating individual interactions in the data will inevitably suffer from the addition of more cases. Too much data can lead to “data asphyxiation” (Pettigrew, 1990), whereby too many interactions are happening in the sample simultaneously for individual matters of interest to be separable from the chaotic noise. Assuming that the optimal number of cases in this study’s circumstances is quite small to begin with, limiting the sample to one industry was seen as the best choice, since increasing the number of industries under observation would logically lead to fewer cases per industry, which in turn would reduce the trustworthiness and comparability of the results. The added value in terms of new interactions from additional industries (Corbin & Strauss, 2008) was considered marginal, and would have had the additional downside of increasing the complexity present in the data (Pettigrew, 1990).

3.2.3 Settings and characteristics of the sample

The sample consists of ‘risk factors’ texts gathered from the annual reports of three companies from the communications equipment manufacturing industry between 2003 and 2017.

These specific organizations were chosen because they belong to a fast-moving, high-tech communications equipment industry. Fast changing industries have in previous studies been used to study dynamical behaviors (e.g., Brown & Eisenhardt, 1997; Eisenhardt, 1989b), since those industries experience large amounts of change by definition, and change is the main target of observation. A dynamical, changing environment should offer more opportunities to observe noteworthy events compared to a static environment, while hopefully not biasing the results in some way that is difficult to compensate for.

The sampled years contain variable amounts of turbulence for the three companies, with one company going through copious amounts of change, another undergoing moderate change, and the last one remaining mostly stable in its strategic direction throughout the period.

Alpha Oyj

The first company to come under examination was founded in Finland in 1865. It was a pioneer in the mobile telecommunications industry in the 1980s and 1990s. As pioneers of many new technologies that have since become commonplace everywhere, Alpha Oyj take pride in their record in innovation, and ability to manage global supply chains.

The company starts off the study period with 51359 employees at the end of 2003. By 2017, their employee count grows to 101731. Seemingly a period of growth. However, during that time they largely transitioned from the mobile phones market towards networking and telecommunications equipment and services, which means that the figures are not directly comparable with large differences in labor intensity and use of third-party contractors.

Alpha Oyj goes through large amounts of turbulence during the study period. They make frequent revolutionary changes in strategy, divesting operations, and launching into many large strategic actions that may involve risks, such as gigantic mergers and acquisitions with large competitors, and entering and exiting from strategic alliances that dominate their strategy for the corresponding periods.

Beta AB

The second company to have the progress of its organizational risks analyzed is a rival networking and telecommunications company founded in Sweden in 1876. Right before the beginning of the study period, Beta AB had recently gone through a substantial reduction in scale of operation, going from 107000 employees in 2001 to 52000 employees in 2003. However, by 2017, the end of the period, the company had largely made up for those reductions employing 100700 people worldwide again.

Beta AB is consistently oriented towards the networking infrastructure equipment and services market, where they are the market leader. During the period, they engage in fewer major strategic shifts or radical transformations. Their focus is on steady profitability and maintaining a position of leadership in the markets that they participate in.

Gamma Inc.

The third company to be placed under the lens of examination is an Internet networking focused company founded in California in 1984. At the beginning of the study period, in 2003, they had 34000 employees. By 2017, that number had grown to 72900, which means that they are comparable in size with the other two. Gamma develops, manufactures, and sells networking equipment and sells related services. Of the three companies under study, Gamma Inc., goes through the least amounts of transformation. For example, over the study period, they only acquire significantly smaller companies and follow a consistent, non-changing product and service mix.

Because of a trend towards convergence across different communications technologies, companies that used to occupy different pockets in the industry, such as was the relationship with Alpha Oyj and Gamma Inc. in the early parts of the period, they are increasingly pushed to compete with each other towards the end. However, all companies list each other as competitors both at the beginning and the end, which should make their risks anchored on a similar environment.

3.3 Data collection

The study uses risk texts that were extracted from publicly available annual reports of the companies that were included in the sample. The sample is gathered from the years 2003 to 2017.

3.3.1 Sources of data

The risk texts are drawn from official annual corporate disclosures filed to the S.E.C. (U.S. Securities Exchange Commission) called either ‘Form 10-K’s for United States-based companies, or ‘Form 20-F’s for companies headquartered elsewhere in the world. Those two classes of documents are functionally the same in everything but name.

Many previous studies have used annual reports as their sources of data (e.g., Nadkarni & Barr, 2008; Lant et al., 1992; Romanelli & Tushman, 1994). However, none of them analyzed the “Risk Factors” texts specifically. I found that section to consist of extremely

detailed text, with the whole section often more than 20 pages in length, and at least on the surface changing substantially from year to year.

The “risk factors” texts were chosen for several reasons. Firstly, they were universally accessible as publicly available documents, which made it easier to gather a large pool of material. Secondly, there was a long and regular history of their release, which enables continuous comparison across a lengthy period, and the examination of long-term trends, which was an essential component since it is the premise of the study. Thirdly, an advantage to these documents and the ‘risk factors’ texts was that they followed a standardized format enforced by regulations, which made them especially comparable across time. Furthermore, the risk factors material offered an innovative source of data that had not been previously used in this type of research.

At this point, I consider it worthwhile to briefly describe what a typical risk factors text looks like. This is to give a better sense of the basic building blocks that give rise to the more complex patterns of change that are proposed to be the subject of study. Furthermore, an example is provided to slightly decrease the level of abstractness of the discussion.

Each individual risk factors text tells its own independent risk story that is an account of some negative trajectory of events that is anticipated to possibly happen in the organization’s future. First, the texts set the scene with a brief telling of background information that portrays past events, trends or actions that are important in the leadup to the main events of the risk. Then, there is a portrayal of the anticipated event that is the central setting of the risk. Furthermore, there is a depiction of how it would be expected to unfold if it were to occur. Finally, the negative consequences to the organization’s performance are outlined.

Here is an example of a risk factors text’s heading that is a target of analysis:

“We are developing a number of our new products and solutions together with other companies. If any of these companies were to fail to perform, we may not be able to bring our products and solutions to market successfully or in a timely way and this could have a material adverse impact on our sales and profitability.”

(Alpha Oyj, 2004)

It represents the basic element that the sample is made up of, whose changes are collectively and longitudinally tracked for the presence of long-term patterns. In addition to the heading, each risk factors text comes with a body of text that contains a substantially longer and more detailed version of the same story that was summarized in the headings.

3.3.2 Data collection procedures

The data collection procedure involved downloading the forms from the SEC database and then importing and organizing the text for analysis in Atlas TI, which is a software used to accelerate and assist qualitative research.

3.3.3 Quality and reliability of data

Since the '10-K' and '20-F' forms of disclosure are supposed to provide accurate information to stakeholders under threat of legal consequences, and because of the compulsory annual regularity, they offer a particularly insightful lens into organizational practices. Since to some degree those texts are aimed at shielding management from threats of legal actions in case some material factors are not disclosed to investors, the texts may contain less public relations oriented readings of the state of the organization. Some other previously studied public-facing texts from the annual report, such as 'the chairman's letter to stakeholders', arguably may be more subjugated to image enhancement purposes. On the other hand, the "risk factors" texts can be more reflective of the full scope of concerns voiced by the communities of practice running the corporation's day-to-day operations not only because of the communicative purpose of the text and the audience, but also due to the vastly larger length of textual space that is given to the 'risk factors' texts as opposed the executive summary type texts, such as the 'chairman's letter to the stakeholders', or the management's perspectives on the past year.

As a consequence, I would argue that the quality and reliability of the 'risk factors' data used in this study should be relatively high, taking into account the length and communicative purpose of the texts, and the extent of the internal processes as well as external auditing that goes into producing and approving those texts.

3.3.4 Data limitations

For years before 2002 it was impossible to find data for all three companies in the same format. Hence, the time window put under observation was close to the longest possible for these three companies at the time of data collection.

3.4 Data management

Since the data was in an electronic format to begin with, it was natural to use a dedicated data management software to keep it in order.

3.4.1 Data reduction and complexity management procedures

Because the ‘risk factors’ texts make up only a small portion of the annual report, the relevant passages were able to be extracted into separate documents for analysis. This helped to minimize the inconvenience of having to process the risk factors texts in the context of other content that was in no way relevant for the study.

3.4.2 Database size, storage, and retrieval of data

The reduction step also greatly reduced the size of the database that needed to be stored, as the resulting text could be separated from the space-consuming images and other visual media present in the original reports.

Since the data was publicly available, no encryption or other additional measures typically needed for handling confidential data were necessary. Occasional backups were produced to prevent physical loss of work.

3.4.3 Computer software used

A qualitative research management software was used to make the processing of the copious amounts of data easier, and to speed up the coding process. Atlas TI was chosen, because it was the only program available for student use at the time.

3.5 Analysis and Interpretation

Next, I will detail the analysis and interpretation techniques used.

3.5.1 Analytic procedures

The study used qualitative content analysis to reduce the text into coded segments that convert the text into elements that can be used to interpret the data using quantitative and visual analysis. Individual risk factors texts are coded on each annual report. They are tracked for the full period. The presence of each individual risk is coded separately. On each year's report, it is checked if the risk continues to be there. Risks are tracked from their initial introduction to their eventual disappearance, or continued existence until the end of the study period.

Major segments of the 'risk factors' texts separated by headings were traced from the annual reports of 2003 to 2017. It was assumed that a new and separate risk text for coding started every time there would be a heading in the 'risk factors' texts. The existence and continuation of similar risk texts across multiple years was identified with careful administration of coding, so that families of risk texts could be traced over the years. If a text under a heading did not change substantially between successive years, it was assumed to be a continuation of the same text and coded as such.

Coding work

Text headings and the contents of each risk item within the greater 'risk factors' text were compared across subsequent years to acknowledge in which reports they existed. Reproductions of similar risk texts were traced across years. Similar texts are identified based on their headings and contents. Risks are considered to belong to the same 'family' of risk texts if they meet a certain threshold of correspondence, and thus get coded under the same group. Each year's annual report was processed carefully, coding each risk text with its own heading that appeared for the first time with its own fresh new code. Texts identified to have a close resemblance with a previous year's risk text were tagged with an existing code.

Most risk texts would only receive minor adjustments between subsequent years reports. Therefore, the same risk text would typically be found in multiple years' reports. Subsequent years' reproductions were banded under the same code in the data management software, so that at the time of further analysis the big picture of when that risk text first appeared and at what point it disappeared could be uncovered and compared to other things that were happening at the time.

Resolving issues related to minor variations in texts

Risk texts did not have to be identical to be included under a previous year's risk code. To be coded under the same family of risk texts, it was enough for it to include substantial portions of a previous year's risk text somewhere in the heading or the body of text. That is, if there was no other text that would have a higher claim to being the successor to that text. Since the heading of the risk factors texts was a summary of the longer story presented in the main body of the text, most of the time it was enough to process the heading to identify individual risk texts, unless there was some confounding factor that made the heading unclear. Furthermore, the data management software used for coding allowed quick comparison of the texts to be coded with previous examples of texts that went under those codes. The easy accessibility of old texts that are suspected to have high similarity with a risk being evaluated greatly helped speed up the process of matching risk texts under the proper codes. In addition, the ability to see texts side-by-side facilitated more rigorous comparison of the new texts with examples from different codes, which gave higher consistency and accuracy to the coding work.

3.5.2 Interpretation of data

As part of coding, the text had been reduced into analyzable pieces that were ready for analysis and interpretation. Consequently, the patterns that emerged out of the coded data were demonstrated using data displays. Since the study was explorative in nature, it was thought important for the essence of the original data to remain visible to the highest degree possible, so that the reader could construct their own interpretation, which is something that can be desirable in qualitative studies (Eriksson & Kovalainen, 2008, p. 120). Allowing 'objective' characteristics of the original data to shine through was thought to increase the perceived trustworthiness of the study, since it allowed more

transparency showing how the conclusions were drawn. Seeing the patterns that formed the basis of further interpretation work in the later stages of conceptual development was also thought to be valuable. The benefits and purpose are similar to the practice that is customary in qualitative studies of including example quotations from the data to support the arguments. Since the study does not seek to analyze the contents of the text, but rather the patterns, it would not be particularly productive to include individual quotations from the risk texts to support the arguments in favor of a certain interpretation. Instead, the matrix that shows the timeline of the risks is shown and the individual parts of it that lead to certain conclusions are highlighted in the context of the arguments about interpretation.

To create the figures that were meant to aid interpretation, individual risk codes and their frequencies on each year's report were exported from Atlas TI to Excel, and laid side by side. The data was then manually crafted into a format that would be visually intelligible in Excel, and the resulting matrix tables were used to launch into later stages of conceptual development.

3.5.3 Stages in conceptual development

Next, I will briefly describe how further conceptual development was conducted in two stages.

First stage

Insights were obtained by comparing the codes contents and patterns of appearance across companies. Prospective ideas were cross-examined for relevance across cases in a process commonly used in grounded theory called 'constant comparison' (Corbin & Strauss, 2008), which involved applying ideas drawn from one place to see if they work in places where they were not drawn from. The insights from comparison were used to categorize the risk codes into higher level conceptual categories that were supposed provide a refined understanding of how the risks change. As an example of an insight that was instrumental in shaping the results, and that emerged from comparison, it was discovered that many of the codes that were derived from single companies, would nonetheless occur in other companies as well, with only minor adjustments needed to turn them into 'super classes' of codes. Previous coding had been company-specific, but it turned out that the codes can

be divided into groups based on whether they work across the sample in one group, and those that do not work across companies as another group. The conceptual categories that were created from the insights from comparison were able to bring order in terms of explanation and description into places in the data that could previously only be described by chaos.

Second stage

As a last step in interpretation, basic quantitative testing was done to examine and evaluate what further could be learned for the purpose of interpreting the results.

Display of results

The final products of the analysis and interpretation were threefold. Firstly, data displays for each company were created that show the trends in the entrances and exits of individual risk factors. The identified trends were highlighted to make it more apparent what was being discussed. Secondly, conceptual categories were refined from the codes and what was happening in the data was discussed from their perspective. Thirdly, some relationships between conceptual categories are demonstrated using a table containing their cross-occurrences.

3.5.4 Negative case analysis

Corbin and Strauss (2008) among others have stressed the importance of searching for negative cases that do not fit well into theories being built from qualitative data. The idea is that theories will always work well with the positive cases that were used to produce them. To improve the theory and to identify holes in it, it is essential to examine the negative cases that are not easily explainable, or that outright go against it.

Negative case analysis was an essential part in validating and improving on the products of the later stages of conceptual development. After a stable framework of ideas was settled at, negative cases were sought after and considered. Some of the negative cases identified were thought to potentially represent separate phenomena with high strategic relevance for the organizations, and as a result, were given their own section in the findings.

3.5.5 Culture-specific issues in analysis and interpretation

Risk factors texts are written in a deliberately neutral, functional tone of writing that may be intended to push an impression of objectivity and scientific precision. It does however mean that there is less 'ornamentation' in which cultural influences could latch onto.

Nevertheless, there are several challenges related to cultural issues in the interpretation of the data. Firstly, the data comes from companies that have their headquarters and histories anchored in different national and regional cultures, which may have influenced the type and extent of risk reporting that is practiced in each company with impact on how much of the change is visible.

Stereotypically, for example, American tech companies are said to be careful not to release sensitive information that could benefit competitors because of the hypercompetitive environment. This may have severely impacted the degree of change visible in Gamma Inc.'s risks with consequences on the ability to interpret the results, and the danger of biased results if that is a valid concern in a qualitative study.

Secondly, organization- and industry -specific cultures may have had major influence on the contents of the risk texts in ways that are difficult to unpack, and which may have influenced the tracing process. For an external observer, it can be challenging to decode any such influence, because of non-membership in the group (e.g., Czarniawska & Mazza, 2003).

Thirdly, the risks that are being studied are written for the consumption of external stakeholders, which means that they are not necessarily a direct extension of internal concerns and voices. The final text product may not reflect the full scope of concerns that were brought up in discussions within the organization, which may have significant impacts on the conclusions that are drawn from them.

It is a text with split corporate authorship. A variety of actors with different motives will have had a say in which risks should make the list. Complex processes of approval will also have influenced which items make it in. As a result, the texts may only contain the official version of events for which there can be alternate version (e.g. Boje, 2001). Furthermore, due to the public availability of the material, there may be self-censoring

going on to discuss only topics that the managers are comfortable with sharing with outside publics, such as with competitors, regulators, governments, investors, and other publics that may have a vested interest in the company and may subject the organization to consequences if they were to disclose every possible threat identified as being significant in the risk items.

3.6 Evaluation of the study

As an initial exploratory study aimed at illuminating the rough edges of the subject, the goals of the study do not follow the traditional metrics that would be relevant for quantitative research, such as statistical generalizability (Eriksson & Kovalainen, 2008, p. 294) through picking a large enough sample size or the ability to definitively prove facts on the topic. Instead, the study should be evaluated successful if it is able to create new theories that are useful for creating alternate understandings or perspectives on the subject, preferably ones that may not have been thought of otherwise, and are capable of offering new ideas in a variety of domains.

A secondary evaluation criterion for whether the study can be considered a success would be in how rich the description is in terms of its ability to create a thorough sense of familiarity with the sample.

Finally, the relevance and quality of data (Eriksson & Kovalainen, 2008, p. 100) is important for the ability to provide that description and understanding. If the data is evidently good, it contributes to a general sense of trustworthiness (Eriksson & Kovalainen, 2008) without which the insights and description would be less meaningful.

On the subject of ethical dilemmas, the primary conundrum was in deciding how to address the case companies, and what kind of quotes to use to showcase the data, because there was a large amount of material in the data that would have potentially made good quotes, but that had very easily recognizable reference to events and companies, which could in some cases uncomfortably single out certain people or companies, or show them in a less than positive light. After thinking about this dilemma, I concluded that there was no ethical basis to allow any harmful effect to the study. Therefore, I took action in

substituting the names of the companies in the body of the thesis, which had the additional advantage of keeping the focus solely on what is intended to be shown with quotes and data, as opposed to having the readers be influenced by preconceived notions or impressions of events or companies. It also means that I chose not to use quotes that have third party company names in them, and I have removed any identifiable brand names or names of companies from the risk labels that could have connected individual risk items to unintended entities.

4 FINDINGS

In this chapter, I present the results of the study. I begin the presentation of the results by introducing the concepts of temporary and permanent risks. They are crucial for the ability to convey and discuss findings from the main line of inquiry. Once they are defined and some examples are provided, I present the findings of the tracing of risks' appearance and disappearance over time in case companies. In addition to presenting the tables that show how the risks progressed over time, each of the case studies portrays one of the central thematic modes of change that were found to be particularly prominent in that company's case. The three themes are radical change, incremental change, and no change. The themes and the concepts were gained from comparison of patterns across companies, while the tables of risks are a direct representation of the data. In the end, I review what the findings demonstrate together. The findings chapter will be immediately followed by the discussion chapter in which the discovered themes are discussed in relation to existing literature and the specific contribution is outlined.

This research set out to conduct an initial exploration of the patterns that organizational risks create over the long term. The objective was to answer the research question "how do organizational risks change in organizations over time?". Accordingly, the findings can be considered successful if they convey with some degree of clarity what happened to organizational risks in the studied organizations over the selected period. In addition, it is critical that the findings can contribute towards and improve a qualitative understanding of how organizations change in long-term time scales. The findings of the initial empirical work are meant to satisfy the first descriptive part, while the products of

later stage conceptual development are meant to tackle the second goal of improved understanding.

4.1 Persistent and temporary risks

During the process of mapping how organizational risks change over time it became apparent that the examined risks exhibited a polarizing tendency to either continue to be present for exceedingly long periods that approach a state of permanence, or to disappear shortly after their first appearance. In later stages of conceptual development, this insight was refined into a theory that organizational risks can be usefully divided into two groups based on longevity in a way that adds depth and precision to the description of how risks change over time. Thus, in this study risks that lasted six years or more were labeled “persistent risks”, and those that were present for shorter than that were labeled “temporary risks”.

4.1.1 Justification for the division of risks into persistent and temporary categories and the selection of the boundary threshold

Regularizing a set of terminology for the distinction is intended to introduce concepts that can be used to discuss differences in how risks behave in the long term, with there being an apparent need to be able to discuss differences connected to longevity. Fundamental implications for how the risks affect the organization from a managerial perspective arise with the differences in risks’ propensity to stick with the organization over an extended period.

By introducing the distinction between persistent and temporary risks, part of the research question inquiring on how organizational risks change over time can be addressed trivially through the definitions’ direct implications. The criteria for categorization are based on the area of interest for analysis, which is how the risks change over short or prolonged periods, and especially how they last in the reporting over the years. Persistent risks in this thesis are defined as encompassing all risks that last a “long” time under the confines of this particular context. Due to the focus of the thesis on the long term, being able to group together all those risks that endure over “long” periods allows the discussion of

how those risks behave separately from temporary risks. This helps direct the study towards a productive end.

The limit to describe what can be considered “long” was chosen to be six consecutive years or longer, because that is roughly the mid-point between the clusters of behaviors between short-lived and long-lasting risks, and represents a blurred area on the axis of longevity at which the risks started showing accumulating behaviors and simultaneous shifts, i.e. the longer-lasting risks started behaving qualitatively different than the short-lived risks.

On the other hand, it would be a mistake to completely disregard the role of temporary risks in the long-term developmental arc of organizations. While individual temporary risks cannot endure over prolonged periods to the same degree as persistent risks, they can nonetheless have similar long-term impacts. Temporary risks can appear chaotic because they come and go so quickly. While individual risks that belong into the category do not last long, because of the constant barrage of new temporary risks appearing and disappearing, construed together, the threat posed by temporary risks can be viewed as persistent to the organization in the long term, especially if the same temporary risk were to repeat over time. In a way, temporary risks can be thought of as candidates for persistent risks. Here, the main focus is on persistent risks, because the way that they change is much more capable of betraying the effects and timings of wider changes in the organization, since unlike temporary risks they will not expire by themselves after a short period.

4.1.2 Examples of temporary and persistent risks

Before I go into the change patterns, I will start off by providing more detailed description and examples of the types of risks that would typically go into the persistent or temporary risk categories.

Examples of temporary risks

The temporary risks that lasted the shortest were often associated with acute crisis situations, such as ongoing issues with liquidity or other problems with short-term

financing. Here is an example of the heading of a temporary risk that described an ongoing issue or concern that only appeared in the reports for a short time:

“Our business has substantial cash requirements and we may require additional sources of funds if our current sources are unavailable or insufficient to satisfy these requirements.” (Beta AB, 2003)

This risk text clearly reflects an acute funding crisis in Beta AB during that year. Acute crisis events with their high level of impact, urgency and feasibility of response elicit rapid actions, which leads to it being logical and expected that these types of risks that expressly associate with acute crisis events are the shortest lasting, and do not linger for an extended period. Another plausible reasons for why such risks may be short-lived in reporting could be due to the negative connotations of having to disclose such powerful risks to various stakeholders. Consequently, there may be an incentive to not report such crises in the form of a more permanent persistent risk format, and pressure to remove it as soon as it is possible. Due to the short life of these risks, they cannot communicate much about wider change in the organization.

There could be discerned a notable alternative slightly longer lasting class of temporary risks. These were temporary risks that were associated with the passing of unique events of importance to the organization. An aspect that made them more long-lasting was that the reporting of the risks associated with these events could be started long before the actual transpiration of the events, in anticipation of the events if forward warning could be gained. Unique events in this case means events that can only ever happen once, such as specific change events associated with changes in regulations. They need to be unique one-off events, because if they were repeating, the risk would likely be presented as persistent.

Curiously, these types of risks sometimes continued to be reported long after the main event had passed. For example, a major merger could start to be reported as causing risks first when they are starting negotiations. Then, next year the deal is implemented, and the associated risks are reported concurrently with the event. Afterwards, a long tail of risk reporting on the integration can mean that the same risk continues to be reported for two to three years after the fact. The results are temporary risks that last considerably longer than acute crisis-related temporary risks, which is part of the reason why the boundary to

what differentiates persistent risks from temporary risks from an empirical perspective needs to be set as high as six or more years. Some incentives can plausibly make it desirable to keep reporting temporary risks for longer. These include the need to communicate that a one-off event is continuing to pose significant problems for the organization. Continuing to report on a past event-related risk could also be beneficial for management in the event that there is need to redirect blame for any potential performance shortfall assuming that the risk continues to be plausibly attributable for some of the decline in performance.

Here is an example of a regulation related risk heading of a temporary risk text that is event-related, and that was observed to be repeatedly reproduced for multiple years:

“New regulations related to ‘conflict minerals’ may cause us to incur additional expenses, and may make our supply chain more complex.” (Beta AB, 2012)

The most protracted types of temporary risks were often associated with strategic actions, such as large mergers and acquisitions, multi-year formally drawn strategic plans and their implementation, and the entering and exiting of the organization from significant strategic alliances and joint venture projects. These strategy and implementation related risks, at three to five years, were often barely under the time limit that would have led to a classification as persistent. Due to their prolonged existence within the organization, temporary risks related to strategic actions may have more opportunities to influence its direction compared to other temporary risks. Yet, they exhibit one key characteristic that justifies them belonging with the other types of temporary risks. The acts from which the strategic action-related temporary risks originate from do not make a claim for representing a permanent state of affairs within the organization, unlike with most persistent risks which link to core organizational functions that are part of the permanent organization. For instance, a strategy is rarely meant to be a permanent situation. They are transient because they are momentary answers to specific conditions which are expected to change as the world changes with them. While temporary risks related to strategy implementation were the most enduring types that could be observed, since they are not intended to be permanent it is entirely appropriate that the line of definition is not drawn so that they would be placed with the persistent risks.

Next, I will provide two contrasting examples of strategy related risk texts. First, note how this short-lived strategy related risk is anchored onto a one-off change event, which is reflected in how it was only produced in one year's report:

“If we are unable to effectively and smoothly implement the new organizational structure effective January 1, 2008, we may experience a material adverse effect on our business, sales and results of operations.” (Alpha Oyj, 2007)

The following risk, in contrast, was reproduced with slight changes during four consecutive years:

“[Alpha Oyj] has announced a new strategy which is subject to various risks and uncertainties, including that [Alpha Oyj] may not be able to sustain or improve the operational and financial performance of its continuing businesses or that [Alpha Oyj] may not be able to correctly identify business opportunities or successfully pursue new business opportunities.” (Alpha Oyj, 2013)

Note how it describes a protracted “new strategy” that is to be continue until stated otherwise. It is not associated with any event, the passing of which would make it obsolete. These types of risk texts, while not lasting for prolonged periods in practice, belong to a grey area between temporary and persistent risks, since technically it could last indefinitely, but in practice the management chooses to change the strategy at intervals that make the associated risks temporary.

Examples of persistent risks

Persistent risks were slowly changing risks that mainly demonstrated incremental accumulation behavior, whereby new risks would slowly enter over time and then remain a constant fixture of the organization's overall assortment of risks until the end of the study period, with some exceptions.

Persistent risks are generally associated with the dangers possible in the normal day-to-day operational activities that come as an inseparable part of the domain of operations that the organization has chosen to engage in. They are associated with a wide variety of risk sources, from risks related to manufacturing and logistics, to the dealings of suppliers and customers, and legal risks. Here is an example of a persistent risk related to the performance of core functions of the organization that are likely attached as an

inseparable part of its functioning as a business organization that partakes in this particular industry:

“[sic]SUPPLY CHAIN ISSUES, INCLUDING FINANCIAL PROBLEMS OF CONTRACT MANUFACTURERS OR COMPONENT SUPPLIERS, OR A SHORTAGE OF ADEQUATE COMPONENT SUPPLY OR MANUFACTURING CAPACITY THAT INCREASED OUR COSTS OR CAUSED A DELAY IN OUR ABILITY TO FULFILL ORDERS, COULD HAVE AN ADVERSE IMPACT ON OUR BUSINESS AND OPERATING RESULTS, AND OUR FAILURE TO ESTIMATE CUSTOMER DEMAND PROPERLY MAY RESULT IN EXCESS OR OBSOLETE COMPONENT SUPPLY, WHICH COULD ADVERSELY AFFECT OUR GROSS MARGINS”
(Gamma Inc., 2009)

Variants of the same persistent risk text on such core topics can often be found to be present in multiple companies’ risk reports in the same industry. They face many of the similar core challenges, and this becomes reflected over time in the reporting.

Some persistent risks are more fundamentally attached to the organization than others. It is unclear whether the most static of persistent risks could become malleability if observed over a long enough period. Regardless, it takes fundamental changes in the organization or its environment for the most entrenched persistent risks to change.

However, significantly, there is a formidable second group of persistent risks in which changes can be observed, as the risks enter or exit during the study period after a long period of stability.

Examples of persistent risks that are observed to enter or exit during the period include those that are associated with persistent trends in the environment, such as long-lasting global economic weakness, persistent industry trends or market trends in how certain markets are developing, and special areas of lasting management focus, such as risks associated with cost management, management of the quality of products or the expansion of the service side of the business. Changes in wider societal trends can also lead to new persistent risks, such as was observed with data security becoming an issue over the period. Persistent risks that can be seen to change during the period have a common characteristic in that their appearance is associated with some real change in the organization or its environment that is of lasting impact to the organization. Here is an

example of a persistent risk that was added to Alpha Oyj's pool of persistent risks during the period:

“Any actual or alleged loss, improper disclosure or leakage of any personal or consumer data collected by us or our partners or subcontractors, made available to us or stored in or through our products could have a material adverse effect on our sales, results of operations, reputation and value of the [Alpha Oyj] brand.” (Alpha Oyj, 2010)

Data security was a phenomenon that gained newfound prominence during the period when the industry moved onto smartphones. It is an example of a global trend that creates a new type of persistent risk that the organization has to from thereon contend with as long as they continue to participate in that market.

This concludes the examples of temporary and persistent risks. They exemplify distinctly different types of risks, of which the types that last into the medium- to long -term are key to deciphering how organizations direction is affected in the long term. Next, findings about their behavior in that crucial long term aspect are presented in more detail.

4.1.3 Long-term behavior of persistent and temporary risks

As may have become apparent from the above examples, in the process of comparison it was discovered that persistent and temporary risks are different beyond what would be trivially expected based on the definitions. Fundamental differences in risks that last a long time can be identified when compared to those that are short-lived. In addition, some of those characteristics that mark a gap between the two are featured highly consistently in the sample.

As an example, there is a marked preference for persistent risks to be a shared concern for multiple companies in the industry. As part of the comparison process, it was found that persistent risks are shared significantly more frequently by two or more companies, as can be seen from Table 4. In contrast, the issues that were described in temporary risks tended to be unique, and specific to one company. This relationship suggests that the persistent risk pool in organizations and industries that approach maturity tends to increasingly consist of risks that have become widely recognized, whereas temporary

risks throughout an organization's existence relate to issues that are unique to that singular context.

Table 4. Contingency matrix for persistent / shared risks

	Shared	Unique
Persistent risks	75	17
Temporary risks	10	35

While most persistent risks are shared by multiple organizations, there exists a class of notable exceptions to the rule that is manifest in the persistent risks that stay unique to one organization. Because they break the long-term competitive symmetry across competitors, those risks should perhaps be studied for signs of increased strategic significance for long-term determination of direction for the organization. Persistent risks that stay unique create lasting strategic imbalances in the perspectives from which individual organizations can approach the competitive landscape of the industry. If everyone must contend with a small amount of persistent risks that are unique to their specific organizations, and that hang on into the long term, it changes the competitive equation in a way that causes each organization's long-term risk outlook to be fundamentally different from others. For it to be possible to make good decisions for the long term, it is important to be extra mindful of these differences that are being dragged on with the organization.

Risks are often seen in a negative light. However, while the direct implications of the risks may be negative, the organization often chooses to engage in them despite being aware of the risks. When the risks are considered in combination with the actions or events to which they are attached, the net effect to the organization would be expected to be positive. If the effects were to be net negative, the organization would likely have sought ways to get rid of the activities to which the risks are attached, at least if the effects exceed the costs that come from ending them. That each company in the sample continued to

harbor a few persistent risks into the long term that were not adopted or shared by others at any point in the period suggests that those companies were choosing to drag those risks along with them. Some risks are being carried over that the others are not picking up over time, which reveals differences in how the organizations are affected by risks that last into the long term.

In this section, it was considered what changes can be seen in the composition of risks as their length approach the long term. However, the objectives of the study is not about exploring an end state for organizational risks, at least in exclusion, but rather of interest are the patterns of changes that occur on the way as the organization passes through time. The next part is devoted to presenting the patterns of changes in risks that were observed along their journey towards the long term.

4.2 Patterns of change on the way to the long term

Overall, the pacing of the changes in risks were noted to closely reflect expected patterns that would match tempos of organizational change described in literature. First, I will discuss the patterns by which persistent risks changed. Then, I will briefly describe how temporary risks were found to change.

4.2.1 Radical change

Occasionally, large simultaneous shifts in risks could be identified as predicted by the punctuated equilibrium model (Tushman & Romanelli, 1985). The large shifts in multiple risks coincided with momentous strategic actions.

Major strategic change events were often met with multiple new risks entering the organization's risk pool within the space of a brief period. With Alpha Oyj, both a major acquisition and another significant event from a different year in which a strategic partnership was entered into both coincided with a substantial increase in the quantity of temporary risks. This has been highlighted in Table 5.

The decision to enter the strategic partnership is described in the following quote:

“As a result, we needed to change our strategic direction and operational structure, and position [Alpha Oyj] in an industry ecosystem that we believe has strong growth potential and represents the best option to drive our longer term financial performance.” (Alpha Oyj, Form 20-F 2010, p. 76)

The text suggests that the changes described represent a change in the strategic direction of the company. In addition, the wording suggests that before making a final decision on the change, a lengthy process was undertaken to arrive at “the best option”. To arrive at a best option, there must have been a process to evaluate alternative courses of action suggesting an extended decision-making process was conducted prior to the change.

On the other end of the spectrum of change events, one special radical change event was observed that resulted in multiple persistent risks abruptly ending within a brief period. It happened when Alpha Oyj divested a whole area of business that had been of notable significance in their overall operations throughout the study until that point in time. If persistent risks are left to accumulate to the point where they are no longer bearable or acceptable, the option to get rid of them by shutting down entire operations becomes more attractive, especially if there is no other way to reduce the amount of risks that are active to get them to a more acceptable level.

Of the divestment decision, the following was written:

“After a thorough and careful assessment, we determined at a meeting held on September 2, 2013, that the proposed transaction was advisable, fair to, and in the best interests of [Alpha Oyj] and its shareholders.” (Alpha Oyj Form 20-F 2013, p. 37)

It is clear from the quote that these actions that lead to large shifts in risks are momentous and unusual also from the perspective of how thorough a process has been undertaken to arrive at the change. The quote talks about a “thorough and careful assessment”.

Less momentous strategic projects were also seen to come with their own associated risks attached. For example, on the years of corporate restructurings, of which there were multiple instances, and sometimes for the acquisitions of significantly smaller companies, new temporary risks appeared that were clearly aimed at disclosing the risks associated with those events. However, they only remained while they were current matters, and did not leave lasting effects on the risk timeline unlike the larger shifts.

4.2.2 Incremental change

In the absence of the radical change events, which were infrequent, and only really seen on Alpha Oyj's risk timeline, the remaining changes to risks would largely happen in the form of small incremental inclusions of new persistent risks that would slowly accumulate on the list over time.

Beta AB's risks were particularly notable for this type of slow incremental pattern of change, but it was observable to some degree for all three companies. For Beta AB, new persistent risks were introduced at a rate that over the period resulted in a consistent slope pattern with a near constant rate of entrance of new risks over time. This trend is highlighted in Table 6 that includes the timeline by which Beta AB's risks changed over the fifteen-year period.

Furthermore, it is notable that while the patterns of incremental change were overall slow and consistent, in Beta AB's case, the changes occurred in multi-year steps. The pattern can be aptly described as the shape of a ladder in terms of its short-term features in addition to the straight slope that it resembles over a longer period. Multiple risks were being added in each step, interleaved by years in which no changes would be observed. If annual changes of one or two risks would have been observed, it would have been more straightforward to explain, since the annual period was the shortest measurable interval in the study, and the entrance or exit of individual risks was the smallest unit of change. However, the pattern that was observed did not keep to either lower limit, which suggests that something else was going on with the biannual patterns of larger steps. Possibly the changes in risks in this case were linked to a longer semi-periodic process than the annual production of the report.

The years of the steps also coincide with reviews of strategy. Here is an example quote from 2007 where one of the most pronounced "steps" was visible:

"A thorough review of our strategy, the business environment and our ways of working show that our strategy has been effective and should not be changed."
(Beta AB Annual Report 2007, p.4)

It also provides supporting evidence for a lack of radical change, which arguably is visible from the table. Another formidable step on the table can be seen in 2009. In the chairman's letter to shareholders from that year, the following text is included:

“The Board's work in 2009 had a significant focus on strategic matters.” (Beta AB Annual Report 2009, p. 9)

It would suggest some level of elevated strategic activity during that year as well. A further piece of evidence supporting a hypothetical link to the strategy process can be seen from 2011, which was another “step year” for Beta AB's risks:

"Over the past year, the Board of Directors has spent time reviewing [Beta AB's] strategy as well as the development of the industry." (Beta AB Annual Report 2011, p. 18)

All these years in which there is a shift in persistent risks coincide with the conducting of some type of additional strategy process.

Overall, all the patterns were consistent with the assumption that changes in the risks were reflecting a renewed perspective into changes within the organization or its environment. Temporary risks were reflections of ongoing active attempts to cope with the changes or to make novel changes. Persistent risks represented permanent changes in how the world was viewed. Due to the length of the effect, they continue to influence the organization's steering and direction in unpredictable ways far into the future.

4.2.3 No change

Alpha Oyj's case elicited the hypothesis that an abundance of changes at a strategic scale happening within the organization or its environment could be seen to be reflected in the level of changes in the risks. In Beta AB's case it was suggested that bursts of strategic activity were reflected in the steps of incremental change accumulating in the risk table.

Gamma Inc.'s case is also consistent with both principles. However, it shows that the theory also works at the scale of exceptionally low levels of strategic change activity. The changes in Gamma Inc.'s risks from 2003 to 2017 are presented in Table 7. Compared to the other two companies, Gamma Inc.'s study period was characterized by near total stability with only miniscule amounts of change in risks exhibited over the fifteen year period. Even the accumulation of new persistent risks happened at a minimal level, compared to Beta AB, which was thought of as the moderate example.

Throughout the period, Gamma Inc. followed a conservative strategy that was focused on maximizing the efficiency of what they were already doing. For example, consider this quote from the 2014 CEO's letter to shareholders:

“We remain focused on shareholder value creation by maintaining the flexibility to make the right long-term strategic decisions for our company, driving efficiencies in our cost structure and returning capital through dividends and share repurchase to our shareholders.” (Gamma Inc. Letter to shareholders, 2014)

Note the focus on long-term strategic decisions, efficiency and the value placed on strategic flexibility, i.e. staying flexible in terms of direction by not committing to any particular changes. In addition, Gamma Inc. had the same CEO from 1995 to 2015, who led the company through massive growth during his early years as CEO in the 1990s. This was, however, firmly before the period under examination in this study began. By the time of the study period, the company had already reached massive size, briefly being the highest valued company in the world before the dot-com bubble of burst in 2000. From then on, it proceeded to undergo a lengthy period of very modest yet stable growth.

During the transition of leadership in 2015, the following text could be found in the CEO's letter to shareholders:

“Fiscal 2015 was my last year as CEO. I am extremely honored to have led [Gamma Inc.] for the past twenty years, and I'm proud of the role this company has played in changing the way the world works, lives, plays, and learns. My single greatest goal in the transition of the CEO role is that [Gamma Inc.] is even more successful in the next decade than it has been in the past.” (Gamma Inc. Letter to shareholders, 2015)

He continued of the new CEO:

“I know that he and his executive leadership team will build on the things that have made us great to date, make changes where needed, and drive innovation and new capabilities at a faster pace.” (Gamma Inc. Letter to shareholders, 2015)

Note the part of the narrative that is saying that the new CEO should be able facilitate change “at a faster pace” than before.

On the subject of how it was possible for them to thrive without substantial shifts in strategy, here is a quote on what the company’s leadership ascribe their success to:

“[Gamma Inc.] is differentiated from its peers and has a unique strategy to grow faster than the market. Our long-held leadership position in routing and switching is well known.” (Gamma Inc. Letter to shareholders, 2010)

They acknowledge the importance of taking “good business risks”:

“In our opinion, the key to long-term success in the high-technology industry is ongoing strategic investment and innovation, and we intend to continue to take good business risks” (Gamma Inc. Letter to shareholders, 2005)

However, in this case the emphasis on good risks can be taken to imply the recognition that “bad risks” should be avoided. In the 2011 CEO’s letter to shareholders, it was noted that company had been changing more than ever.

"Fiscal 2011 was one of the most transformative years we have seen at [Gamma Inc.]. We prioritized, simplified, and took action to drive [Gamma Inc.’s] continued market leadership." (Gamma Inc. Letter to shareholders, 2011)

The transformative changes in this case were simplifications and further movements towards flawless execution of the old existing strategy. A year later they wrote:

“As we enter fiscal 2012, we are operating as the "Next [Gamma Inc.]" – less complex, more agile, and focused on our five foundational priorities” (Gamma Inc. Letter to shareholders, 2011)

The argument is that throughout the period, there was significantly less change happening inside Gamma Inc. as compared with Alpha Oyj or Beta AB. In Alpha Oyj, there were frequent radical shifts in strategic direction, such as with the major strategic partnership, divestment and large merger events. In Beta AB's case, their strategy was adjusted frequently with changes every few years. Gamma Inc., on the other hand, followed a more consistent strategy. Their policy was to focus resources on business risks that have the best probability of pay off to shareholders.

In addition, Gamma Inc.'s professed strength that allows them to compete is in how they have differentiated themselves from the competitors. They have a rather stable niche which could have helped to insulate them relatively compared to the other two companies from the high pace of change in the industry and market environments.

The lack of change in risks is strikingly visible from Table 7. 31 out of 37 of the risks that were identified over the period stayed more or less the same throughout the fifteen years. In addition, the vast majority of the few changes that did take place were new persistent risks slowly seeping into the mix.

However, as with the other cases, the methodology used in this study is unable to prove a conclusive link between strategic change activity and the rate of change in organizational risks. However, perhaps there is enough evidence to argue that Gamma Inc. avoided making risky strategic changes. For example, consider the following text snippet from 2005:

“We believe we are well-positioned to take advantage of future growth opportunities, and we are confident and optimistic about the areas of the business that we can control and influence.” (Gamma Inc. Letter to shareholders, 2005)

In this quote, there is a strong emphasis placed on “the areas of the business” that can be “controlled” or “influenced”, which uses language common to modernist perspectives on risk in which the goal is to control or mitigate sources of risk to minimize exposure to negative outcomes. Thus, the argument is made that the lack of changes in risks in Gamma Inc.'s case was directly related to how they did strategy, which was also connected to the overall slow rate of strategic change activity in the organization. The exact causal relationships cannot be determined.

Table 7. Risk factors of Gamma Inc. from 2003 to 2017

NOTE: Short-lived risks are frequently unique to the focal company, i.e. not shared

Year	Acquisitions	Availability of licenses	Business mix	Competition	Competition new markets	Credit losses	Cyber security	Employees	Exchange rate fluctuations	Global economy	Global risks	Industry regulation changes	Industry trends & internet	Innovation	Intellectual property	Internet regulation changes	Inventory	Investment value fluctuations	Litigation	Market fluctuations	Natural disasters	Operating results fluctuations	Partnerships	Patent claims	Profitability fluctuations	Quality issues	Share price	Supply and manufacturing	Tax changes	Unreliable forecasts	Vendor consolidation	Industry changes	Investment in engineering and sales	Debt in interest rates	Return on investments	Count#feits	2005 compensation regulation
Shared	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2003	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
2004	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0
2005	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0
2006	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1
2007	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1
2008	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
2009	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0
2010	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
2011	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
2012	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
2013	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
2014	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
2015	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
2016	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
2017	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
Total:	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	14	13	12	9	5	2

NOTE: Highly stable. Few risks were added over the period

Persistent risks (5-15y) Temporary risks (1-5y)

How the findings relate to previous theories of change, and in what ways they can potentially expand on existing frameworks will be discussed in more detail in the next chapter.

5 DISCUSSION

In this chapter, I interpret how the findings of this study build on and relate to previous literature. A model of risk change process is built using the evidence, and it is discussed how the model relates to the relevant topical discussions highlighted in the literature review chapter. The chapter concludes with an analysis of how the limitations of the study constrain the scope of reasonable interpretations of the results.

The model needs to satisfy the thesis' objectives. An objective of the study was to enable a better understanding of the patterns by which organizational risks change in the path of the organization towards the long term. The approach was to map the risks of three organizations over one-year intervals over fifteen years. It was done using data extracted from the annual reports of the three companies. From there it was possible to examine the timings of entrances and exits of organizational risks and compare the timings to concurrent events.

The constructed model combines four aspects of the evidence and theory built over the study into one cohesive interpretation of what is happening to risks in relation to organizational change in these organizations.

5.1 Interpretation

The model is depicted in Figure 5. The model attempts to represent how organizational risks eventually lead to organizational changes. The process is portrayed as following two separate possible paths.

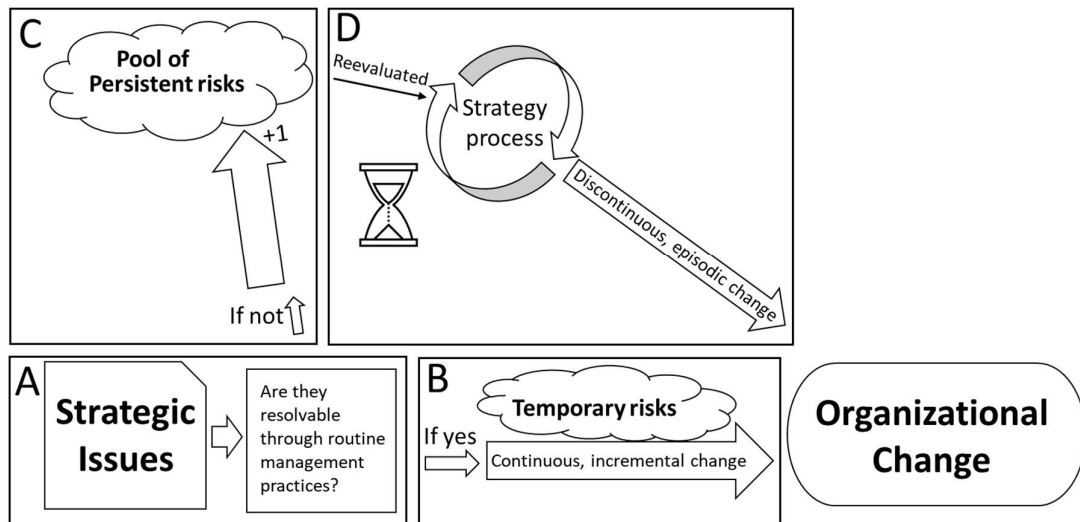


Figure 5. A model of what the results suggest for the change process of risks over time

The central hypothesis is that strategy processes are the main pathway by which persistent risks lead to organizational change. In the model, all organizational risks start off as strategic issues. The risks then diverge on the question of whether the strategic issues are resolvable through routine practices. Those strategic issues that do not require extraordinary circumstances or efforts to be resolved directly contribute to change through incremental processes and are briefly visible as temporary risks. Alternatively, those that lack the preconditions for immediate or short-term resolution become more permanent features of the organization. In the model, they are portrayed as adding to a hypothetical pool of persistent risks. Strategy processes, which are occasionally organized, reevaluate options surrounding the available persistent risks and have access to a greater fraction of the organization’s resources compared to regular daily activities, which makes them able to generate organizational changes that reconfigure the persistent risks. In the model, they are represented as a cycle. Together, changes induced by the two pathways that lead from risks into organizational change combine to account for the total rate of observed organizational change.

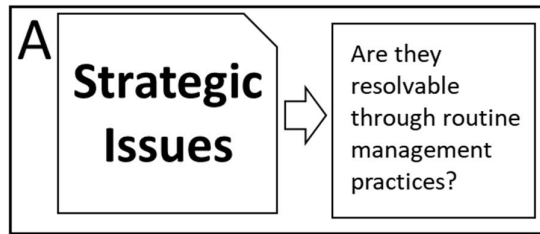


Figure 5a. Organizational risks are assumed to come bundled with new strategic issues as a starting point

5.1.1 Strategic issues

The slow and incremental accumulation of risks over time happened in the backdrop of small day-to-day changes in the organizations and their environments.

Overall, the risk change tables of the three companies were consistent with the punctuated equilibrium model (Tushman & Romanelli, 1985). In rare cases, large shifts in multiple risks between mostly long periods of relative stability could be seen. However, most persistent risks accumulated slowly over time during extended periods of relative stability. The periods of stability were characterized by slow continuous change resembling that documented in Brown & Eisenhardt's (1997) examination of the computer industry. This slow accumulation is assumed in the model to be generated by the trickling stream of strategic issues entering the management's attention, and it is the starting place of all the risks.

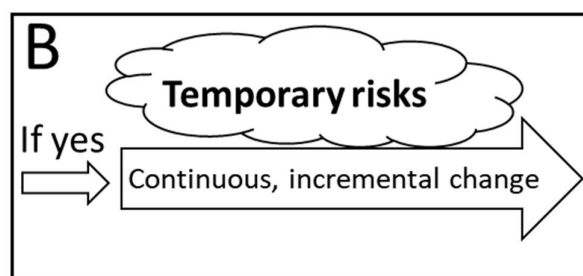


Figure 5b. Temporary risks reflect active work towards resolving issues in the organization

5.1.2 Temporary risks

Temporary risks in the data were related to concrete ongoing issues and were scattered across the whole timeline as opposed to being concentrated on years marked by elevated

strategic activity. Because of their concreteness, the approaches to their resolution fit well with a modernist framework. In this study, temporary risks were suggested to parallel the urgent, impactful and feasible to resolve strategic issues (Ansoff, 1980) that would be dealt with as part of day-to-day management practices. Accordingly, in the model, temporary risks are associated with the small incremental changes that cumulatively add up to comprise the effects of continuous change.

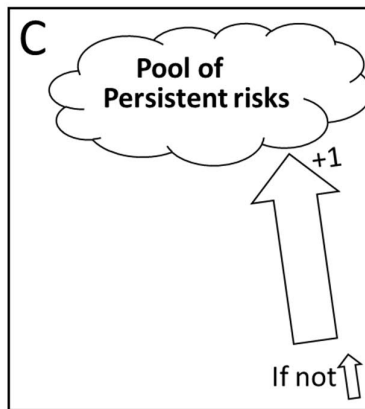


Figure 5c. Persistent risks accumulate over time as new unresolvable issues are added

5.1.3 Persistent risks

The garbage can model of management (Cohen et al., 1972) was discussed as an alternative model for resolving issues with risks without there being an intentional process behind it. It was expected to some degree based on that discussion that difficult problems would be pushed back in time, and they would wait for the correct alignment of resources, people and solutions for the difficult problems to be resolved. This behavior fits what was observed with persistent risks remarkably well. Persistent risks were rarely seen to disappear in the normal day-to-day operations of the organization as evidenced by the concentration of the change to years with elevated strategic activity.

Persistent risks are characterized by an inability to be dealt with by routine management practices. They slowly enter the system over time or are added in larger batches during risky major strategic actions. Persistent risks comprise of complicated issues for which the risk scenarios are unclear, shrouded far into the future and not linked to a concrete issue or event. The contrasting behaviors of persistent and temporary risks parallels the

clash between postmodernist and modernist approaches to risk studies as they were described by Miller (2009). Persistent risks are often described in vague terms that do not allow them to be objectively identified, nor do they allow the magnitude of the risk to be quantified, both of which suggest that a postmodernist (Miller, 2009) framework may be superior for analysis.

Persistent risks were often shared between companies, which suggests that their source may be on an industry level or in the layers of society beyond that, which creates challenges for any modernist exploration of them, whereas a postmodernist perspective would not be inhibited by such limitations. This is reflected in the model in the division into two pathways of change which emphasizes the need to deal with persistent risks differently from the temporary risks that are more amenable to resolving them using modernist logic and practices.

In rare cases persistent risks deviated from the standard accumulation behavior. In those cases, the changes followed episodic change (Weick & Quinn, 1999; Hendry & Seidl, 2003) logic in that the changes in risks coincided with large changes in the organization that could be well described as movements from one organizational episode to another, the mode of change proposed by Hendry & Seidl (2003).

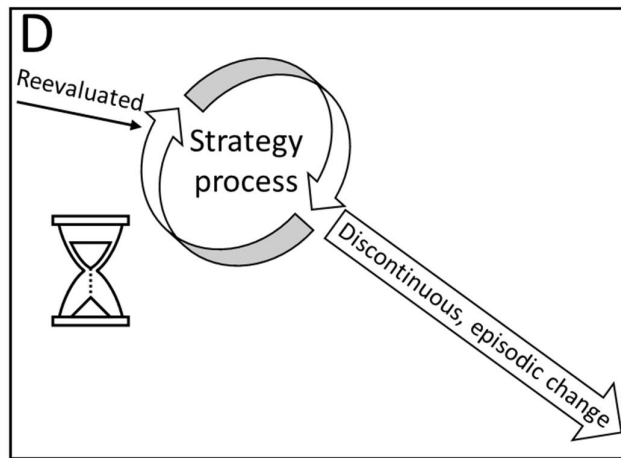


Figure 5d. Strategy processes can create change in or reorient otherwise stable persistent risks

5.1.4 Strategy process

Normal accidents theory (Perrow, 2011), which was discussed in the first part of the literature review, suggests that complex systems should be expected to fail over long periods. The manifestation of risks is a type of semi-predictable failure situation for the organization. Over time, in accordance with normal accidents theory, persistent risks should be expected manifest in some way. Hence, the organization can be made more resilient to catastrophic risks by entirely avoiding engaging in risky activities that would endanger the entire organization in case the risks manifest. In addition, existing operations should be occasionally reviewed in case some of them have become too risky over time, in which case they should be shut down.

In this study, it was observed that risks generally slowly accumulate over time. This holds true until multiple risks disappear in one major event. Accumulation behavior cannot continue perpetually already because of space constraints. For example, the accumulation behavior of Alpha Oyj's persistent risks was broken by a divestment event, which brought the risk count back to a 'balanced' number. It requires some form of cyclic behavior. It was documented several times in for example Beta AB's case that changes co-occurred with strategy activity. Hence, in the model, the strategy process is hypothesized to serve the cyclic function of keeping the count of persistent risks at a reasonable level.

Regular operations slowly accumulate risks until a breaking point in the form of a strategy review is reached. Weick (1993) portrayed breakdowns of social order in crisis situations. The inability of the established social order to process the new situation triggered a re-evaluation of what the current state of the organization means for the organizational members. When strategy reviews trigger a reevaluation of risks, similar to Weick's (1993) sensemaking process, the outcome can be that some risks that were previously considered fine if viewed through the perspective of an earlier strategy and circumstances in which the risk was previously evaluated, when those conditions have changed previously acceptable risks can suddenly turn out to be no longer tolerable. This effect would be especially prominent in changes from one organizational episode (Hendry & Seidl, 2003) to another because of the shift in perspective, which plausibly would lead to some risks being evaluated differently. A sensemaking (Weick et al., 2005) perspective applied to persistent risks would also suggest that major changes imposed by factors in the external environment could be expected to lead to a similar loss of meaning requiring a re-evaluation of risks outside of scheduled strategy processes. However, none such event was seen in the three company cases. In the model, an arrow points from the pool of persistent risks to the strategy process indicating the relationship that the strategy process is hypothesized to trigger reevaluations of persistent risks, while in turn risks would be expected to contribute new meaning and inspiration for changes towards the strategy process.

5.2 Limitations

The study was set up with several limitations in mind that should inform which conclusions can be drawn from the findings. Firstly, there was never any attempt at exploring the relevant relationships in a statistically rigorous manner to prove any proposed relationships between concepts. This was built from the group up as a purely explorative study driven towards the goal of creating new ways of looking at organizational risks and organizational change. An objective was to generate novel and plausible interpretations and informative description of what happens to risks over extended periods.

Secondly, while the conclusions were drawn from the data, and the evidence and the review of the literature hinted towards them, with this type of qualitative data, there are bound to be many possible interpretation of the same data that could be equally supported by the evidence. The conclusions should not be taken to represent an objective truth about what happened to the organizational risks of these three companies over the examined period. Most of the potential value of the study and its findings should come from the critical questioning and framing of ideas its ideas in the context of the evidence that it is based on. The argumentation was meant to provoke thoughts rather than aim for maximum veracity or truthfulness of the arguments or suggestions or to create exact and verifiable knowledge.

Furthermore, there is no guarantee that the results obtained from these three companies will represent wider samples of the population of organizations. Having them be from the same industry was seen as an advantage from the perspective of comparability and for accentuating differences between individual organizations, since variation in the risks that could potentially come from different industries was logically not present in the sample. Hence, the interpretation that the observed risk behavior represents what would happen in the wider population of organizations outside of the small sample of companies in one industry needs to be approached with caution.

Nevertheless, if the limitations are carefully considered and accounted for, it may be possible to overcome some of the limitations, and to recognize the small added value in the study's description and interpretation of the change of risks.

6 CONCLUSION

In this section, I will summarize the study, and provide managerial implications as well as suggestions for future research.

6.1 Research summary

In a world in which risks are becoming increasingly abundant, organizations need to find ways to navigate through hazards that are both in the near and far horizons on their way

to success. Until now, there has not been that many studies researching the problems of organizational change from the perspective of risk management. This study aimed to alleviate that shortage.

How risks in the form of strategic issues are dealt with is well understood in the short term. The kind of processes that deal with risks in the long term constitute an area of management research that has received less scholarly attention. The specific theoretical gap to which the study sought fulfillment has to do with the crossroads of organizational risks (e.g., Miller, 2009; Gephardt et al., 2009), strategic issue management (e.g., Ansoff, 1980) and tempos of organizational change (Weick & Quinn, 1999).

As a result, the specific problem that the thesis sought to address was to improve our understanding of how risks affect today's organizations by examining how organizational risks co-develop with their host organizations over the long term and whether the change behavior of organizational risks has any relation to notions of effective change management.

The goal was to improve our understanding of how organizations develop through time in general by fulfilling the objective of providing an initial empirical exploration of what happens to organizational risks in some select organizations over time.

The research question was:

What happens to organizational risks over time in the context of a specific industry?

Following the literature review, the research question was developed into three refined sub-questions to which the study sought answers:

1. What are some of the patterns by which organizational risks change over time?
2. Is the way that an organizational risk changes over time dependent on the longevity of the risk?
3. Do the patterns of change in risks share any parallels with broader tempos of organizational change?

The following is a summary of the answers to the research questions:

Q1: What are some of the patterns by which organizational risks change over time?

A: It was found that organizational risks can be meaningfully divided into persistent and temporary risks based on the observed longevity of the risks and the associated characteristics of permanence and transience. New persistent risks mostly enter the organization incrementally over extended periods. At times, they can be seen to be inherited with strategic actions that add risks, such as mergers and acquisitions, or launches into new partnerships and joint ventures. The primary means for terminating multiple persistent risks at a time is through actions that shutdown or divest operations that have become a net burden to the organization. Temporary risks, on the other hand, require no such action for them to be a non-issue in the long term. They are constantly entering and exiting the organization's pool of active risks, usually related to crisis situations, current events, and urgent strategic issues as well as the implementation of strategic actions.

Q2: Is the way that an organizational risk changes over time dependent on the longevity of the risk?

A: In addition, evidence was found suggesting that the longer lasting persistent risks tend to over time be increasingly likely to cover the same topics as other companies in the industry. In contrast, temporary risks were found to be mostly unique. The longer-lived a risk became, the more likely it was that it showed up in multiple companies' listings of risks in the industry. This suggests that persistent risks follow a pattern of convergence towards a common destination as the organization and the industry matures. However, there were some notable exceptions. Each company in the study had a few examples of persistent risks that only appeared in their risks, and not in the lists of any of the other companies in the industry. I suggest that these unique organization-specific persistent risks, and the lack of change in them, may cause them to be of elevated strategic significance in how the organization would navigate with regard to them in the long term, because persistent risks are exceedingly difficult to get rid of, and thus the specific burden of unique risks that each company carries with them may affect how they view their ability to maneuver in the industry in the long term.

Q3: Do the patterns of change in risks share any parallels with broader tempos of organizational change?

A: Finally, the research questions inquired on how the patterns of change in risks in the long-term compare with overall pacing of organizational change. At least in the short term, the risks largely changed in the way that they would be expected to change if they were to reflect the wider patterns of organizational change described in previous research. Organizations, such as Gamma Inc. that remained relatively static had a corresponding lack of change in risks. On the other hand, when the organizations made radical changes in strategy, corresponding shifts in risks could also be observed. In addition, there was an expected mix predicted by the punctuated equilibrium model (Tushman & Romanelli, 1985) of periods of slow, incremental change interspersed with occasional bursts of radical, transformative change. Persistent risks were rarely removed outside of radical change events.

6.2 Theoretical contribution

The theoretical contribution outside of the further laying down of evidence on the punctuated equilibrium model, was the suggestion that organizational risks could be divided in the persistent and temporary risks, and that by doing so, some emergent properties become more apparent, such as the tendency of persistent risks to be more often shared between companies, which still would be the case if it was looked at the relationship of risk longevity and how often they are shared, but the division into persistent and temporary risks make such relationships more clear. The giving of labels to risks that are old as opposed to new in the form of persistent and temporary risk categories help wrap the abstract idea of discussing risks at various ranges in terms of the lengths of time until they expire, and turn them into terms or concepts that are more easily approached from the perspective of thinking about them, and incorporating them into other models of thinking, such as those that guide management.

Whether the study can be considered a success, there is a reasonable case to be made that it did what it was intended to do, and not much more than that. The criteria for evaluation set forth in methodology were three-fold:

1. The study should create new theories, perspectives or understanding on the topic. It succeeded to some degree in that regard. New theory was claimed, but the breadth of evidence behind it may not have been particularly convincing.

2. It was suggested that the study should offer rich description of the sample. The study was successful in that aspect, in that there were multiple angles from which what was happening in the sample was examined from, and considering the rather limited size of the sample the description was sufficient, although it could always have been more.

3. There should be good quality data, and the study should be judged based on its trustworthiness. Regarding the data, I would suggest that the innovative source of data that was used was one of the better aspects of the study. However, the way that the data was presented and used perhaps did not inspire the utmost confidence in the strength of the results and interpretations drawn from that high-quality data. The study could have benefited from better and more widespread use of quantitative methods to back up the conclusions, and a larger sample drawn from the otherwise high-quality data.

Overall, I would still declare the study a cautious success based on how it partially met many of the criteria and objectives set for it.

6.3 Managerial implications

It is possible to draw some tentative recommendations for how to potentially improve management practice based on this study. I would suggest three avenues for improvement.

Firstly, it may be productive when making periodical strategic reviews to be cognizant of the unique persistent risks that stay with the organization into the foreseeable future, and that furthermore do not affect other organizations in the industry, such as competitors. It may be more difficult to change risks that are common & shared by everyone in the industry or even beyond. If those types of persistent risks become a problem, the only way out may be to exit the overarching activity to which it is linked altogether. Since other organizations are also suffering from those same risks, a solution may not be available. On the other hand, with unique persistent risks that are specific to one company, there is something different about the organization in question that leads to that risk

becoming a factor, which suggests that it may be good to be aware of what those unique persistent risks are, what differentiating factors cause them and whether they are being tolerated for a good reason.

Secondly, when evaluating decisions that take actions that change the organization in significant ways, managers should be especially careful to take into consideration the ways in which those actions could create new persistent risks that have the potential to become permanent burdens to the organization. Sometimes the risks may appear to be of minor impact in the short term, but if they are considered over longer periods, the problems may add up to a burden that is no longer bearable, and not engaging in that activity may be the only viable option. Some risks may only be large problems in the short term, while others may only become problems over the long term.

Thirdly, during periodic re-examinations of the current state of the organization, such as during strategy work, it may be helpful to pay attention to persistent risks in general, and to look for changes that have the potential to eliminate a large amount of persistent risks at once. Those are the occasions when changes to persistent risks are possible. Attempting to get rid of persistent risks may be less likely to be successful during routine circumstances. This study did not provide evidence that persistent risks can be removed outside of large change events. Nonetheless, as Ansoff (1980) suggested, it may still be a good idea outside of periodic strategy reviews to continually monitor and gather data about strategic issues that are not urgent that may have impact on the organization even if it is not possible to do anything about them at the time, because they can then be brought up and influence the direction of a strategy process towards a productive end.

6.4 Suggestions for future research

In terms of suggestions for future research, the obvious direction to which the study could be extended is to use a larger sample of companies and industries and examine changes over a longer period. This study only scratched the surface of what would be possible with all the risk factors data that is publicly available.

I would also like to see more studies of organizational change from the perspective of risks. This study provided initial evidence suggesting that changes in organizational risks may often coincide with wider organizational changes. How risks affect the determination of direction for the organizations, if at all, remains completely unsettled outside of this tentative relationship of co-occurrence of changes. Are risks even brought up in discussions of strategy? A more detailed close-up qualitative examination of what management practitioners think on the matter of risks and change would be interesting as this study completely lacked interviews, which could have added a perspective that ended up being missed. In addition, there is room for more rigorous quantitative treatments of the relationship between risks and change using a large sample size and more focused hypotheses to test.

A third suggestion for ways to expand on this is to explore more on the long-term determination of direction for the organization from the perspective of strategy and in general, how that specific problem of handling the long term as opposed to the short term is approached in management practice. This study looked at the patterns that risks make in the long term to try to ascertain whether there was anything indicate of how the broader problem of treating the long term would be discoverable from the risks. However, while the results suggested that there are some aspects of the organization that are fairly stable over the long term, and the other part are always anchored in the operational concerns of the short term, it did not become apparent whether the highly stable parts are completely frozen over heavily extended periods, or whether they too, can change without the whole organization being reoriented to do something else entirely.

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