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SYSTEMATIC MANAGEMENT OF EMERGING STRATEGIC ISSUES

Organisational Attention Allocation and Strategic Issue
Management System Performance

Peter Kunnas

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| <p>Abstract</p> <p>Anticipating and responding to emerging strategic issues can undoubtedly be argued to be at the heart of corporate strategy making. By making timely adjustments and revisions to the corporation's strategy, top management can attempt to create a (sustainable) competitive advantage for the company. However, while academic research has attempted to provide its share of material to deepen the understanding of management of strategic issues, that understanding remains somewhat limited. From a managerial standpoint, the solutions to tackle the problem of managing emerging strategic issues are still almost non-existent.</p> <p>The dissertation explores how corporations can deal with strategic issues that emerge outside their regular strategy processes. Strategic issues are defined as developments that have the potential to impact the organisation's strategy. Strategic issues can arise both endogenously as well as exogenously to the organisation. Specifically, the dissertation explores:</p> <ul style="list-style-type: none"> • How do individual strategic issues evolve over time as they are processed in the strategic issue management system of the company? • How are strategic issues processed on a system level as part of a portfolio of strategic issues of the company? • How is attention allocation in the strategic issue management system linked to its performance? <p>Given the scarce research on portfolios of strategic issues over time, the dissertation examines all the strategic issues in a single multinational corporation in a high-velocity environment. The dissertation takes an engaged scholarship approach to investigating the emergence, evolution and resolution of strategic issues by employing both quantitative and qualitative methods.</p> <p>As a key contribution, the dissertation puts forward a novel concept, namely the saturation of an organisation's strategic issue management capacity. The concept of saturation contributes to bringing the recent attention allocation stream of strategy process research and the research on organisations as interpretation systems with the more established strategic issue management research. By introducing the concept of attentional saturation, this dissertation extends the received knowledge on organisational attention allocation by demonstrating how attentional structures on multiple organisational levels develop over time. In so doing, the present research expands the attention-based view of the company. In addition, the research also builds on the earlier research on cognitive spaces and extends it by developing a new method to analyse the cognitive space of the company in relation to strategic issue management and information processing.</p> | | | |
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| Tiivistelmä Nousevien strategisten ydinkysymysten ennakointi ja käsittely on yksi keskeisimmistä yritysstrategian osa-alueista. Teke- mällä hyvin ajoitettuja muutoksia yrityksen strategiaan johto voi yrittää luoda (kestävää) kilpailuetua yritykselle. Aiheen keskeisyydestä huolimatta akateemiset tutkimustulokset nousevien strategisten ydinkysymysten hallinnasta ovat jääneet jossain määrin rajallisiksi. Myöskään käytännön ratkaisuja yritysjohdon tarpeisiin ei ole kehitetty merkittävästi. Väitöskirja tutkii kuinka yritykset voivat käsitellä strategisia ydinkysymyksiä, jotka nousevat esiin tavanomaisen strategia- prosessin ulkopuolella. Strateginen ydinkysymys määritellään tutkimuksessa tapahtumaksi, jotka voivat vaikuttaa organi- saation strategiaan, ja ne voivat nousta sekä yrityksen sisä- että ulkopuolelta. Väitöskirjassa keskitytään erityisesti seuraa- viin kysymyksiin: <ul style="list-style-type: none">• Miten yksittäiset strategiset ydinkysymykset kehittyvät kun niitä käsitellään yrityksen strategisten ydinkysymys- ten hallintajärjestelmässä?• Miten strategisia ydinkysymyksiä käsitellään systeemitasolla osana yrityksen ydinkysymysportfoliota?• Miten tarkkaavaisuuden kohdentaminen strategisten ydinkysymysten hallintajärjestelmässä vaikuttaa järjestelmän suorituskykyyn? Väitöskirjassa empiirisessä osassa tutkitaan nopeasti muuttuvalla toimialalla toimivan monikansallisen suuryrityksen stra- tegia ydinkysymyksiä. Väitöskirja hyödyntää osallistuvan tutkimuksen menettelytapaa ja käyttää hyväkseen sekä laadul- lisia että määrällisiä menetelmiä, joiden avulla tutkitaan miten yrityksen strategiset ydinkysymykset nousevat ja kehittyvät sekä miten ne ratkaistaan. Tutkimuksen tuloksena esitellään käsite organisaation strategisten ydinkysymysten hallintajärjestelmän saturaatio, jonka avulla yhdistetään strategiaprosessitutkimuksen organisatoriseen huomiokykyyn ja tulkintajärjestelmiin keskittyvä tutki- mus varsinaisen strategia ydinkysymyksiä käsittelevän tutkimuksen kanssa. Saturaation käsite tekee mahdolliseksi kuva- ta kuinka huomiokykyyn liittyvät rakenteet organisaation eri tasoilla kehittyvät, ja samalla laajentaa huomiokykyyn perus- tuvaa organisaationäkemyksiä. Tämän lisäksi tutkimus esittelee uuden menetelmän kognitiivisen avaruuden analysoimisek- si. | | | |
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Preface

“...chance only favours the mind which is prepared.”

–Louis Pasteur

The act of creativity, as encountered, for example, in scientific discoveries, does favour the prepared mind, as famously coined by Louis Pasteur (Vallery-Radot, 1901/1960: 76). Being prepared not only helps in solving the problem, but also in finding the problem in the first place! Indeed, acts of creativity often include solving problems that are ill-defined, and hence to *“regard old problems from a new angle, [requiring] creative imagination”* (Einstein & Infeld, 1938: 95).

The similarity to corporations and to emerging strategic issues that they face is striking. Strategic issues, which threaten the profitability and even the very existence of the company, emerge to the attention of the company only sporadically. More often than not, the strategic issues themselves are complex and messy when they emerge. Therefore the problem must be found and interpreted before it can be dealt with. Moreover, because of the inherent complexity of the strategic issues, the solutions themselves may require creative approaches both in their making and in their contents.

None of this, though, typically happens in a straightforward manner. To date, academic research is unfortunately able to offer only a few meaningful concepts that can support companies in their efforts to manage emerging strategic issues. Not much more exists in terms of systematic knowledge and procedures on the practitioner side, either, even though the gravity of the problem has long been recognised.

The following discussion opens up the black box of strategic issue management in a large corporation by (i) analysing how individual strategic issues are processed longitudinally in the organisation, (ii) investigating the cognitive space of strategic issue processing on the corporate level, and (iii) linking organisational attention allocation with strategic issue management system performance.

Based on the empirical research, the dissertation contributes to the extant literature by introducing the concept of attentional saturation in the strategic issue management system, as well as links the company’s cognitive space into its strategic issue management practices. For managers, the findings provide further support to the notion that emerging strategic issues can and should be managed systematically – *ad hoc* does not need to be *ad hoc*!

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I am thankful for Professor Yves Doz of INSEAD for acting as my opponent. I also want to thank Professor Christoph Lechner of University of St. Gallen and Professor Thomas Hutzschenreuter of WHU - Otto Beisheim School of Management who acted as my external examiners.

The empirical part of this dissertation rests on the unprecedented access to the case organisation and its members. For reasons of confidentiality they cannot be thanked by name here. Dr “Richard White” has been particularly essential for this research. He has been instrumental in providing the access to strategy discussions, documents and people for the purposes of the research. He has also provided sustained support in developing the research as well as enabling to link it into the practice of management in corporations. Moreover, my thanks go to all the interviewees who have devoted their time for this research.

I wish to thank Professor Markku Maula for his valuable comments that have helped to develop the manuscript further. His comments have significantly contributed to increasing the overall clarity of the empirical part of the research and making the methodology more rigorous. I also wish to thank the late Dr Matti Keijola for his continuous support throughout the research process and his valuable comments.

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Helsinki, Finland, October, 2009

Peter Kunnas

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1 Introduction

1.1 Background

Anticipating and responding to emerging strategic issues can undoubtedly be argued to be at the heart of corporate strategy-making. By making timely adjustments and revisions to the corporation's strategy, top management can attempt to create a (sustainable) competitive advantage¹ for the company. Yet, the business press can cite numerous examples where companies have failed to respond to their strategic issues. Two of these occurrences are provided as a way of illustrating the situation:

[Compaq] won its spurs in the late 1980s as an IBM-killer, but then its sales fell after it failed to react quickly to a rapidly changing American PC market. (Pope & Hamilton, 1993; emphasis provided)

AT&T (---) understood that the convergence of telecommunications and computing would transform not only the company's own markets but much of business life. It was a perceptive vision, not widely shared. But the company failed to see (---) that the internet was the specific vehicle through which the vision would be realised, or that its merger with NCR, the US business machines manufacturer, was an irrelevant and inappropriate response. (Financial Times, 1999; emphases provided)

The two examples above are no singular incidents, and a plethora of similar tales could have easily been provided. Nonetheless, these two examples underline a number of implications of utmost importance for corporations. First, by not being able to act decisively, a phenomenal success story can turn into demise almost overnight. Second, even an appreciation of impending changes in the environment is not a sufficient condition for success (although it should be a necessary one), for the nuances of the situation may nonetheless be overlooked. Third, and somewhat self-evidently, even a timely response to a perceived strategic issue may not produce propitious outcomes if the premises are incorrect.

However, the right approach in assessing the strategic issue and responding to it may provide marked results. A good example of this is how BellSouth, the US telecommunications carrier, foresaw the pending implications of regulatory changes, which allowed it to seize opportunities before competitors:

"What we thought would be a complete threat, a destroyer of value, resulted in being a value creator. You should never come to conclusions about competition,

¹ The notion of *competitive advantage* has aroused much criticism recently. For example, Powell (2001) argues that the concept cannot be postulated without being tautologous and that it is merely a metaphor. Moreover, Powell asserts that the concept cannot be empirically proven.

partnerships, [or] alliances before really looking into them. When this [strategic] issue came up we thought we knew what it was all about. As people monitored its progress and researched additional [strategic] issues surrounding it, we began to see other aspects that led to our implementation strategy and in the long-term served us well.” (Vice President, Regulatory Issues, BellSouth Corporation; in CSB, 1999: 219)

The above quote not only suggests that managing emerging strategic issues can provide benefit for corporations (Camillus, 2003; as suggested by, e.g., Ramanujam *et al.*, 1986), but it also underscores the role of interpretation of the strategic issue within the company. Interpretation is not a one-off event, but an evolutionary process where the strategic issue can change, for example, from representing a threat to representing an opportunity for the company.

Academic research has attempted to provide its share of material to deepen the understanding of management of strategic issues. Early contributions in the domain of organisational decision making (Cohen *et al.*, 1972; Cyert & March, 1963/1992; March & Simon, 1958/1993) have been complemented with research specifically in the area of strategic issue management (e.g., Ansoff, 1980; Dutton & Jackson, 1987; Dutton & Ottensmeyer, 1987). These later contributions, with the attention-based view of Ocasio (1997), have formalised the notion of strategic issue management as well as underscored the role of managerial cognition and attention allocation. At the same time, some inroads have been made in other areas of research into managerial cognition (e.g., Gilbert, 2006; Kaplan, 2004, 2008; Kaplan *et al.*, 2003; Yu *et al.*, 2005).

Notwithstanding the progress thus far, understanding of strategic issue management in corporations still remains somewhat limited. From a managerial standpoint, the solutions to tackle the problem of managing emerging strategic issues are still almost non-existent (Kajanto *et al.*, 2004). There are only a few practical approaches to capture the relevant information in the front-line, interpret the information amongst top and middle management, and to make informed judgements and elicit responses. This is not least due to the lack of research in real-life organisational contexts.

From the academic perspective, the extant research has taken a piecemeal approach to strategic issue management: It has tended to study strategic issues as occurring as single, isolated incidents. In so doing, the research has failed to appreciate a number of aspects in the strategic issue management process. First, the extant research has overlooked the fact that strategic issues, which by their very nature are inherently complex, ambiguous and equivocal, cannot be identified, interpreted and resolved instantaneously. Rather, truly strategic issues may need time to develop in the minds of the organisational decision makers, before their resolution can even be attempted. Furthermore, the same strategic issue may continue to exist for the organisation even if actions are taken to resolve it – in fact, resolution of a strategic issue can come in incremental steps rather than in a discontinuous fashion.

Second, by looking at solitary strategic issues, the extant research has not fully taken into account the limited capacity of organisational decision makers to attend to strategic issues. A plethora of accounts have discussed the limited capacity of information processing both on the individual and organisation levels (e.g., Cyert & March, 1963/1992; March & Simon, 1958/1993; Ocasio, 1997; Simon, 1947/1997; Weick, 1969/1979, 1995), yet there has been few attempts to research how the scant cognitive resources of particularly top management are allocated to the repertoire of strategic issues that the organisation faces (notable exceptions include, e.g., Gilbert, 2006; Kaplan, 2004, 2008; Kaplan *et al.*, 2003). Moreover, this allocation of attention and resources is by no means static, but changes over time as the environment and internal context for the strategic issues changes.

This dissertation contributes to the limitations of earlier research by studying strategic issue processing on multiple levels (including a strategic issue portfolio and individual strategic issues) in a longitudinal manner based on unprecedented access to the strategic issues of a real-life corporation.

1.2 Research Problem and Objectives

Figure 1.1 presents how the main research question breaks down into sub-questions of the study.

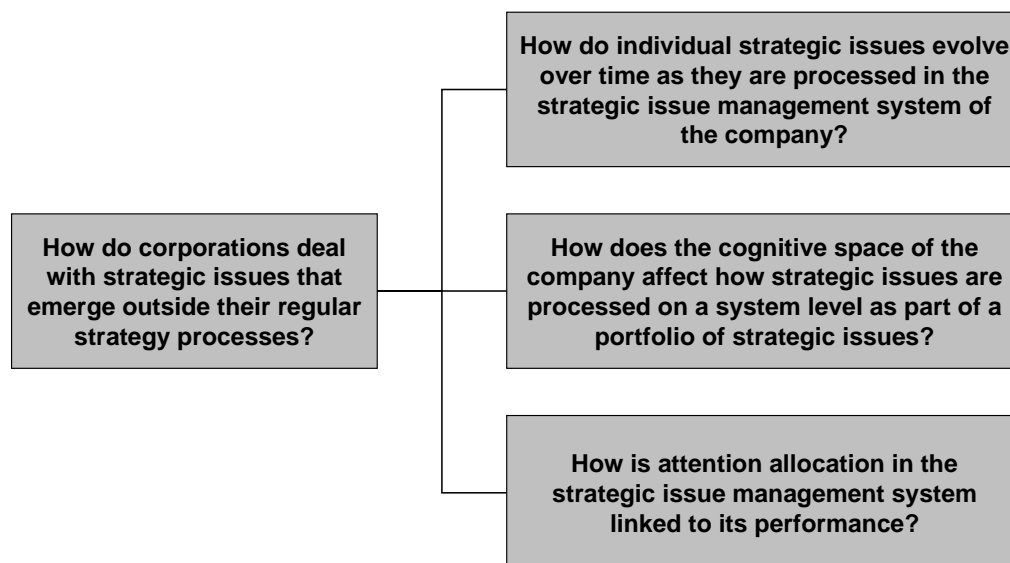


Figure 1.1 Main research question and associated sub-questions of the study

The main research problem of this dissertation can be defined as a question as follows:

- How do corporations deal with strategic issues that emerge outside their regular strategy processes?

In detail, the fundamental research questions can be articulated as follows:

- How do individual strategic issues evolve over time as they are processed in the strategic issue management system of the company?
- How does the cognitive space of the company affect how strategic issues are processed on a system level as part of a portfolio of strategic issues?
- How is attention allocation in the strategic issue management system linked to its performance?

The first sub-question aims at analysing how a single strategic issue evolves over time as it is being processed in the strategic issue management system.

The second sub-question focuses on the interaction of the cognitive space of the company and processing of strategic issues within the entire portfolio of strategic issues present to the company.

The third sub-question focuses the research on the attention allocation of top management within the strategic issue management system, and explores the linkages between various strategic issue characteristics on strategic issue outcomes.

The dissertation approaches strategic issue management from two different perspectives as outlined in Figure 1.2. On the one hand, the research looks at how attention allocation and sensemaking dynamics underpin the process. On the other hand, the study explores how strategic issues are processed from scanning through directed research and planning for action towards implementation (Kajanto *et al.*, 2005).

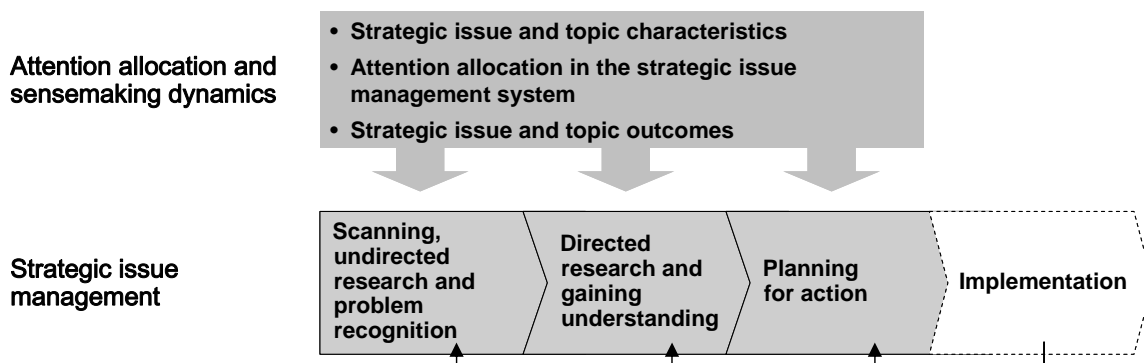


Figure 1.2 Framework for the study linking strategic issue management and attention allocation and sensemaking dynamics

The objective of the research is to integrate thus far detached theoretical domains describing the various aspects of strategic issue management into a coherent whole. Furthermore, by investigating current managerial practices, the research aims at furthering the theoretical understanding of strategic issue management with the insights obtained. Finally, the research aims at providing tangible recommendations for practitioners as to how to manage their ongoing strategy making in a more systematic fashion.

1.3 Research Approach and Methods

Strategy process research (Chakravarthy & Doz, 1992; Chakravarthy *et al.*, 2003; Pettigrew, 1992a) has traditionally been dominated by the debate between emergent and planned perspectives of strategy-making (Ansoff, 1991; Mintzberg, 1990). However, over the past few years the research has started to converge towards an integrative synthesis where decisions and actions drive positional and capability advantages, organisational context determines decisions made and actions taken, and a dynamic equilibrium is created by top management through its continuous redefinition of the relevant strategic dynamics of the company (Chakravarthy *et al.*, 2003).

Consequently, the research approach and methods used to study strategic issue management should also be as varied as its underlying theoretical domains. Strategy research overall has been criticised for analytically separating content research and process research from each other. Chakravarthy and White (2001: 183; emphasis provided) argue that *“in their preoccupation with the journey, process researchers too often lose track of the destination, the strategy outcome. (---) [T]he work in the strategy process area has been more about process and less about strategy.”* A similar notion was already raised by Huff and Reger (1987: 211), who remarked that the distinction between process and content *“is (---) becoming an impediment to progress in strategic management research”*. To this end, this study leverages the engaged scholarship approach that allows *“intellectual arbitrage”* (Van de Ven, 2007; Van de Ven & Johnson, 2006) and thereby a thorough study into the dynamics of strategic issue management in a corporation. In particular, this allows an intimate understanding of the strategy substance to also be gained, rather than merely the process used to reach the decisions.

Moreover, Rouleau and Séguin (1995) argue that a similar distinction once made between strategy and organisational theories needs to be removed. This opinion is seconded also by Huff, albeit from a cognitive standpoint: *“[C]reating an organizational cognitive science requires that we ground our work in organizational issues”* (1997: 948; original emphasis). In particular, this means linking organisational cognition into the larger weave of organisational activity, including strategy-making.

Finally, as noted by Chakravarthy and Doz, *“Good strategy process research is neither theorizing and modeling in the abstract, nor observation and recording of events in a theoretical vacuum.”* (1992: 9). By leveraging a real-world corporate context as the research setting, the study aims to enhance the understanding of strategic issue management equally from the academic and practitioner perspectives.

1.4 Scope and Limitations

Even though the concept of strategic issue management can be readily adapted and applied to describe strategic management on the functional and business level, the focus in this research is on the corporate level. This approach is consistent with the view that portrays top level decision makers as being of consequence in determining organisational action (Child, 1972), as well as with the notion that a relatively small group of

people at the middle-to-upper levels of the organisation play a substantial role in interpretation and organisational action (Aguilar, 1967; Daft & Weick, 1984).

The corporate-level perspective on strategic issue management is also likely to be more rewarding from a research point of view, by being able to provide a richer description of the cognitive dynamics that underpin the process. Not only are the stakes regarding specific strategic issues likely to be higher on the corporate level, but also the strategic issues themselves are likely to be more complex and indeed more strategic in nature, thereby compounding the influence of the cognitive limitations of the key decision makers.

The scope of the dissertation is limited to an exploration of the strategic issue management process, ending at the planning for action phase. Thereby the study looks at phenomena that precede the coverage of the strategic initiative research (e.g., Lechner & Floyd, 2005). These two fields of research are nonetheless well linked, as the strategic initiative can be seen as the implementation vehicle of a strategic issue.

In terms of empirical work, the research is limited to exploring strategic issue management in one company, albeit on multiple levels. Whereas this raises the question of generalisability, the single case design with access to unique corporate data allows the development of a rich picture of strategic issue management practices in a real-life corporate setting.

1.5 Definitions

1.5.1 Strategic Issue

Oxford English Dictionary (1989) defines an issue in a general sense as “a matter the decision of which involves important consequences”. Ansoff defines a *strategic issue* as a “forthcoming development, either inside or outside the organization, which is likely to have an important impact on the ability of the enterprise to meet its objectives” (1980: 133). In a similar vein, Dutton *et al.* define it as an “emerging development which in the judgement of some strategic decision makers is likely to have a significant impact on the organization’s present or future strategies” (1983: 308). Dutton and Duncan (1987b: 103) extend the definition in the scope of events while maintaining the focus on corporate strategy: “Strategic issues are defined as developments, events and trends having the potential to impact an organization’s strategy”.

A later definition by Dutton and Dukerich (1991: 518) highlights the importance of cognitive mental processes that are present when strategists identify and deal with strategic issues: “[Strategic] issues are events, developments, and trends that an organization’s members collectively recognize as having some consequence to the organization. [Strategic] issues can arise from changes inside the organization (---) or changes originating externally.” This definition also emphasises that strategic issues can not only emerge from the environment, but also from within the organisation, a conception underlined already by Ansoff (1980), yet somewhat overlooked by later contributors.

From a slightly different perspective, Smith discusses the concept of problems as follows:

Since a problem is an “undesirable situation,” it does not exist strictly as an objective state-of-the-world, nor as a subjective state of dissatisfaction. A problem is a relationship of disharmony between reality and one’s preferences, and being a relationship, it has no physical existence. Rather, problems are conceptual entities or constructs. The term is an abstraction from the world of observables and is applied because it serves a useful function. Essentially the term is an attention allocation device. Marking a situation as problematic is a means of including it in one’s “stack” of concerns, placing it on an agenda for future attention and solution efforts. Thus, there is an element of arbitrariness in labeling a situation as problematic. (1988: 1491; emphases provided)

Smith essentially implies that problems are conceptual entities that are designed rather than discovered. Reflecting on the discussion on sensemaking in organisations, one can directly extend Smith’s definition of problem to apply also to strategic issues. Strategic issues are, indeed, problematic to companies, since they are inherently difficult to manage. They are ambiguous, complex and fluid, hence, making their identification and diagnosis an ongoing, interpretive and politically charged activity (Dutton *et al.*, 1983).

Strategic issues progress in the strategic issue management system through episodes² of topical work typically performed by a task group and ending in consequential decisions. In this dissertation these episodes are called *strategic issue topics* or *topics* for short.

1.5.2 Strategic Issue Management

Ansoff’s (1980) framework for strategic issue management is a formalised system for monitoring developments, assessing their impact and urgency, and assigning actions and responsibilities. Ansoff proposes his strategic issue management framework as a complement to periodic strategic planning. In fact, strategic issue management allows the company to react to departures from historical dynamics of the organisation’s development, but it does not allow the management to rethink and redefine these dynamics (as periodic planning does). This is clearly the essential limitation of Ansoff’s framework, a notion that subsequent contributors to the field of strategic issue management have challenged.

Moreover, Ansoff (1980) distinguishes his concept of strategic issue management from responding to weak signals (Ansoff, 1975), which he reserves only for environments “*in which very fast changes are frequent*” (1980: 136).

Dutton and Duncan (1987b) extend Ansoff’s (1980) notion of strategic issue management by linking it intrinsically with strategic planning processes. Whereas the planning

² In this context, an *episode* represents a particular “‘passage’ (---) in the history of (---) an institution, etc.” (Oxford English Dictionary, 1989)

process serves both symbolic and instrumental functions, strategic issues are particularly relevant at the instrumental level, where information critical to the organisation's survival is received (Aguilar, 1967; Daft *et al.*, 1988; Hambrick, 1982) and interpreted (Daft & Weick, 1984). Organisational decision makers exist, then, in a market for strategic issues where different internal and external trends and developments compete for decision makers' attention. Moreover, strategic issues serve as vehicles for translating individuals' concerns into organisational action, and can be seen to have political, as well as informational, consequences.

Ansoff (1980) calls the collection of key strategic issues that the company has at any given time as the *key strategic issue list*. In his thinking, strategic issues are developments that require management attention outside the annual planning cycle – as a means of reacting to deviations from basic guidelines provided by periodic planning. However, this view appears to be significantly limiting, as was posited by Dutton *et al.* (1983) and Dutton and Duncan (1987b). Dutton (1986b) introduces the concept of the *strategic agenda* as the set of strategic issues receiving collective attention in the organisation, highlighting the social forces within the organisation affecting strategic issue management. Dutton and Duncan (1987b) extend the notion by discussing the concept of a *strategic issue array*, which is a set of strategic issues that emerge as a result of strategic planning (and again feeding back into strategic planning) and as input to the initiation and implementation of strategic change (which then also feeds back in to planning).

1.5.3 Strategy Process

In a general sense, *Oxford English Dictionary* (1989) defines a process as “*something that goes on or is carried on*” or as “*a series of actions or events*”, with the most standard current meaning referring to “*a continuous and regular action or succession of actions, taking place or carried on in a definite manner, and leading to the accomplishment of some result*”.

In the strategic management literature, the term ‘process’ is used typically in three different meanings: (i) a logic that explains causal relationships between independent and dependent variables in a variance theory, (ii) a category of concepts or variables that refers to actions of individuals or organisations, and (iii) a sequence of events that describes how things change over time. Of the three typical meanings, this study uses the third one. That is, a process is defined as “*a sequence of events or activities that describes how things change over time, or that represents an underlying pattern of cognitive transitions by an entity in dealing with an issue*” (Van de Ven, 1992: 170).

Within this definition, strategy processes are concerned with “*how effective strategies are shaped within the [company] and then validated and implemented efficiently*” (Chakravarthy & Doz, 1992: 5). In this sense, strategy processes are about choice and change in companies (Pettigrew, 1992a). Employing a broader definition, strategy processes comprise antecedent factors (environmental context, strategic context, static organizational characteristics, dynamic organisational characteristics, and performance), process factors (strategists' static characteristics, strategists' personal and cognitive context, issue characteristics, process characteristics, and process-outcome characteristics),

and outcomes (same as antecedent factors), all linked with various interrelationships (Hutzschenreuter & Kleindienst, 2006). In the classification of Chakravarthy *et al.* (2003) this dissertation is focussed on uncovering the co-evolutionary interplay of context, process and outcomes over time.

1.6 Structure of Dissertation

Figure 1.3 presents the structure of this dissertation. First, an introduction to the study is presented in this chapter (i.e., Chapter 1). Second, the theoretical part (Chapter 2) reviews the literature pertaining to the field of study, namely the early theoretical foundations for strategic issue management (Section 2.1), the multiple theories which underpin organisational information processing, attention allocation and sensemaking dynamics (Section 2.2), and the strategic issue management process in itself (Section 2.3). Third, a summary of methodological aspects of the research is presented (Chapter 3).

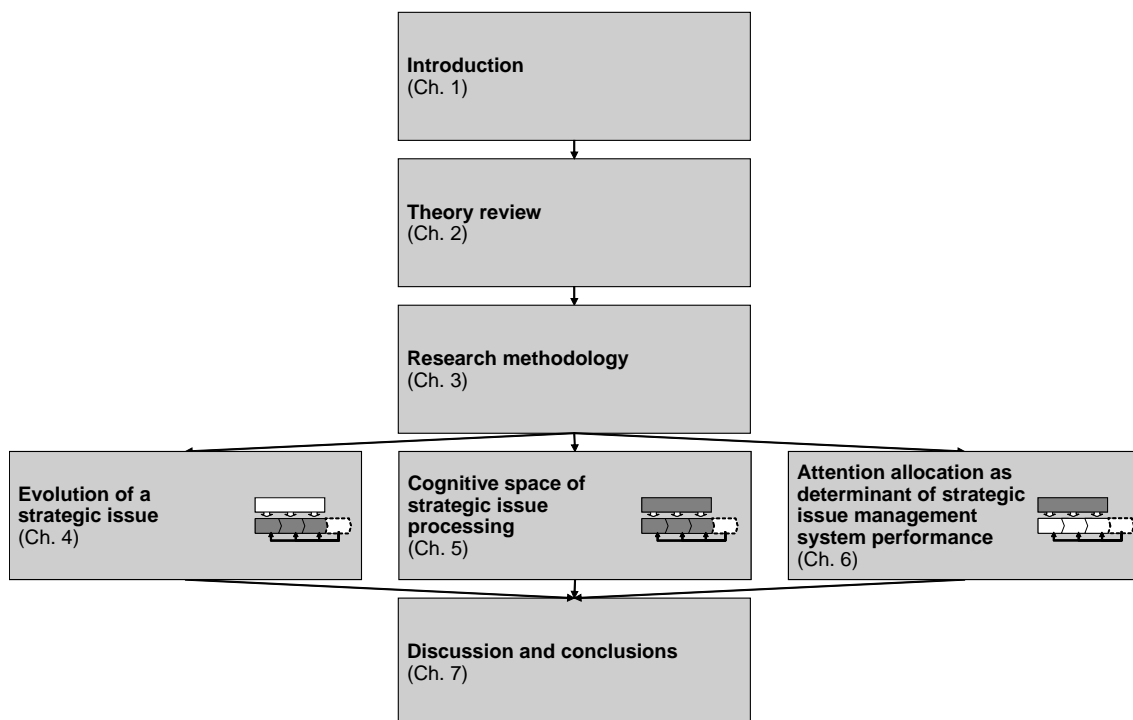


Figure 1.3 Structure of the study

Fourth, the empirical part comprises Chapters 4-6. Chapter 4 examines a single strategic issue, providing a description of how the strategic issue progresses through multiple iterations over a prolonged period of time. Here the focus is primarily on the strategic issue management process, from scanning via directed research to planning for action. However, the chapter also demonstrates how attentional processes influence the strategic issue management process.

Chapter 5 links the company's cognitive space and how strategic issue management operates on a system-level, that is, describing how the portfolio of strategic issues is proc-

essed within the corporation. The viewpoint in this chapter is on the holistic strategic issue management system, taking into consideration both the strategic issue management process as well as the attention allocation and sensemaking dynamics (see Figure 1.2). This chapter, along with Chapter 4, forms the inductive part of the empirical study.

Chapter 6 introduces the concept of saturation by examining how various characteristics of the strategic issues themselves, as well of the system they are processed within, influence attention allocation and thus the performance of the system. This chapter explores in detail how the attention allocation and sensemaking dynamics affect strategic issue processing. This chapter takes a deductive approach to test and verify theoretical hypotheses developed based on the literature review and the preceding, inductive empirical chapters.

Fifth and finally, the study is then concluded by drawing together the findings of the research in Chapter 7. This chapter also provides further discussion and conclusions of the study as well as implications for practitioners and future research.

2 Theory Review

This chapter reviews the relevant received literature in three parts. First, the review provides an introduction in the way of covering an important antecedent for strategic issue management, namely the rational schools of strategic planning. The second section of the theory review presents, perhaps as the most substantial theoretical backdrop, the various theories on organisational information processing and sensemaking dynamics. These theories, and in particularly the attention-based view that represents the apex of this stream of research, act as the key theoretical foundation. Moreover, the attention-based view of the company serves as the foundation for the empirical part of this research. Third, some of the main strands of research pertaining specifically to the domain of strategic issue management are presented.

2.1 Rational Schools of Strategic Planning

Information processing and decision making in economies and economic organisations has traditionally been assumed to be perfectly rational. The main theoretical foundation has been the neoclassical economic theory, founded in the 1870s by Jevons (1871/1970), Menger (1871) and Walras (1874/1954), subsequently synthesised into a coherent theory by Marshall (1890/1961). Marshall's economic theory is an example of a closed equilibrium system, in which the economy is described as static and in equilibrium, until an outside force such as a technology shift unsettles the system. Due to the change brought by an exogenous shock, the system must find itself another state in which it is in equilibrium.

Marshallian economic theory makes three important assumptions (Beinhocker, 1997). First, it assumes that the industry structure is known. Second, it assumes that diminishing returns apply. Third, and most significantly from the point of view of information processing and decision making, it assumes that all economic actors (both individuals and companies) are perfectly rational and have complete information. Indeed, Mill, for example, defines his economic man "*as a being who desires to possess wealth and who is capable of judging the comparative efficacy of means for obtaining that end*" (1821/1826: 137-8). Decision making under perfect rationality, then, occurs with a "given" set of options that correspond to discrete and ranked consequences. Thus, decision making is a process of optimisation, in which the task is to find, select and implement the single best solution to a problem.

The core concepts of Marshall's economic theory have substantially influenced theories of business strategy. The industrial organisation (IO) view of business strategy that emerged in the first half of the 20th century (Bain, 1956; Mason, 1939) uses Marshallian economic theory as its theoretical foundation. Of the prevalent managerial tools still used today, including the early concept of cost curves (Wright, 1917) as well as the later five-forces framework (Porter, 1980), many are grounded on Marshallian thinking.

Decision making in a Marshallian economy reflects Taylor's (1911) thinking that a "one best way" exists in dealing with managerial issues. Classical IO strategy works (e.g., Andrews, 1971; Ansoff, 1965a; Chandler, 1962; Hofer & Schendel, 1978; Porter, 1980) emphasise concepts such as goals, resource allocation, and plans. Strategy, then, has been thought of as an "integrated plan" (Fredrickson & Mitchell, 1984), and its execution has necessitated well-developed hierarchies and formalised systems of control (Mintzberg & McHugh, 1985), even to the extent of ideal-type, machine-like bureaucracies as described by Weber (1922/1980).

The dominant school of thought for strategy making processes well into the 1980s was the well-known rational model (Hart, 1992), which calls for comprehensive and exhaustive analysis prior to a decision being made (Fredrickson & Mitchell, 1984). The introduction of the resource-based view (e.g., Barney, 1991; Dierickx & Cool, 1989; Teece *et al.*, 1997; Wernerfelt, 1984, 1995) to complement the IO view (e.g., Andrews, 1971; Ansoff, 1965a; Chandler, 1962; Hofer & Schendel, 1978; Porter, 1980) has not reduced the requirement for thorough analysis. In these views, the main actor in the strategy making process is the company in its entirety. Rationality in decision making implies (i) consideration of all available options, (ii) identification and evaluation of all of the consequences that would follow from the adoption of each option, and (iii) selection of the option that would be preferable in terms of the most valued ends (Hart, 1992). In equal conditions, companies should make the same strategic decisions, and the process of strategic management is both rational and formal (Mintzberg, 1998).

However, empirical observations often failed to correspond with these received theories. The assumptions of rationality were being challenged by the emerging behavioural theory (Cyert & March, 1963/1992). This theory posits that individuals and organisations can achieve, at best, only bounded rationality (Simon, 1947/1957). In essence, cognitive limits cause decision makers to adopt simplified models of the world, to limit search behaviour, and to accept the first satisfactory outcome. Behavioural theory has consequently forced scholars of strategic management to rethink some of their theories and concepts. By challenging the cognitive and motivational assumptions inherent in the rational model of strategy making and underlining the role played by organisational members (Mintzberg, 1978), the behavioural model has, in part, paved the way for research on strategic issue management. In a similar vein, Schwenk (1989) suggests that strategic change is influenced by cognitive, organisational and political factors. As Thomas and Pruett (1992: 6) note, "*while economic incentives may still be the best single predictor of business transactions, deals and decisions are negotiated and made by people*".

2.2 Information Processing and Sensemaking Dynamics

Perhaps the largest contextual backdrop to strategic issue management theory has been drawn from the organisational information processing research. In order to comprehend what underpins strategic issue management activities in corporations, one has to understand how companies go about collecting, analysing and drawing inferences from information as well as making decisions based on that information.

In addition to an introduction of cognitive theory and knowledge structures, this section reviews three strands of theory on organisational information processing, namely the Carnegie school of bounded rationality, the social-psychological perspective, and the attention-based view of the company. Whereas each of the strands takes a distinctively different viewpoint of organisational information processing, overall they complement each other, and, in so doing, provide a basis for the subsequent discourse on strategic issue management process.

2.2.1 Cognitive Theory and Knowledge Structures

Cognitive Theory and Strategic Issue Management

The significance of cognitive theory for strategic issue management lies in its relationship to the information processing of individuals. According to Walsh (1995), individuals can approach information processing in two dominant ways: Either they use a “top-down” (Abelson & Black, 1986) or “theory-driven” (Nisbett & Ross, 1980) approach, or, alternatively, they use a “bottom-up” or “data-driven” approach. In the former case, the cognitive structures generated from experience affect individuals’ abilities to attend to, encode, and make inferences about new information, whereas in the latter case, the information itself shapes individuals’ responses to it. Hence, knowledge structures can be seen as mental templates that individuals impose on an information environment to give it form and meaning, and that they affect information processing in predictable ways (Walsh, 1995). Empirically, for example, Haley and Stumpf (1989) demonstrate how different personality types (Jung, 1921/1950) employ distinct heuristics to gather data, to generate and to evaluate options.

The meaning that the strategist gives to a strategic issue depends on the knowledge structures and categories used to describe it: “[C]ognitive categories are used by strategic decisions makers because they help to store information more efficiently and aid communication with others about ambiguous strategic issues” (Dutton & Jackson, 1987: 77-8; cf. Smith, 1995). The concept of cognitive categories is assumed to strategic issue management from categorisation theory (Mervis & Rosch, 1981; Rosch, 1975, 1978; Rosch & Mervis, 1975) of cognitive psychology. For example, Porac and Thomas (1990) discuss how decision makers use cognitive processes to simplify the competitive environment. Through cognitive taxonomies, organisations make sense of the environmental diversity and define, among others, competition (cf. Porac *et al.*, 1989).³ Decision makers may also alter their perceptions of the environment so that it appears more certain (Michael, 1973; cf. Weick, 1995), because the psychological state of uncertainty regarding an important decision is extremely painful (Schwenk, 1984). Fahey and Narayanan’s (1989) empirical work suggests that cognitive structures and the environment are not necessarily congruent, leading to both under-identification as well as over-identification of environmental factors.

³ This research on competitor analysis in cognitive terms is subsequently adopted to Chen’s (1996) study on competitor analysis and intercompany rivalry.

Cognitive simplification processes have been labelled as heuristics as well as biases within in the research community, depending on the intended connotation. They may indeed be referred to as biases, given that they affect strategic decision making, yet this infers a negative undertone. In contrast, they can also be reasonably called heuristics. Tversky and Kahneman (1974: 1125) propose that “[i]n general, these heuristics are quite useful, but sometimes they lead to severe and systematic errors”. Das and Bing-Sheng (1999) reconcile this debate by suggesting that cognitive biases are the potential negative consequences of adopting heuristics. However, these heuristics can enable experienced managers to make sense of strategic issues quickly, and respond in an efficient and effective manner (Day & Lord, 1992).

Automatic interpretation relies extensively on the schema that individuals have in memory and the strategic issue categories embedded in organisational routines and procedures (Dutton, 1993; March & Simon, 1958/1993; Normann, 1975; Weick, 1969/1979). The schema, then, serve as important predictors of how decision makers will interpret and respond to newly detected strategic issues. Moreover, Dutton hypothesises that an automatic strategic issue interpretation mode leads to faster diagnosis of strategic issues and more rapid responses to strategic issues on the one hand, but to less resilient strategic issue diagnosis on the other.

Allinson and Hayes (1996) support the notion of automatic interpretation through their discussion on intuition in decision making. Allinson and Hayes (1996: 132) assert that the need exists to “*recognize situations in which the intuitive way of thinking is appropriate*”. Intuition and analysis do not need to be mutually exclusive, however, even though people seem to have rather permanent stylistic orientations (cf. Jung, 1921/1950). Clarke and Mackaness provide some empirical evidence on intuition, yet their research can be described as more tentative in nature. Nonetheless, their findings suggest that the differences in cognitive maps between senior and less senior executives are not so much of structure as they are of content. Hence, they propose that intuition comes into play “*as a means of ‘going beyond’ the rational data and information, by using experiences to ‘cut through’ to the essence of a situation, helping to make sense of it, and as a test of its validity*” (2001: 166).

Cognitive Change

Argyris and Schön (1978) suggest that organisations are fundamentally cognitive enterprises that learn and develop knowledge, and that the knowledge structure serves to define expected relationships, behaviours and actions of organisational members. In accordance, Lant *et al.* describe the process of strategy making as “*fundamentally a process of managerial learning that is affected by an organization’s performance history, the nature of an organization’s context, and managers’ interpretive or sense-making processes*” (1992: 600; emphasis provided). This definition underlines the role of managerial and organisational learning, that is, cognitive change, in strategy process research.

Hence, strategic issue management research is not only concerned with understanding why managers select one action over others, but also with identifying what processes occur after the actions have been undertaken. In this light, Gioia and Chittipeddi define

strategic change to involve “*an attempt to change current modes of cognition and action to enable the organization to take advantage of important opportunities or to cope with consequential environmental threats*” (1991: 433). Similarly, Barr *et al.* closely associate organisational renewal with the update of knowledge structures: “[O]rganizational renewal hinges on learning – a process that necessarily requires additions to or changes in mental models” (1992: 17).

Organisational change and development can occur via two distinct avenues, partly depending on the level of analysis (Weick & Quinn, 1999). Episodic change, in which change is intermittent and discontinuous, is complemented by continuous change that is evolving and incremental in nature (cf. Reger *et al.*, 1994). Conceptualisations of inertia are seen to underlie the choice of viewing organisational change as episodic or continuous.

Despite its relevance to strategic issue management, organisational cognitive change has not been extensively studied as a separate concept. The essential part of the strategic issue management literature appears to be concerned with the analysis of determinants for making strategic decisions, but only implicitly deals with the question of cognitive change. As Thomas *et al.* note, “*the cyclical link between performance outcomes and scanning activities has been, with some exceptions (---), ignored in the literature*” (1993: 262).

Barr *et al.* (1992) discuss the importance of cognitive change, strategic action, and organisational renewal. Specifically, they investigate the link between changes in mental models and changes in organisational actions. Nonetheless, strategic action represents only an intermediate outcome for Barr *et al.*, as the research ultimately focuses on organisational renewal. These three domains are essentially intertwined, as “[o]rganizational renewal requires that (---) top managers make timely adjustments in their mental models following significant changes in the environment” (1992: 15). The fundamental problem with mental models is that they may be erroneous and inaccurate, or become so over time. Given cognitive limitations, mental maps will be, at best, incomplete.

Past organisational performance does not influence only the scanning and interpretation of strategic issues, but it also has an effect on decisions and action triggering. For example, Bateman and Zeithaml (1989) found that prior decisions, the psychological context, and the strategic decision are interrelated (cf. Martins & Kambil, 1999). Specifically, present conditions (level of perceived organisational slack), past events (success and failure feedback), and future outlook (positive or negative decision frame) shape the decision. Moreover, the study of Audia *et al.* (2000) reveals that past success makes organisations confident in their current strategies, and, hence, reluctant to change even when confronted with environmental changes. Audia *et al.* found that (i) greater past success, (ii) greater satisfaction with past performance, (iii) more confidence in the correctness of current strategies, (iv) higher goals, (v) higher self-efficacy, and (vi) less seeking of critical information were found to be associated with greater strategic persistence. This persistence was also found to lead to subsequent declines in performance.

Fiol (1994) elaborates on the concept of cognitive change by examining the role of consensus and diversity, which have traditionally been regarded as mutually exclusive in the organisational learning process. By breaking the notion of consensus into two component parts, Fiol demonstrates how simultaneous agreement and disagreement are not only possible, but also advantageous to organisational learning. Specifically, Fiol distinguishes between consensus around interpretations embedded in the content and in the framing of communications. Whereas both the content and framing of communications reflect meaning, they are not equivalent constructs. Consequently, group consensus around one does not necessarily imply consensus around the other. For organisations, the implications of this “learning paradox” are quite clear: Managers must actively encourage the development of different and conflicting views of what is thought to be true, while striving for a shared framing of the strategic issues that is broad enough to encompass those differences.

Managers often fail to adjust their mental maps in response to changing environments, which eventually leads to flawed strategic decisions. As Barr *et al.* note, “[m]ental models that can no longer accommodate or explain occurrences in the environment must be altered and new understanding of the environment must be developed” (1992: 17). Hodgkinson (1997) demonstrates this cognitive inertia in his study of the UK residential estate agents, who failed to notice changes in the material conditions of their business environment. Gilbert (2005) develops the concept of organisational inertia further by distinguishing between resource vs. routine rigidity. Whereas the former refers to a failure to change resource investment patterns (Christensen & Bower, 1996; Henderson, 1993), the latter connotes the failure to change the organisational processes that use those investments (Leonard-Barton, 1992; Nelson & Winter, 1982). According to Gilbert, threat perception releases constraints on resource rigidity, but amplifies problems with routine rigidity.

2.2.2 Carnegie School of Bounded Rationality

From Limitedly Rational Individuals...

Before Simon’s (1947/1997) groundbreaking contribution, decision making was considered to be almost a non-issue, at least from a procedural standpoint. Substantial decisions were made in all fields of society, yet the process of reaching the single best decision was not considered problematic at all. However, enter limited rationality, and all decision making, be it in public administration, business corporations or any other organisations, was prone to all kinds of problems that can be traced back to the characteristics of individuals.

The fundamental thrust of Simon’s argument is that there are limits to human rationality, and that this obviously has implications for decision making. First, whereas rationality implies complete knowledge of consequences attached to each choice, humans are incapable of mastering more than fragmentary knowledge. Second, since the consequences of current decisions lie in the future, values need to be assessed *ex ante*, a process which can happen only imperfectly. Third, rationality requires the consideration of all possible behaviours, but, in fact, only a small subset of them ever comes to one’s

mind. These considerations are at the heart of Simon's concept of an "administrative man", with which he substitutes the certainly omniscient and perhaps even omnipotent "economic man" of the past. As described by Simon in the introduction to the second edition of his book, human behaviour is "intendedly *rational, but only limitedly so*" (1947/1957: xxiv; original emphases). Moreover, Simon posits that organisational factors such as authority (cf. Barnard, 1938/1954), formal organisation structure, communications, and efficiency criteria influence the administrative process.

The notion of limited rationality was, by no means, accepted lightly, especially amongst mainstream economists, as Simon (1991) in his autobiography points out. Interestingly, however, economists contemporary to Simon discuss similar ideas of unmanageable amounts of information in decision making. For example, Hayek (1944/1986) and von Mises (1949) discuss the limits of information available to humans and their abilities to use information in their computations to economics while arguing for the need of decentralisation in economic decision making. Writes Hayek:

It is only as the factors which have to be taken into account become so numerous that it is impossible to gain a synoptic view of them, that decentralisation becomes imperative. (---) As decentralisation has become necessary because nobody can consciously balance all the considerations bearing on the decisions of so many individuals, the co-ordination can clearly not be effected by "conscious control," but only by arrangements which convey to each agent the information he must possess in order effectively to adjust his decisions to those of others. (1944/1986: 36; emphasis provided)

However, Simon's treatise is not restricted to the limited capabilities and characteristics of individuals. Rather, Simon portrays the organisation in the light of a decision process that is affected by decision premises. Behaviour in the organisation is influenced by these decision premises, which can in turn be modified by the behaviour. In addition, organisational structure can influence the decision premises of the individuals within it. Specifically, Simon's realist⁴ approach assumes a fact-value dichotomy, in which the value statements are regarded as non-cognitive and not susceptible to empirical testing.

In sum, Simon's work captures the interplay of individual and organisational elements in decision making. At the macro level, decision premises can be used to explain why the organisation engages in certain actions. At the micro level, decision premises serve as a tool for understanding the individual's relationship to the company.

...To Bounded Rationality in Organisations

Building on Simon's (1947/1997) work on administrative behaviour, the work of March and Simon (1958/1993) reflects the information processing capabilities of humans in

⁴ Simon's work could also be regarded as positivist in the sense suggested by Friedman (1953). However, Moldoveanu and Baum argue that Friedman's interpretation of positivism as a form of instrumentalism is "*peculiar*", and that "*economics (---) is definitely not a positivist science*" (2002: 736); in this light, Simon's work could best be described under the label of scientific realism.

decision making. March and Simon succinctly describe on a high-level how the “boundedly rational” individual attends to decision making:

It is a picture of a choosing, decision making, problem-solving organism that can do only one or a few things at a time, and that can attend to only a small part of the information recorded in its memory and presented by the environment. (1958/1993: 30)

March and Simon coin their concept of rationality as “subjective” rather than “objective” as seen in the classical decision making theory under perfect rationality. Subjectivity implies that rationality can be defined only relative to some specified frame of reference. Moreover, human decision making is typically aimed at discovering and selecting satisfactory rather than optimal options.⁵ Hence, the real decision making process is more about “satisficing” than of optimising,⁶ and involves substituting the complex reality with a model of reality that is limited, approximate, and simplified.

Even though March and Simon (1958/1993) are usually credited with the concept of *bounded rationality*, the notion is deeply rooted in an earlier work by Simon (1947/1997), albeit with a slightly different usage of *limited rationality*. In the same way, the idea of ‘*satisficing*’ was popularised by March and Simon’s (1958/1993) book, yet it was featured for the first time by Simon (1956) in a journal article.

The organisational and social environment in which the decision maker acts determines what consequences he will anticipate and which ones he will not, as well as what options he is likely to consider and which ones he will ignore. Cognitive aspects play a role in formation of sub-goals: when task allocation facilitates formation of sub-goals, the sub-unit tends to focus its attention on the specific sub-goal while ignoring other sub-goals and other aspects of the goals of the larger organisation (cf. Ocasio, 1997). Focus of attention, then, can be seen as a function of the differentiation of sub-goals, the persistence of sub-goals, and the span of attention of the individual.

Concurrently with March and Simon (1958/1993), the notion of cognitive limitations in decision making had begun to gain ground also outside the Carnegie school. Penrose’s (1959) seminal work explicitly views limited managerial resources (not only in numbers) as a constraint on company growth (i.e., the Penrose effect; Rugman & Verbeke, 2002). In a similar vein, Rhenman’s (1964/1967; Rhenman & Stymne, 1965) work draws heavily on the Carnegie school contributions (March & Simon, 1958/1993;

⁵ March and Simon (1958/1993) define an option as *optimal* if (1) a set of criteria that permits all options to be compared exists and (2) the option in question is preferred (based on said criteria) to all other options. In contrast, an option is *satisfactory* if (1) a set of criteria describing minimally satisfactory options exists and (2) the options in question meets or exceeds the said criteria.

⁶ The verb *to satisfice* is formed as a combination of verbs *to satisfy* and *to suffice*, to highlight that “organisms adapt well enough to ‘satisfice’; they do not, in general, ‘optimise’”, and was introduced by Simon (1956: 129). (Nonetheless, OED (1989) also recognises *to satisfice* also as an obsolete synonym for *to satisfy*.)

Simon, 1947/1997).⁷ Nonetheless, Rhenman extends his discussion on information processing to also cover the individual within the organisation. Moreover, the work of Norman (1971) describes how cognitive processes affect how individuals within the organisation obtain information about the environment, and how they perceive events within it (cf. Dean & Sharfman, 1993). In his subsequent work Norman (1975) argues that the misfit between the company's dominating ideas (cf. Bettis & Prahalad, 1995; Prahalad & Bettis, 1986) and its growth situation is the fundamental hurdle to company growth.

Interestingly, Foss (2001) argues that in spite of the notion of bounded rationality having become a fundamental proposition in modern organisation theory, it has not been extensively used in theorising in the economics of organisations. Indeed, argues Foss, bounded rationality is "*not used in an essential way in the modern economics of organization*" but as a "*background assumption that is introduced to help explaining other, more central, insights and concepts*" (2001: 1).

Towards the Behavioural Theory of the Company

Cyert and March (1963/1992) elaborate on the earlier contributions of Simon (1947/1997) and March and Simon (1958/1993), and formulate a behavioural theory of the company.^{8,9} Cyert and March's theory is fundamentally based on the three variables of goals, expectations and choice, and on the four relational concepts of the quasi-resolution of conflict, uncertainty avoidance, problemistic search and organisational learning. Cyert and March's contribution to organisation theory is not so much in developing novel premises of organisational behaviour, but in leveraging the extant work¹⁰ in

⁷ It is important to note that Rhenman's (1964/1967; Rhenman & Stymne, 1965) portrayal of the organisation has been quite significantly influenced by the works of Simon (1947/1997) as well as March and Simon (1958/1993), especially as regards the information processing aspects of organisations. This is no surprise, given that Rhenman, while studying in Carnegie in 1959-60, came in contact with both Simon and March, among others.

⁸ Cyert and March's (1963/1992) *theory of the company* is conceptually similar to the theory put forward by Coase (1937) and augmented by Williamson (1975; 1981; 1991; 1999), since both theories strive to explain what a business organisation (i.e., the company) is all about, and how it makes (economic) decisions.

However, as far as the substance of the theory is concerned, Cyert and March's behavioural theory is substantively different from Coase's transaction cost theory. Transaction cost theory is concerned mainly with market factors, thus treating the insides of the company largely as given. In contrast, Cyert and March's behavioural approach is concerned with, as the designation already implies, with internal factors such as organisation structure and goals, expectations, and execution of choices.

⁹ The reader is advised of the following distinction as regards the terminology employed. Both lines of research originating from Cyert and March as well as from Coase discuss *theories of the firm*, where the noun *firm* denotes any business organisation. This work, however, treats these theories as *theories of the company*, reserving the word *firm* to refer to actual business partnerships (Oxford English Dictionary, 1989).

¹⁰ Cyert and March build their work primarily on contributions by Simon (1947/1997) and March and Simon (1958/1993), which provide the overall theoretical foundations for their treatise. Furthermore, Cyert and March acknowledge that much of the development of their theory of the company has oc-

an attempt to develop an “*empirically relevant, process-oriented, general theory of economic decision making by a business firm*” (1963/1992: 3; emphasis provided).

In the behavioural theory, organisational goals are seen as constraints imposed on the organisation through bargaining by organisational members. Even though they are stabilised by internal processes, goals exhibit gradual change over time brought about by change with experience, aspiration level change as a function of organisation’s past goals, the organisation’s past performance and past performance of “peer” organisations. To evaluate options as part of decision making, individuals generally need to form expectations about likely outcomes. Expectations, then, are seen as the result of drawing inferences from available information, whereby both conscious and unconscious biases are introduced. Organisational choice takes place in response to a problem, uses standard operating rules, and involves identifying an option that is acceptable in respect to evoked goals (cf. March & Simon, 1958/1993).

Conflict resolution has been thought to happen traditionally through payments as a way of inducing conformity to organisational goals (March & Simon, 1958/1993). Cyert and March, however, propose a different view of conflict resolution: Rather than trying to resolve all existing conflicts, “*most organisations most of the time exist and thrive with considerable latent conflict of goals*” (1963/1992: 164), implying that conflicts are only “quasi-resolved” in the company. Moreover, organisations avoid uncertainty by avoiding decision situations that require anticipating future events and by arranging a negotiated environment that reduces the need to anticipate future reactions of others in the environment.

Search behaviour for acceptable options is assumed to be problemistic. This implies that search behaviour is triggered by a problem and is directed towards finding a solution to that particular problem. The search process is primarily simple-minded, taking place in the neighbourhood of the problem symptom and in the neighbourhood of the current options (cf. Lindblom, 1959). Finally, organisations learn over time: organisational goals and the aspirations associated with them change over time, as do also the rules for allocating organisational attention and for search behaviour.

In summary, Cyert and March set aside the assumption of a single or unified decision maker, and, instead, develop a concept of a loose and shifting coalition that selects organisational goals. Moreover, Cyert and March emphasise the role of rules, procedures, and routines in response to external shocks. Many of these ideas were, at least in part, indeed foreshadowed by March and Simon (1958/1993), yet were not explicitly and thoroughly developed by them. Nonetheless, whereas March and Simon focussed largely on the individual decision maker and his limited capabilities, Cyert and March extend the notion of bounded rationality also to the organisational level.

curred through articles in *Administrative Science Quarterly*, *Management Science*, *American Economic Review*, *Quarterly Journal of Economics* and *Behavioral Science* (Cyert & March, 1963/1992: x).

2.2.3 Social-Psychological Perspective

Organisations and Enacted Environments

In contrast to the Carnegie school (Cyert & March, 1963/1992; March & Simon, 1958/1993; Simon, 1947/1997) that views organisations as decision making systems that guide the behaviours of members through decision premises and performance programmes, Weick's model portrays organisations as "loosely coupled" systems. In these loosely coupled systems, individual participants have great latitude in interpreting and implementing directions.

Weick (1969/1979) considers organising from a different vantage point by taking a social-psychological approach. In so doing, he discards the concepts of unilateral causation, independent and dependent variables, origins, and terminations, which he claims as endemic yet misguided. Weick substitutes linear causality with circular causality, implying that if behaviour is embedded in causal circuits, then "*whatever [people] do will come back to haunt and control [them]*" (1969/1979: 87). Furthermore, deviation-amplifying loops in cause maps (Eden *et al.*, 1992) tend to reinforce minor deviations.¹¹

Weick portrays the processes involved in organising as resembling the processes associated with natural selection, thus giving an evolutionary account of organisations. The Weick model of "organising as natural selection" comprises four elements: (i) ecological change, (ii) enactment, (iii) selection, and (iv) retention.¹² In essence, according to

¹¹ The concept of *deviation-amplification* has also been established in the economics discourse under the label *positive feedback*. In economics, positive feedbacks are the tendency for that which is ahead to get further ahead, and for that which loses advantage to lose further advantage. Positive feedbacks, put differently, reinforce that which gains success or aggravate that which suffers loss (Arthur, 1996).

The notion of positive feedbacks (and resulting increasing returns) is in stark contrast to conventional economic theory that presupposes diminishing returns, implying a single equilibrium point for the economy, whereas positive feedbacks generate instability and multiple potential equilibrium points. Further, positive feedbacks are characterised by the accumulation of small, "random" events that eventually determine the outcome, non-linearity, and non-ergodicity (Arthur, 1994). Positive feedbacks are idiosyncratic to knowledge-based industries, and are brought about by up-front costs, network externalities and learning curve effects (Shapiro & Varian, 1999).

¹² The classical socio-cultural evolution model by Campbell (1970; 1972; 1974) consists of three processes of (i) variation, (ii) selection, and (iii) retention, thus closely resembling models of natural selection. In Campbell's model, socio-cultural *variations* can occur between social groups, between members in a single group, or across the different occasions when a single group acts.

In socio-cultural evolution, *selection* can take place by means of six different selective systems: (i) selective survival of complete social organisations, (ii) selective diffusion among groups, (iii) selective perpetuation of temporal variations, (iv) selective imitation of inter-individual variations, (v) selective promotion to leadership roles, and (vi) rational selection.

Retention not only acts as a repository for interpretations that have been selected. In addition, the interpretations affect subsequent actions, are frequently edited, are protected in ways that may conflict with variation and selection, are coercive only to the degree that members are informed of their contents, and contain items that frequently are opposed to the self-interest of persons who must implement these items.

Weick, organisational members create the environments that subsequently impose on them through enactment, select them by applying various categorisation schemes to reduce their equivocality, and store the product of successful sensemaking in the organisational memory.

In the context outlined by Weick, meaningful environments are the outputs of organising rather than inputs to it. Environments are created by organisations out of “*puzzling surroundings*” (1969/1979: 132). Interestingly enough, Penrose, a decade earlier, forebode the concept of Weick’s enacted environment:

In the last analysis, the ‘environment’ rejects or confirms the soundness of the judgements about it, but the relevant environment is not an objective fact discoverable before the event. (Penrose, 1959: 41; emphasis provided)

Due to the reciprocity of ecological change and enactment in Weick’s organising model, organisational realities can be regarded as being of subjective origin. People invent rather than discover part of what they think they see. In practical terms, enactment implies that organisations should be self-conscious about and reflect their actions, and, that organisations need to discover ways to partial out the effects of its own interventions from effects that would have happened anyway.

Weick also introduces a novel research approach to organisations, as he disregards the realist epistemology of the Carnegie school. In contrast, Weick’s account is decidedly constructivist in nature, given that it stems from social psychological discourse. Moreover, whereas the Carnegie school contributions can be regarded as prescriptive, Weick’s musings can be described as more descriptive in nature.

In addition to a new philosophical perspective, Weick significantly advances the theory on organisational information processing. Rather than directed at problem-solving or decision making, organisational information processing is directed at reducing the equivocality of information about the external environment. This view proposed by Weick (1969/1979) is subsequently elaborated on by Daft and Weick (1984), who introduce a model of organisations as interpretation systems.

Organisations as Interpretation Systems

One of the early references to organisations as interpretive systems was made by Burns and Stalker (1961/1968). In their discussion on management of innovation, Burns and Stalker describe companies they studied not only as “*receiving*” and “*acting on*” information, but as well “*altering, rearranging, or recomposing information*” (1961/1968: 78). They even introduce the notion of organisations as “interpretive systems”.

Ansoff (1965b) and Ansoff and Brandenburg (1969) provided a rather similar account a few years later than that of Burns and Stalker’s. While predicting the characteristics of the corporation towards the end of the 20th century, they underline the new competence base for general managers necessitated by the changing business environment. In doing so, they draw implications for the management of the corporation, and portray the gen-

eral manager of the future as one “*whose skills are in perceiving and interpreting the broader environment*” (Ansoff & Brandenburg, 1969: 66; emphasis provided).

Daft and Weick argue that interpretation is a central function of both individuals and organisations: “*People are trying to interpret what they have done, define what they have learned, solve the problem of what they should do next. Building up interpretations about the environment is a basic requirement of individuals and organizations. (---) Interpretation is a critical element that distinguishes human organizations from lower level systems.*” (1984: 284-5). Hence, organisations can be conceptualised as interpretation systems that act as highly specialised information receptors interacting with the environment.

Daft and Weick’s model of organisations as interpretation systems rests on four assumptions. First, organisations are assumed to be open social systems that process information from the environment (cf. Weick, 1969/1979). Second, organisational interpretation is “*something more than what occurs by individuals*” (1984: 285), although it takes place by means of individual interpretation (cf. Bougon *et al.*, 1977; Cyert & March, 1963/1992; Weick, 1969/1979). Third, only a limited group of “strategic-level” managers formulate the organisation’s interpretation (Aguilar, 1967). Fourth, systematic differences exist between companies in the ways that they interpret the environment.¹³

Daft and Weick define interpretation as the “*process of translating events and developing shared understanding and conceptual schemas among members of upper management*” (1984: 286). Resembling Weick’s (1969/1979) enactment-selection-retention model, Daft and Weick propose a model comprising (i) scanning (data collection), (ii) interpretation (data given meaning), and (iii) learning (action taken). Feedback from organisational action may provide new collective insights for coalition members, and thus influence future scanning-interpretation-learning cycles.

Against this background, organisational differences in interpretation can be seen as stemming from (i) management’s beliefs about the extent to which the external environment can be analysed (Daft & Macintosh, 1981) and (ii) the extent to which the organisation intrudes into the environment to understand it. According to Daft and Weick, four categories to characterise various interpretation modes of organisations can be derived: (i) enacting, (ii) discovering, (iii) conditioned viewing, and (iv) undirected viewing.

Walsh and Fahey (1986), however, criticise the theories based on the information processing perspective from social-psychology (e.g., Daft & Weick, 1984; Weick, 1969/1979) as being one-sided. Hence, they introduce the political perspective (e.g., Burns, 1961; Narayanan & Fahey, 1982; Pettigrew, 1977) into the discussion, and arrive at the concept of *negotiated belief structures*. They are the juxtaposition of beliefs and

¹³ The ontological assumption underpinning Daft and Weick’s organisational interpretation model is that issues exist separate from organisations and the epistemological assumption is that organisations interpret those issues (Bansal, 2003).

self-interests of organisational participants, representing the configuration of power and beliefs establishing the decision premise within the strategy making group (cf. Langfield-Smith, 1992).

Extending Daft and Weick's (1984) discourse, Daft and Lengel (1986) present a model that ties together organisational information processing requirements and the structural mechanisms that fulfil them. Essentially, Daft and Lengel argue that the former is affected by uncertainty and equivocality, whereas the latter depends on meetings, integrators, planning and the likes.

Organisational Sensemaking

Weick's (1995) contribution continues the work initiated by his earlier (1969/1979) book. At the heart of Weick's conceptualisation of sensemaking are ethno-methodology (Garfinkel, 1967) and cognitive dissonance theory (Festinger, 1957). Garfinkel's contribution emphasises the role of retrospective accounts of decisions, whereas Festinger's theory emphasises post-decisional efforts to revise meanings of decisions. Even though both of these already underpinned Weick's earlier, yet somewhat cursory, treatise on sensemaking, it is really in his later contribution that he develops the concept of sense-making further.

The concept of sensemaking literally refers to the making of sense, that is, to creating or constructing meanings (Oxford English Dictionary, 1989). Stated more elaborately, sensemaking is about "*placement of items into frameworks, comprehending, redressing surprise, constructing meaning, interacting in pursuit of mutual understanding, and patterning*" (Weick, 1995: 6). When seen in this way, sensemaking is creation as much as it is discovery, and it is grounded in both individual and social activity.

Weick stresses that sensemaking is a social process, occurring in an organisation characterised by "*a network of intersubjectively shared meanings that are sustained through the development and use of a common language and everyday social interactions*" (Walsh & Ungson, 1991: 60). As one's conduct is contingent on the conduct of others (be they imagined or physically present), social processes constantly shape interpretations and interpreting. Moreover, according to Weick, sensemaking is based on identity construction, is retrospective, enactive (cf. Weick, 1969/1979), ongoing, reliant on extracted cues, and driven by plausibility rather than accuracy.

Sensemaking commonly takes place under conditions of ambiguity or uncertainty.¹⁴ Ambiguity refers to an ongoing stream that supports different interpretations at the same time, caused by literary ambiguity (Levine, 1985), or high complexity, paradoxicalness

¹⁴ Weick emphasises the distinction between *ambiguity* and *equivocality*. Writes Weick: "*I think it is important to retain the word equivocal because it explicitly points to the presence of two or more interpretations as a trigger to sensemaking. Although ambiguity also means the presence of two or more interpretations, it can also mean something quite different, namely, a lack of clarity, which (---) makes it quite similar to uncertainty*" (1995: 95; original emphases).

or lack of clarity (Martin, 1992). Uncertainty is about “*an individual’s perceived inability to predict something accurately*” (Milliken, 1987: 136).

Sense is made in language, from language, and by using language, because meaning and communication are inherently linked to the use of language. For Weick, the substance of sensemaking are ideologies (Meyer, 1982; Trice & Beyer, 1993), third-order controls,¹⁵ paradigms (Martin & Meyerson, 1998), theories of action, traditions, and stories. Similarly, as Wittgenstein (1951) points out, the meaning of a concept is its use in language, and language is used in social contexts.

At least four ways exist for people to impose frames on ongoing flows and link frames with cues in the interest of meaning. On the belief-driven side, sensemaking can take the form of *arguing* and *expecting*, whereas on the action-driven side, sensemaking can take the form of *committing* or *manipulating*. Processes of arguing, expecting, committing, and manipulating develop generic subjectivity.

Weick’s (1969/1979; esp. 1995) notion of sensemaking may be construed somewhat too narrowly, however. First, according to Weick, sensemaking is a purely conscious, controlled process, in which automatic, unconscious cognitive processes are relegated to the margins. For ambiguous situations involving novelty, surprise and unprecedented experience, sensemaking is quite understandably a conscious effort. However, much of organisational life is filled with situations that are quite the opposite, that is, neither novel nor surprising. These common situations do, however, require sensemaking, which is likely to take place in an unconscious manner in the background (Daft & Weick, 1984; cf. Dutton, 1993; Ocasio, 1997). If one were to take Weick’s point to the letter, routine organisational life would be devoid of any meaning whatsoever!

Second, Weick views sensemaking as purely retrospective by implicitly dismissing forward-looking prospective sensemaking. Instead, for Weick, all sensemaking processes are involved with some variation of retrospection, either real or artificially imposed. The latter takes place in what Weick calls “future perfect thinking” – imagining that future events have already occurred, and then infusing this “elapsed” experience with meaning. Gioia and Mehra underline this point by noting that organisational experience involves making sense of the past, but “*it also involves speculating on possible futures*” (1996: 1229).

2.2.4 Attention-Based View of the Company

Organisations as Distributed Systems of Attention

Everyone knows what attention is. It is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible

¹⁵ Third-order controls are assumptions and definitions that are taken by people as given, and, hence, provide control in organisations. In addition to third-order control, Perrow (1986) identifies two other forms of control: first-order control by direct supervision and second-order control by programmes and routines.

objects or trains of thought. Focalization, concentration, of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others, and is a condition which has a real opposite in the confused, dazed, scatterbrained state which in French is called distraction, and Zerstreutheit in German. (James, 1890/1907: 403-4)

Ocasio (1997) discusses organisations as systems of structurally distributed attention in which the cognition and action of individuals are not predictable from the knowledge of individual characteristics. Rather, they are derived from the specific organisational context and situations that individual decision makers find themselves in (cf. Denison *et al.*, 1996). Ocasio essentially links structure and cognition, and facilitates the convergence of the research stream of satisficing and bounded rationality (Cyert & March, 1963/1992; March & Simon, 1958/1993; Simon, 1947/1997) with that of loose coupling and enacted environments (Weick, 1969/1979, 1995).

Ocasio defines attention to encompass “*the noticing, encoding, interpreting, and focusing of time and effort by organizational decision makers on both issues (---) and answers*” (1997: 189).¹⁶ Ocasio’s definition can be seen as extending James’s (1890/1907) definition from the individual into the organisational context. Nonetheless, it is not Ocasio who brought the notion of organisational attention into the discourse of decision making. In fact, already Simon in his seminal work underscores that attentional processes guide organisational decision making:

Organizations and institutions provide the general stimuli and attention-directors that channelize the behaviors of the members of the group, and that provide the members with the intermediate objectives that stimulate actions. (Simon, 1947/1997: 110)

However, Ocasio modifies and extends Simon’s original formulation by treating attentional processing explicitly as a multilevel process shaped by individuals, organisations, and the environment. The key characteristic of Ocasio’s systems view of organisations is the relationship between individual and organisational information processing. This contrasts to the earlier perspectives of organisational cognition that emphasise the shared cognitions of organisational members or its top management team.¹⁷ For example, Lyles and Schwenk (1992) proposed a model where organisational knowledge structures develop and shape the strategic actions of the company, and where the knowledge structures are updated based on experiences of current actions. However, the model of Lyles and Schwenk emphasises the role of top management in the process.

¹⁶ Ocasio (1997: 189) defines *issues* as the “*available repertoire of categories for making sense of the environment: problems, opportunities, and threats*” and *answers* as the “*available repertoire of action alternatives: proposals, routines, projects, programs, and procedures*”.

¹⁷ Bougon (1992) makes a valid point by drawing a distinction between *aggregate* and *congregate* cognitive maps. Whereas the former are no more than the combination of individual maps, the latter reflect the shared social constructs between the individuals.

Ocasio's model comprises three interrelated meta-theoretical premises for information processing that underlie the perspective on how companies distribute and regulate the attention of its decision makers. First, at the level of individual cognition, the *principle of focus of attention* links attentional processing to individual cognition and behaviour. Second, at the level of social cognition, the *principle of situated attention* highlights the importance of the situational context in explaining what decision makers attend to. Third, at the organisational level, the *principle of structural distribution of attention* explains how the company's economic and social structures regulate and channel issues, answers, and decision makers into the activities, communications, and procedures that constitute the situational context of decision making.

The principle of focus of attention indicates, first, that decision makers will be selective in the issues and answers they attend to at any given time, and, second, that what decision makers do depends on what issues and answers they focus their attention on. At the level of individual cognition, attentional processes focus the energy, effort, and mindfulness of organisational decision makers on a limited set of elements that enter into consciousness at any given time. Hence, focussed attention facilitates perception and action towards those issues and activities being attended to, as well as inhibits perception and action towards those that are not.

At the individual level, two modes of processing can be distinguished: controlled and automatic processing. In the latter, actions are routinised and habitual. In the former, the action of decision makers is triggered by those issues and answers they are mindful of. However, given their selective focus of attention, decision makers are limited in the number of issues and answers they can attend to in any particular situation.

The principle of situated attention indicates that what decision makers focus on and what they do depends on the particular context they are located in. The focus of attention of individual decision makers is triggered by the characteristics of the situations they confront. Consequently, individual decision makers vary their focus of attention depending on the situational context. The principle of situated attention operates at the level of social cognition. Furthermore, it provides a link between how individuals think and decide in a given situation, and how the organisation and its environment shape the situations that individuals find themselves in.

The principle of structural distribution of attention indicates that the particular context decision makers find themselves in and how they attend to it depends on how the organisation distributes and controls the allocation of issues, answers, and decision makers. According to Ocasio, attentional processes of individual and group decision makers are distributed throughout the multiple functions that take place in organisations, with different foci of attention in each local procedure, communication, or activity (cf. Simon, 1947/1997).

Model of Situated Attention and Company Behaviour

Figure 2.1 presents Ocasio's model of situated attention and company behaviour. According to Ocasio, the model is "*not a full-fledged theory of [company] behavior, but a*

set of constructs and a set of mechanisms (---) that outline how attentional processing at the individual, social cognitive, and organizational levels interact to shape [company] behavior” (1997: 192).

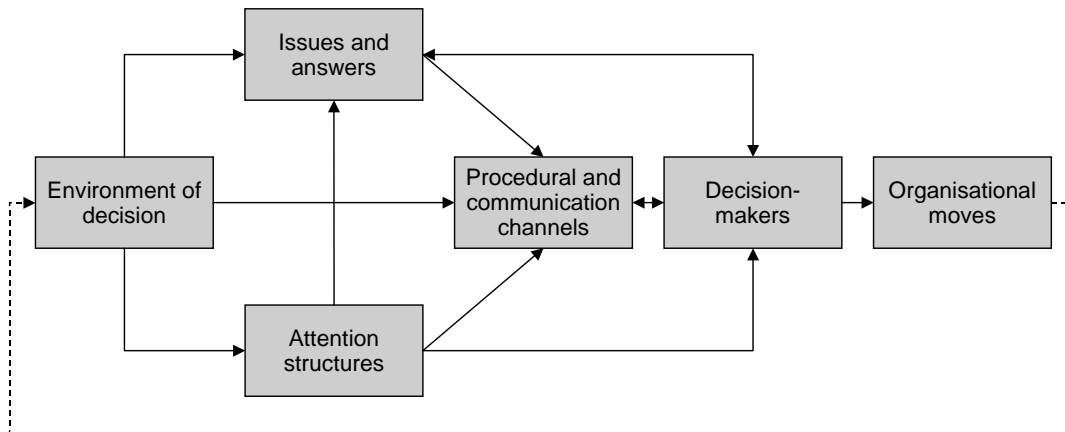


Figure 2.1 Model of situated attention and company behaviour in the attention-based view (Ocasio, 1997)

The environment of decision consists of the multiple material, social, and cultural factors, both internal and external to the company, that impinge upon the environment of decision and provide a set of stimuli for decision making (cf. Weick, 1969/1979). Also, cultural and institutional processes at varying levels of the environment provide decision makers with a repertoire of issues and answers from which to construct actions. Moreover, the company’s rules, resources, and social relationships are embedded in, and shaped by, its economic, social, and institutional environment.

Issues and answers are the cultural and cognitive repertoire of schemata available to decision makers in the company to make sense of, and to respond to, environmental stimuli (i.e., issues and answers, respectively). Issues and answers are embodied in the cultural products and artefacts used to construct the company’s activities and communications (cf. Weick, 1995).

Procedural and communication channels are the formal and informal concrete activities, interactions, and communications set up by the company to induce organisational decision makers to act on a selected set of issues. This is the situational context in which attention and action takes place. By focussing the attention of decision makers, procedural and communication channels serve a significant function in allocating attention and serving as conduits for processing of issues and answers. The procedural and communication channels have an impact on when, whether, and how decision makers focus their attention, and how the attention of various decision makers interacts within the channel. Put differently, the spatial, temporal, and procedural dimensions of the company’s communication and procedural channels affect the availability and saliency of issues and answers that decision makers will attend to.

Attention structures are the social, economic, and cultural structures that govern the allocation of time, effort, and attentional focus of organisational decision makers in their decision making activities. Attention structures exist in four forms: (i) rules of the game (i.e., formal and informal principles of action, interaction, and interpretation), (ii) players, (iii) structural positions (i.e., roles and social identifications that specify the functions and orientations of decision makers and their interrelationships with other structural positions internal and external to the company), and (iv) resources (i.e. human, physical, technological, and financial capital available).

Attention structures work through three separate mechanisms. First, they govern the valuation and legitimisation of the repertoire of issues and answers available to decision makers. These values are not uniform throughout the company (cf. Cyert & March, 1963/1992; March & Simon, 1958/1993; Simon, 1947/1997), but are differentiated according to the division of labour inherent in the company's rules, positions, players, and resources. Second, attention structures channel and distribute the decision making activities of the company into a set of procedural and communication channels. Third, they provide decision makers with a structured system of interests and identities to motivate their action and to structure their decision premises. Child and Smith (1987), for example, show an instructive case of attention structures influencing organisational transformation.

Decision makers are the concrete individuals who jointly participate, within any specific procedural and communication channel, in the enactment of the environment and the social construction of organisational moves (cf. Weick, 1969/1979). Decision making, then, will be the product of interactions amongst participants in the company's procedural and communication channels. The structuring of participation is, in turn, conditional on the time, energy, interests, and identities of organisational decision makers, and on the demands placed on decision makers by other channels. Moreover, decision makers will enact the environment of decisions (cf. Daft & Weick, 1984; Weick, 1969/1979; Weick, 1995) by focussing their attention on a limited number of issues and answers. This attentional focus is shaped by the characteristics of the situation as well as by the structural determinant of attention.

Organisational moves are the myriad of actions undertaken by the company and its decision makers in response to, or in anticipation of, changes in its external and internal environment. Further, organisational moves include both the plans for actions implied in an organisational decision and the actions themselves. Moves are not necessarily, however, implemented or lead to strategic change.

Decision makers will select among a choice of organisational moves depending on which issues and answers they attend to. The attention to issues and answers results both from a passive response to environmental stimuli and preparatory attention and effort, and will vary depending on the procedural and communication channel where decision making is situated. Finally, organisational moves, once enacted, become part of the company's environment of decision and are inputs to the construction of subsequent organisational moves.

2.3 Strategic Issue Management

The following presents different strands and aspects of the strategic issue management literature, and provides an understanding of how individual strategic issues are processed in various stages of the strategic issue management process. Strategic issues are often addressed under considerable ambiguity, where almost nothing is given or easily determined. Hence, strategic decision processes usually begin with little understanding of the decision situation or the route to its solution, and only a vague idea about the solution and its eventual evaluation (Mintzberg *et al.*, 1976).

The discussion looks at the different phases of the strategic issue management process as outlined in Figure 1.2. Notwithstanding the linear description of the process, the process is not likely to progress in a perfectly linear or undisturbed manner. (Mintzberg *et al.*, 1976). Rather, dynamic factors brought about by environmental forces (e.g., interruptions), by a decision maker (e.g., scheduling delays, timing delays, and speedups), and by factors inherent in the decision process itself (e.g., feedback delays, comprehension cycles, and failure recycles) (e.g., Ocasio, 1997; Walsh, 1995; Weick, 1995).

Much of the discourse follows the research of Jane Dutton and her colleagues, who have focussed on creating an understanding of the cognitive basis of strategic issue interpretation in the organisational context. This research has advanced the area significantly. In the following section, this research has been augmented substantially with other research findings.

2.3.1 Scanning, Undirected Research and Problem Recognition

The scanning, undirected research and problem recognition phase of the strategic issue management process can be described as the activity of acquiring information “*about events and relationships in a company’s outside environment, the knowledge of which would assist top management in its task of charting the company’s future course of action*” (Aguilar, 1967: 1). Scanning does not need to be directed only to the external environment, though: potential strategic issues can equally be endogenous or exogenous to the company (Ansoff, 1980).

The role of this phase of strategic issue management in companies has also been duly emphasised in the literature as having the potential to substantially influence the success or demise of businesses. For example, note Kiesler and Sproull: “*A crucial component of managerial behavior in rapidly changing environments is problem sensing, the cognitive processes of noticing and constructing meaning about environmental change so that organizations can take action*” (1982: 548).¹⁸ However, Hambrick (1982) for example, argues that scanning itself is no basis for competitive advantage, but success follows from the propensity and ability to act upon certain environmental information. Interestingly, then, organisations with a history of good performance are more proactive in

¹⁸ One should note, however, that the comment of Kiesler and Sproull (1982) extends also to the issue analysis phase, rather than discussing merely scanning.

their scanning behaviour, implying that organisational slack allows the better-performing companies to devote more resources to scanning (Lant *et al.*, 1992). Nonetheless, it has been argued that despite its relevance, scanning has been poorly integrated into planning in practical business organisations (Fahey & King, 1977).

Attentional Underpinnings

Individuals need to use existing interpretive schemes or to formulate new ones to transform input data into information. Cognitive maps (Cossette & Audet, 1992; Eden, 1992a; Fiol & Huff, 1992) provide an interpretive lens that selects certain aspects of a strategic issue as being important, ignores others, and links them to certain actions and consequences. Scanning can be seen as a probabilistic process of matching current perceptions to stored schemas (Jackson & Dutton, 1988). Identification of the specific instance, then, depends upon the degree of overlap between the strategic issue characteristics associated with the schema, and the salient characteristics of the specific instance (Tversky, 1977). In addition to cognitive factors, political activities influence these processes and outputs, determining the participants' degree of interest and stakes. Strategic issue-specific factors also have an influence: the strategic issue context acts as the arena in which individuals' cognitive maps and political interests come to life, serving to motivate participants in different directions (Dutton *et al.*, 1983; Dutton *et al.*, 1989).

The process of scanning depends both on individuals' perceptions as well as on organisational activities influencing organisational perception. On the individual level, the process of perceptual selection determines to which strategic issues in their environment top-level decision makers will devote their scarce cognitive processing capabilities (Dutton, 1986b). On the organisational level, various characteristics of the strategic planning process systematically influence characteristics of the strategic issues that decision makers attend to (Dutton, 1988; Dutton & Duncan, 1987b). Each organisation has a unique collection of strategic issues that they isolate and explicate for further study. The collection of strategic issues can be described along the dimensions of array size (number of strategic issues), array variety (diversity of strategic issues at one time), array turnover (frequency of strategic issue replacement), and strategic issue scope.

Furthermore, planning and control systems beyond just the strategic issue array can be used to channel attention allocation in the organisation. Simons (1991; 1994) demonstrates how control systems can be used as instruments to direct the attentional processes in the organisation. Simons considers these systems as instrumental in advancing the organisational agendas. Overall, both the individual perspective, as well as the organisational perspective, appear to be quite in congruence with Ocasio's (1997) attention-based view.

Scanning Modes

Scanning can be executed in organisations by employing multiple modes. The choice of scanning mode is made by using a collection of scanning rules pertaining to, for example, how information can be acquired and what the strategic issue characteristics are (Aguilar, 1967). As long as the "right" information is being acquired, scanning behaviour remains unchanged. However, if scanning fails, change rules dictate changes to the

(i) scanning rules and (ii) scanning procedures followed under each mode. This corresponds with earlier accounts on organisational search (Cyert & March, 1963/1992; March & Simon, 1958/1993) that emphasise the role of routines which guide search behaviour.¹⁹

The choice of scanning mode is made based on managerial perceptions about the organisation's position in the environment. For example, Daft and Weick (1984) posit that the less the perceived external environment can be analysed, the greater the tendency for managers to use external information gained from personal contact with other managers (cf. Geletkanycz & Hambrick, 1997). Further, in environments difficult or impossible to analyse, data acquisition will be irregular and casual. Similarly, as Milliken (1987: 139) notes, “[i]t is likely that organizational administrators who are uncertain about the state of their environment will spend a greater amount of time and resources on environmental scanning and forecasting than administrators who are more confident that they understand their environment”.

Environmental characteristics have empirically been found to influence scanning behaviour in organisations, in particular in terms of frequency and mode of scanning. This implies that executives can tailor their scanning practices to perceived environmental uncertainty (Daft *et al.*, 1988; Garg *et al.*, 2003). However, the influence of perceived environmental factors may not be universal, but may vary depending on the cultural background, as May *et al.* (2000) and Elenkov (1997) suggest, based on their respective studies in transitional Eastern European economies. One explanation to the discrepancies described may lie in cultural variations (cf. Sullivan & Nonaka, 1988; Schneider & de Meyer, 1991, on the influence of cultural factors in strategic issue analysis).

Scanning modes can be classified as either retrospective or prospective (Fahey & Narayanan, 1986).²⁰ In the retrospective mode, strategic issues come to the attention of the organisation only when they are already mature. This approach to scanning is largely reactive and *ad hoc* in nature, building on irregular studies into the environment. Alternatively, the process can be quite regular, systematic and issue-oriented, but by building on current state analyses and its extrapolation, it remains largely retrospective (Fahey & King, 1977).

Prospective scanning aims at identifying strategic issues when they still are inchoate, thus giving the organisation pre-warnings about potential strategic issues. It often rests on continuous monitoring of various environmental systems rather than specific events. The key characteristic of the continuous model is that scanning is organisationally structured. In other words, the responsibility for scanning is clearly allocated, channels for information sharing are established, and an explicit linkage between scanning and plan-

¹⁹ However, these earlier accounts make no distinction between the diverse modes of scanning, as Aguilar's contribution does.

²⁰ Fahey and Narayanan's (1986) prospective and retrospective scanning seems to be closely related to Daft and Weick's (1984) concept of organisational intrusiveness, which describes how actively the organisation performs searches in its environment.

ning has been created. In this model, scanning supports the “*variety of choices inherent in strategic planning*” (Fahey & King, 1977: 63), rather than supporting specific choices *per se*.

2.3.2 Directed Research and Gaining Understanding

Following the scanning phase, this stage of the process refers to the phase in which strategic issues are recognised and isolated for further consideration (Mintzberg *et al.*, 1976). Interpreting strategic issues is not entirely straightforward, for, as Dutton and Duncan (1987a: 280) express it, “[s]trategic issues do not activate decision makers’ attention in packaged form”, but rather need to be made sense of before they can be acted upon.

However, in limited capacity models of information processing (Lord & Maher, 1990), individuals have scant information processing capabilities, and, thus tend to simplify their information processing and generate adequate, yet suboptimal, behaviour (cf. Cyert & March, 1963/1992; Ocasio, 1997; Weick, 1969/1979, 1995). Indeed, top managers “*selectively ignore certain [strategic] issues while focusing attention on others*” (Abrahamson & Fombrun, 1994: 733). Consequently not all strategic issues receive the attention of managers. Furthermore, the meaning of a strategic issue depends on the knowledge structures and categories that are employed in describing it.

On the organisational level, as Dutton and Ashford (1993: 397) note, “[n]o issue is inherently strategic. Rather, an issue becomes strategic when top management believes that it has relevance for organizational performance”. Therefore, the managerial sensemaking process (Weick, 1995) shapes the set of issues that top management see as being strategic (cf. Ocasio, 1997). Put differently, the process is one of social construction (cf. Weick, 1995), in which contextual influences shape the outcomes of the interpretation process. Interpretation can be defined as the process “*of translating (---) events, of developing models for understanding, of bringing out meaning, and of assembling conceptual schemes among key managers*” (Daft & Weick, 1984: 286).

Strategic Issue Categorisation

The framing of strategic issues shapes and directs subsequent strategic issue –relevant activity. Dutton and Jackson (1987), for example, suggest that the categorisation of strategic issues and subsequent actions are related. Specifically, they propose that managers most frequently use two main categories of threat and opportunity for labelling strategic issues, each of which has its own distinctive characteristics and subsequent implications. Opportunities typically refer to positive situations, in which gain is likely and which one can (at least to a certain extent) control. In contrast, threats carry a negative connotation, being associated with negative situations, in which loss is likely and over which one has relatively little control. Dutton and Jackson (1987: 85) argue that “[t]he simple labeling of [strategic] issues not only determines decision makers’ affective responses to [strategic] issues, but also it sets into place predictable, cognitive, and motivational processes that move decisions and organizations in predictable directions”.

These hypotheses of Dutton and Jackson (1987) were subsequently validated by Jackson and Dutton (1988) in their empirical study of opportunity-threat labelling. The study not only confirmed that categorisation influences organisational actions, but it also revealed the presence of a threat bias. This implies that individuals are more sensitive to threat-consistent information, and consequently identify strategic issues more easily as threats than as opportunities. In a similar way, strategic issues perceived (and consequently labelled) as crisis and non-crisis issues are processed differently in organisations (George *et al.*, 2006; Sharma, 2000). Strategic issues perceived as crises are likely to be allocated more resources and handled under increased centralisation of authority, coupled with more argumentation or explanation (Dutton, 1986a). In particular, threats seem to have the main and moderating effects on organisational action, whereas opportunities do not (Chattopadhyay *et al.*, 2001), although crises may help to reframe the negotiated order of belief structures about creativity (Drazin *et al.*, 1999).

Dutton and Jackson proposed that individual and organisational factors influence strategic issue diagnosis (Dutton, 1986a; Dutton & Jackson, 1987; Jackson & Dutton, 1988). Providing further evidence to the hypotheses and results of Dutton and Jackson, Thomas and McDaniel (1990) demonstrate that both strategy and information processing structures are related to how managers label strategic situations and the range of variables they consider in their interpretation efforts. Similarly, Jackson (1992) suggests that the composition of the top management team which processes strategic issues has consequences to the interpersonal dynamics, and hence also the strategic issue processing *per se*. In addition, categorisation and attribution processes play a complementary in interpreting strategic issues (Gooding & Kinichi, 1995).

However, some research suggests that cognitive biases could, at least partially, be reduced in strategic issue processing. First, certain personality types appear to exhibit predispositions to certain cognitive biases in decision making (Haley & Stumpf, 1989). Already a simple acknowledgement of these biases can help in avoiding being debilitated in decision making. Second, by increasing the number of interpretations in the process, the validity of interpretations made should increase: To this end, Rindova (1999) proposes that by including non-executive directors of the board into the process, the variety of interpretations is increased, internal biases are reduced, and the representativeness of perspectives and interests on which corporate strategies are based is broadened.²¹

Interpretation Process

Making sense of the strategic issue can be seen as starting from triggering (Dutton & Duncan, 1987a). Triggering is pivotal for subsequent strategic issue diagnosis activity, as it serves to focus attention upon a strategic issue that demands further scrutiny. Triggering can be seen to involve an “action threshold” that represents the magnitude of

²¹ Traditional research on corporate governance has viewed the contribution of corporate boards to strategy-making as limited, with governance research retaining a rather narrow research focus (Pettigrew, 1992b). For example, the influential agency theory has tended to view boards as a mechanism for monitoring the managers on behalf of the investors (Eisenhardt, 1989a; Fama & Jensen, 1983; Jensen & Meckling, 1976).

stimuli that triggers subsequent action (Mintzberg *et al.*, 1976). It is important to note that the system that generates a strategic issue may be formal or informal. In general, a perceived performance gap, be it real or imagined, can often serve as a trigger, as can various stakeholder demands (cf. Dutton, 1983).

After the diagnosis has been activated by some kind of triggering mechanism, decision makers engage in attempts to assess the urgency and feasibility of the strategic issue (Dutton & Duncan, 1987a). Strategic issue urgency indicates the perceived cost of not taking action with respect to a strategic issue (Miller, 1982). Urgency, hence, captures the perceived importance of taking action on a strategic issue. The urgency of a strategic issue derives from a number of salient dimensions of the issue, including time pressures arising from deadlines, the visibility of the issue to important internal and external constituents, and how responsible management believes it is for the issue's occurrence (attribution of responsibility).

Strategic issue feasibility involves making gross judgements about the possibility of resolving it. These judgements systematically affect how a strategic issue is interpreted. Two dimensions are particularly important in forming an assessment of strategic issue feasibility: perceived strategic issue understanding and perceived strategic issue capability. Strategic issue understanding refers to the perception that decision makers could identify the means for resolving the strategic issue, whereas strategic issue capability describes the perception that the means for resolving the strategic issue are available and accessible. Depending on the relative scores on these two dimensions, the decision maker may feel, according to Dutton and Duncan, anything from being powerless to being propelled. The significance of the interpretation of strategic issue feasibility is that it affects the definition of a strategic issue and the adaptive responses of the organisation.

The diagnosis process is recursive in nature, meaning that the judgements will be revised a number of times over the course of the diagnosis (Dutton *et al.*, 1983). These revisions are likely to be intermittently divergent and convergent, reflecting the fluidity of participants and data available. It is precisely the influx of data and participants that stimulates the revision of judgements. Further, the process is likely to be characterised by retroductivity, that is, the coexistence and interplay of deductive and inductive thinking. On the collective level, diagnosis outputs emerge from the interaction of multiple organisational actors with differing cognitive maps, political interests, and strategic issue –related data (cf. Weick, 1995). The process is analogous to an array of recursive procedures cyclically calling on each other, yet rarely having a single highest level (i.e., “heterarchy” as described by Dutton *et al.*).

The processes involved in the interpretation are not ends in themselves; they result in specifiable outputs. Dutton *et al.* (1983) identify four types of strategic issue –specific outputs, three of which are instrumental, whereas the fourth one is symbolic in nature – these outputs occur at both the individual and collective levels. On the content-related side of outputs, due to data insufficiency and ambiguity, and absence of interpretive schemes, a number of assumptions are typically formed during strategic issue diagnosis. These assumptions may be implicitly or explicitly formed, yet regardless of their forma-

tion, they can affect the range of options considered and developed through their impact on information collection and interpretation. Furthermore, in the course of strategic issue resolution, individuals generate understandings that relate various events or concepts together in a causal manner. These cause-effect understandings allows participants to impose a logic for understanding a strategic issue and a logic for resolving it if necessary, in effect framing a strategic issue in a particular way, thus affecting subsequent interpretations and actions (cf. Gilbert, 2006; Kaplan, 2004, 2008; Kaplan *et al.*, 2003; Weick, 1969/1979, 1995). Assumptions and cause-effect understandings are then crystallised into predictive judgements that involve assessments about future events surrounding a strategic issue. The occurrence of divergent predictive judgements may at least partly account for the heterarchic nature of the diagnosis process. Finally, on the symbolic side, the output of the diagnosis process is language and labels that reflect the understanding of a strategic issue from the perspective of the process participants, as well as serve to communicate understanding to the rest of the organisation. Consequently, the labelling of a strategic issue is likely to affect subsequent considerations by influencing involvement, commitment, divergent or convergent thinking, and risk-taking behaviour.

Most of the accounts (e.g., Dutton & Duncan, 1987a; Dutton *et al.*, 1983) of strategic issue interpretation presuppose that managers “*actively try to make sense of [events]*” (Daft & Weick, 1984: 286). Put differently, they assume that diagnostic processes operating in organisations involve the active, conscious, and intentional efforts of decision makers. However, this does not necessarily need to be the case: an automatic mode of interpretation could, in fact, be the dominant form (Dutton, 1993).

Contextual Influences on Strategic Issue Interpretation

As with scanning behaviour, factors both endogenous and exogenous to the organisation influence the interpretation process. Organisational characteristics have a significant and systematic effect on the interpretation process (Daft & Weick, 1984). Specifically, organisational beliefs shape strategic issue interpretation (cf. Chattopadhyay *et al.*, 1999; Cyert & March, 1963/1992; March & Simon, 1958/1993; Ocasio, 1997; Simon, 1947/1997; Weick, 1969/1979, 1995). Dutton and Duncan (1987a) propose that the more differentiated the organisational belief structure (cf. Abrahamson & Fombrun, 1994) is in terms of degree of consensus and complexity, the more frequently strategic issue diagnosis will be triggered. Further, they propose that under a more differentiated belief structure, the perceived feasibility of change and the perceived momentum for change will be greater. Indeed, group and organisational contexts may overshadow individual context during strategic interpretation, with group context being often the more dominant of the two (Thomas *et al.*, 1994).

Organisational resources can also affect strategic issue diagnosis (Dutton & Duncan, 1987a; cf. Kaplan, 2008), in a much similar way as in the scanning phase (Lant *et al.*, 1992). On the one hand, slack organisational resources decrease the perceived degree of urgency, consequently reducing the perceived need to change and the momentum for change (cf. Cyert & March, 1963/1992; March & Simon, 1958/1993). On the other

hand, increased slack is likely to increase the perceived feasibility of resolving a strategic issue, hence increasing the momentum for change.

In addition, environmental factors have been shown to influence strategic issue diagnosis. For example, varying levels of perceived uncertainty and feasibility affect the organisation's response to strategic issues (Dutton & Duncan, 1987a; Dutton & Webster, 1988). Both certainty in the strategic issue's context and perceptions of the strategic issue's feasibility in part determine how decision makers attend to it. Specifically, uncertainty may repel, rather than encourage, broad and varied interest in strategic issues. Also, strategic issues whose resolution is perceived as being feasible also attract wider interest or a greater number of decision makers than infeasible ones. Furthermore, people tend to gravitate towards strategic issues that they perceive as having a high probability of resolution, and they are likely to pursue strategic issues more readily in certain rather than in uncertain contexts.

Consistent with the findings for scanning behaviour, Barr and Glynn (2004), Sallivan and Nonaka (1988), Schneider and De Mayer (1991) find that there are cultural differences in strategic issue interpretation. All find significant differences as to how strategic issues are categorised differently based on the cultural context that the company is situated.

2.3.3 Planning for Action

Decisions taken on strategic issues typically involve a specific commitment to action that usually, but not necessarily, involves a commitment of resources (Bower, 1970; Mintzberg *et al.*, 1976; Noda & Bower, 1996). However, decisions “*may or may not be implemented and lead to strategic change*” (Ocasio, 1997: 201). Nonetheless, underlying managerial cognition matters in shaping implementation (Kaplan, 2008).

Meanings that strategic issues create induce momentum for change in the organisation. Dutton and Duncan define momentum for change as “*the level of effort and commitment that top-level decision makers are willing to devote to action designed to resolve [a strategic] issue*” (1987a: 286). Furthermore, Dutton and Duncan suggest that momentum for change increases when (i) decision makers perceive that they understand the strategic issue and perceive the organisation as capable to deal with it, (ii) diagnose the strategic issue as being urgent and feasible to resolve, and (iii) when the organisation has a differentiated belief structure. Assessments of urgency and feasibility act in concert to create the momentum for change in response to a particular strategic issue.

Dutton and Duncan (1987b) link the content and form of the strategic issue array with strategic change in the organisation. In so doing, they depict strategic change comprising two main phases – initiation and implementation – that exhibit certain political and informational dynamics. During initiation, political dynamics are all about building sufficient interest in the strategic issue (i.e., strategic issue selling; e.g., Andersson & Bateman, 2000; Dutton & Ashford, 1993; Dutton *et al.*, 2001; Dutton & Dukerich, 1991), whereas the informational dynamics are mostly concerned with gathering sufficient information to assess the strategic issue (i.e., search and issue diagnosis; e.g., Cyert &

March, 1963/1992; Daft & Weick, 1984; Dutton & Duncan, 1987a; Gilbert, 2006; Kaplan, 2004, 2008; Kaplan *et al.*, 2003). During the implementation phase, political interest and personal commitment are needed to make the implementation happen, whereas information on the change is needed so that necessary modification can be made as appropriate.

Once a strategic issue has been identified and diagnosed, the proponents of the particular issue need to gain buy-in from other organisational participants, so as to gain momentum for the strategic issue and ensure that progress is made. This is the process of strategic issue selling, and it is directed toward affecting others' attention to and understanding of strategic issues. Strategic issue selling can be seen as central in explaining how and where top management allocates its time and attention (Dutton & Ashford, 1993). Whereas formal authority indeed needs to be used to accomplish major, exploratory undertakings, political behaviour becomes more important to the process as the initiatives become more exploratory, thereby underlining the need for strategic issue selling to achieve results (Lechner & Floyd, 2005). Dutton and Ashford (1993) underline the role of middle managers in strategic issue selling, and, consequently, as change agents within the organisation. Importantly, middle management can take a variety of different roles in strategy formulation. They can champion strategic options, synthesise information to top management, facilitate adaptability by acting as "buffers" between employees and top management, and most commonly, implement the deliberate strategy (Floyd & Wooldridge, 1992). This view of importance of middle management is also consistent with earlier research (e.g., Bower, 1970; Burgelman, 1983) underlining the role of middle management in strategy making (Kanter, 1982).

Individuals decide whether or not to initiate strategic issue selling efforts based on the value that the individual attaches to a strategic issue, as well as the individual's beliefs in the eventual success of the effort (Dutton & Ashford, 1993). Strategic issue selling will be more likely when individuals believe that selling attempts will be successful, or when the issue is so important personally that the value of securing attention for the issue is worth the extra effort of selling it. Initiation of strategic issue selling is more likely when sellers are general managers (who are usually centrally-located; cf. Dutton, 1986b), or when the issues match their functional orientation in the organisation. The influence of a strategic issue selling effort is not limited only to the particular strategic issue at hand. Instead, because building the organisational strategic agenda is contingent on the existing agenda structure (size and composition), any new strategic issue will be affected by the prevailing agenda structure. Consequently, the impact of a strategic issue selling episode can occur also far beyond the strategic issue that was originally promoted (Dutton, 1986b). Due to this cumulative attribute of strategic issue selling, for individuals or coalitions in the organisation, attempts to manage the agenda building can be a potent way to exert influence on either promoting or preventing strategic change.

In spite of all good efforts, however, planned organisational change initiatives sometimes do not gather enough momentum to become realised. Reger *et al.* (1994) suggest that change efforts presented as radical departures from the organisation's past fail because the cognitive structures of members, whose cooperation is necessary for successful implementation, constrain their understanding and support of new initiatives (cf.

Dutton & Dukerich, 1991). Thus, Reger *et al.* propose that change should proceed through mid-range modifications “*that are large enough to overcome cognitive inertia and relieve organizational stress, but not so large that members believe the proposed change is unobtainable or undesirable*” (1994: 565).

2.4 Conclusions

Summarising how the diverse theories on organisational information processing and sensemaking dynamics affect the strategic issue management activities in companies is indisputably challenging. Although the theories do build, at least in part, on each other, they still represent a collection of multiple and sometimes even conflicting concepts, guidelines and frameworks. Moreover, they are underpinned by contrasting ontological and epistemological assumptions. However, the three theoretical strands of the Carnegie school, the social-psychological view, and the attention-based view also develop and complement each other. Particularly, the attention-based view serves as a credible attempt to draw the discussion more towards a coherent, unified framework.

Information processing and decision making in economies and economic organisations has been considered to be perfectly rational until relatively late in the 20th century. This assumption has underpinned both classical, Marshallian economic theory (e.g., Jevons, 1871/1970; Marshall, 1890/1961; Menger, 1871; Walras, 1874/1954) as well as a large share of strategy models (e.g., Bain, 1956; Mason, 1939; Porter, 1980; Wright, 1917). However, empirical observation has often failed to correspond with these theoretical models. Indeed, the assumption of perfect rationality has been gradually challenged by the behavioural theory (Cyert & March, 1963/1992), which posits that individuals and organisations are only ‘boundedly rational’ (March & Simon, 1958/1993; Simon, 1947/1997). This has, in its part, paved the way for research on strategic issue management.

The Carnegie school view introduced the concept of bounded rationality in organisational information processing and decision making. Crystallised in the so-called behavioural theory of the company (Cyert & March, 1963/1992), the Carnegie school rests on three key variables. It views organisational goals as constraints imposed on the organisation formed by a loose coalition of organisational members. To evaluate options for decision making, individuals form expectations about likely outcomes. Organisational choice, then, takes place in response to a problem, uses standard operating rules, and involves identifying an acceptable option (as compared to the goals and aspirations). Moreover, the behavioural theory assumes that goals are only quasi-resolved in the company, and that organisations avoid uncertainty. Search behaviour is problemistic: it is triggered by a problem and directed towards finding a solution. Finally, over time, organisational behaviour changes based on, for example, experience.

In contrast, the social-psychological perspective (e.g., Daft & Weick, 1984; Weick, 1969/1979, 1995) takes a markedly less structured view of organisational decision making. Organising is accomplished by processes containing individual behaviours that are interlocked among two or more people. These individual behaviours are contingent on

those of others. People and organisations create the (decision) environments that subsequently impose on them, and choice involves the imposition of various structures on enacted equivocal displays in order to reduce their equivocality and thereby selecting schemes of interpretation and specific interpretations. The selected interpretation is subsequently stored in organisational memory. What makes this sensemaking viewpoint distinctive is both its grounding in the identity construction of the individual as well as its social nature of constructing intersubjectively shared meanings in the organisation. These two obviously are inherently intertwined. All this is done in language, from language and by using language.

The attention-based view (Ocasio, 1997) regards organisations as systems of structurally distributed attention, in which the cognition and action of individuals are derived from the specific organisational context and situations that individual decision makers find themselves in. The key characteristic of this systems view of organisations is the relationship between individual and organisational information processing. The attention-based view underscores the selectivity of organisational information processing both on the individual and organisational level, and that the focus and actions of the decision makers depend on the characteristics of the situation they confront. Finally, the particular context which the decision makers are in, and how they attend to it depends on how the organisation allocates its attention.

For strategic issue management, the attention-based view provides the organisational backdrop where management of strategic issues takes place. In other words, organisational attention allocation processes have a substantial impact on how strategic issues are managed. In conclusion, a number of key implications can be drawn from the attention-based view that in part tries to integrate components from both research streams that have preceded it.

First, small contingencies in the company can affect the situated attention and thereby may significantly change organisational adaptation and behaviour. For the company to adapt successfully to changes in its environment, the organisation needs to focus its attention on an appropriate set of strategic issues and answers. Second, inertia, inappropriate change, or successful adaptation may result from situated attentional processes, all depending on how well the company can direct its attention to pertinent strategic issues and answers. Third, both structural regularities and cognitive repertoires of strategic issues and answers underlie attentional processes in organisations. Consequently both the procedures – whether implicit or explicit – applied to process strategic issues as well as the cognitive spaces of top managers influence the outcomes. Fourth, selective focus of attention facilitates the company's strategic actions, yet it requires that attention and effort be focussed in a controlled manner, lest the processing of a strategic issue may become saturated.

On the level of strategic issue management, the process can be portrayed as a sequence consisting of three main process stages: (i) Scanning, undirected research and problem recognition; (ii) Directed research and gaining understanding; and (iii) Planning for action. These are further followed by the subsequent implementation of the given resolution.

Within the scanning, undirected research and problem recognition phase, both external and internal environment of the company are observed for strategic issues (e.g., Aguilar, 1967; Ansoff, 1980; Kiesler & Sproull, 1982). This phase takes place under the limited cognitive capacity of the individuals involved, as individuals impose various cognitive maps on the information at their disposal (Jackson & Dutton, 1988). Furthermore, a similar cognitive process takes place on the organisational level. Scanning mode is typically selected based on contextual factors (e.g., Aguilar, 1967; Daft & Weick, 1984), and can be defined as retrospective or prospective (Fahey & Narayanan, 1986). The scanning process is further influenced by strategic issue –specific, political, and structural factors (e.g., Aguilar, 1967; Daft *et al.*, 1988; Daft & Weick, 1984; Elenkov, 1997; Garg *et al.*, 2003; May *et al.*, 2000).

In the directed research and gaining understanding phase, the potential strategic issues are recognised and isolated for further consideration (Mintzberg *et al.*, 1976), whereby their legitimacy, both on the individual and organisational level, is established. Making sense of the strategic issues takes place under limited cognitive capabilities both on individual and organisational levels, as the process rests on matching existing cognitive maps both on individual and collective levels with the received information (e.g., Dutton *et al.*, 1983; Dutton & Jackson, 1987). This simplification may be regarded alternatively as heuristics or biases, since whereas on the one hand they provide the means to make decisions under incomplete information, on the other hand they may lead to imprecise strategic issue diagnosis and subsequently inappropriate organisational moves (e.g., Das & Bing-Sheng, 1999).

Much of the process is dependent on strategic issue categorisation (e.g., Dutton & Jackson, 1987). Strategic issue diagnosis has been found to be influenced by, for example, the framing of the issue, the amount of information used in diagnosis, and the controllability and feasibility of the issue (e.g., Kuvaas, 2002). Cultural variations exist in the way strategic issues are diagnosed in organisations (e.g., Barr & Glynn, 2004; Sullivan & Nonaka, 1988; Schneider & de Meyer, 1991). Due to the inherently cognitive nature of the diagnosis process, strategic issues can be processed in both an active and an automatic fashion (Dutton, 1993).

Strategic issues typically result in decisions that lead to a commitment to action (Mintzberg *et al.*, 1976). Meanings that strategic issues create can facilitate the creation of momentum for change in the organisation (Dutton & Duncan, 1987a). In addition, the momentum can be increased by actively selling the strategic issue in the organisation (e.g., Dutton & Ashford, 1993). Middle management is likely to play an important role in achieving change (e.g., Floyd & Wooldridge, 1992). However, strategic issues with clear decisions may not always lead to strategic change, despite good intentions (e.g., Reger *et al.*, 1994).

In summary, whereas extant research has established the attention-based view of the company as the synthesis of the various cognitive and social-psychological models of organisations, as well as provided insights into how individual strategic issues are addressed, some areas in strategic issue management have only been lightly researched. First, although the existence of cognitive spaces and their impact on strategic issue man-

agement have been amply postulated (e.g., Ocasio, 1997), research into the congregate cognitive spaces (cf. Bougon, 1992) and their specific link to strategic issue management has been limited (cf. Gilbert, 2006; Kaplan, 2004, 2008; Kaplan *et al.*, 2003). Furthermore, strategic issue categorising has been discussed only in respect to the threat–opportunity dichotomy (Dutton & Jackson, 1987), and the wider contents of the cognitive space have been rather overlooked. Second, whilst it has been acknowledged that organisational attention allocation is likely to influence strategic issue processing (cf. Ocasio, 1997; Ocasio & Joseph, 2005), the explicit, dynamic link of the attentional capacity to decision making performance has not been studied. Third, most of the strategic issue management research has focussed on individual strategic issue decisions, and has thereby overlooked the longitudinal element in strategy making, thus foregoing the opportunity to analyse how strategic issues develop as they are processed in the cognitive space of the company.

3 Research Methodology

This chapter presents the research methodology applied in this study. Research methodology can be addressed from multiple related yet overlapping angles, including those of research methods, research strategy (e.g., Yin, 2003), research approach (e.g., Aram & Salipante, 2003) and research design (e.g., Easterby-Smith *et al.*, 1991). The following discussion approaches the notion of research methodology on three levels: (i) the underlying scientific paradigm, (ii) the applied research approach that guides the research design, and (iii) the actual research design.

3.1 Scientific Paradigm

According to Kuhn (1970: 10), scientific paradigms include “*law, theory, application, and instrumentation together --- [and] provide models from which spring particular coherent traditions of scientific research*”. The scientific paradigm thereby determines the key concepts and methods, research designs, and significant problems to be studied. Similarly, Guba and Lincoln (1994) define scientific paradigm as the basic belief system that guides the researcher in terms of ontology, epistemology and methodology.

3.1.1 Ontological and Epistemological Underpinnings

The traditional and dominant approach in scientific research (and especially in natural sciences) is the paradigm of scientific realism, which is sometimes also referred to as the positivist paradigm.²² Implicit in the notion of scientific realism is also the assumption of a single, objective truth, and that objective observations are key in furthering knowledge, including any effects of researcher bias and interpretation in the process of building knowledge (Boyd, 1983; Moldoveanu & Baum, 2002). Methodologically these studies are often experimental or manipulative (Guba & Lincoln, 1994).

Another prominent school of thought in social sciences is that of constructivism, which epistemologically assumes that no objective truth exists. Rather, knowledge is seen as being “created” by individual minds instead of being logically built up from theory and the observation of an independent reality (Moldoveanu & Baum, 2002). The principal support for constructivism in social sciences is that objective knowledge may not exist, because scientific knowledge is often produced in cooperation with informants. Constructivist studies often employ hermeneutic or dialectical methodologies.

²² Moldoveanu and Baum (2002) strongly oppose the use of the term *positivist* in a general context, for example, in economics research, in the sense suggested by Friedman (1953). Moldoveanu and Baum argue that Friedman’s interpretation of positivism as a form of instrumentalism is “*peculiar*”, and that “*economics (---) is definitely not a positivist science*” (2002: 736). Instead, they characterise this strand of organisation research belonging to the paradigm of *scientific realism*.

It is worth acknowledging that the present research is struggling at the crossroads of not only a plethora of complementary theoretical domains, but also a number of philosophical underpinnings. In the domain of organisational information processing, the early work by March and associates (Cyert & March, 1963/1992; March & Simon, 1958/1993; Simon, 1947/1997) is clearly based on the notion of scientific realism, by at least attempting to present a normative model of organisational behaviour. The contributions of Weick, in contrast, take a decidedly constructivist stance, even to the extent that his distinguishing essayistic literary style becomes an essential part of the theory (Van Maanen, 1995). Ocasio (1997), while introducing an attention-based view of the company, builds heavily on the realist research tradition of March and associates, but also in part on the constructivist work of Weick. Ocasio's theory is, nonetheless, unquestionably realist in nature. By building on the notion of the attention-based view of the company, this dissertation follows Ocasio's realist paradigm.

3.1.2 Meaning and Theory of Process

Meaning of Process

As defined in Section 1.5.3, this study understands a process as *“a sequence of events or activities that describes how things change over time, or that represents an underlying pattern of cognitive transitions by an entity in dealing with a [strategic] issue”* (Van de Ven, 1992: 170). This implies that a historical developmental perspective is taken, with a focus on the sequences of incidents, activities and stages that unfold over the duration of the period under study. In contrast to other process models, no variables are reflected. Rather, the developmental process model examines the progressions of activities or events that an organisational entity undergoes as it changes over time. These progressions are typically depicted as occurring in a linear and sequential manner, yet this is likely to be *“inadequate to deal with the complexities of many strategy ventures”* (Van de Ven, 1992: 172). Instead of the linear-sequential forms of progression, developmental progressions can be described as including multiple, cumulative, conjunctive and iterative progressions of convergent, parallel and divergent streams of activities unfolding over time (van den Daele, 1969, 1974; Flavell, 1972). All this is precisely what Chakravarthy and Doz call for: In particular, *“to address the central evolutionary processes and transformational processes”* (1992: 9) to uncover the richness of organisational strategic decision making.

Theory of Process

Four abstract ideal types of theories of change process can be identified (Van de Ven, 1992; Van de Ven & Poole, 1991), namely the life cycle, teleology, dialectic, and evolution process theories. In the life cycle theory, the typical progression of events is a unitary sequence, which is cumulative and conjunctive. The progression to an end state takes place via a prefigured trajectory, whereby each piece contributes to the next. Life cycle theories often explain development in terms of institutional rules or programmes that require activities to progress in a prescribed sequence (Van de Ven & Poole, 1995). The life cycle theory is predictive in nature (Van de Ven, 1992).

According to Van de Ven (1992), another usual type is teleology process theory, which underlies many theories of administrative behaviour.²³ The teleological theory is based on the philosophical doctrine that the developing entity is purposeful and adaptive, either by itself or in interaction with others. Unlike the life cycle theory, teleology theory does not presume a prescribed sequence of events, although it does imply standards by which change can be judged. Teleological models explain the progression toward an end state that may very well be a temporary one, rather than a long lasting point of equilibrium. The end state can be achieved via multiple paths, implying an assumption of equifinality of the process. The progress, however, is constrained by environmental and resource factors. Theories relying on a teleological process theory cannot specify what specific trajectory developments follow, but can at best suggest a set of possible paths. Teleological theories are, nonetheless, predictive in nature.

The third school, dialectical theory, makes the Hegelian assumption (Hegel, 1812/1975) that the organisational entity exists in a pluralistic world of colliding events, forces or values, either internal or external to the organisation, that compete with each other for domination and control (Van de Ven & Poole, 1995). Stability and change with a dialectical process theory are explained by the relative balance of power between the opposing forces. If the momentum of the antithesis is sufficient to challenge the *status quo*, a novel construction departing from both the thesis and antithesis can be developed as synthesis (Van de Ven, 1992).

In the evolution process theory, change occurs as a recurrent, cumulative and probabilistic progression of variation, selection and retention. In organisation and management applications, evolutionary theory often depicts global changes in organisational populations (Van de Ven, 1992). Although one cannot predict which entity will survive or fail, the overall population persists and evolves through time, according to the specified population dynamics (Van de Ven & Poole, 1995).²⁴ Evolutionary theories, similarly to dialectical theories, explain only how change and development occur, yet they have no predictive capability.

Implications for Process Research

Pettigrew (1992a) further develops Van de Ven's thinking on the developmental process theory, and draws a variety of influences from the research in social sciences in offering five guiding assumptions for strategy process research. First, processes do not exist in isolation. They are embedded in contexts that need to be considered while studying the process in itself, because contexts both internal and external to the organisation shape features of the content and process of strategic development on multiple levels of analy-

²³ For example, the Carnegie school of information processing and decision making (Cyert & March, 1963/1992; March & Simon, 1958/1993; Simon, 1947/1997) is underpinned by a teleological process theory, as is also the social-psychological sensemaking perspective (Weick, 1969/1979, 1995).

²⁴ In addition to organisational population theories, the evolution process theory has been applied to the micro level to explain social-psychological processes of organising (Weick, 1969/1979, 1995) as well as to organisational interpretation (Daft & Weick, 1984).

sis (cf. Ocasio, 1997). Second, process research must not be only about understanding the sequence and flow of events over time, but it must also be about surfacing the recurrent patterns in as well as structures and underlying logics of the process. Third, strategy process research needs to take into account that the processes are both constrained by features of the context as well as also shape the contexts where the organisations and decision makers are embedded in (cf. Ocasio, 1997; Weick, 1969/1979, 1995). Fourth, as a concomitant of the first three guiding assumptions, an investigation over a prolonged period is needed to find a holistic (rather than linear) explanation of process. Fifth, Pettigrew suggests that the process and its outcomes should be linked to exploring how and why variations in context and process shape variability in the observed outcomes.

3.1.3 Concluding Remarks on Scientific Paradigm of Present Study

The scientific paradigm of the present study can be described along the lines proposed by Guba and Lincoln (1994). First, in terms of ontology, the present study assumes that the constructs and the paradigms used by the planners in the domain of business planning are “real”. Further, it is assumed that the strategic issues and processes studied are real, and that they can be described in real terms. Hence the research assumes a realist posture. Second, the research assumes no interaction and bias between the investigator and the investigated, supporting the ideal of objectivity, and, consequently, a realist epistemology. Third, the research aims to use an engaged scholarship approach, again suggesting a realist paradigm. In sum, these views reflect a realist positioning.

3.2 Research Approach

The selected scientific paradigm has implications for the research approach, even though it is not a predetermining factor. The debate on the research approach culminates in the relationship between data and theory (Easterby-Smith *et al.*, 1991). The conventional distinction is made between inductive and deductive strategies: The former starts from specific empirical findings that are generalised to induce new theory. In contrast, the latter starts from a theory that is considered to represent the truth and deduces theories and applications to a more specific problem of field of application (Creswell, 2003). This study follows the logic of inductive theory building.

Van de Ven defines engaged scholarship as “*a participative form of research for obtaining the advice and perspective of key stakeholders (---) to understand a complex social problem*” (2007: ix). The primary aim of an engaged scholarship approach is to resolve the dichotomy of theory and practice (Pettigrew, 2001), and thereby produce knowledge both relevant and rigorous by engaging both practitioners and academics (Hodgkinson *et al.*, 2001; Tushman & O'Reilly, 2007; Van de Ven, 2007). At the heart of the argument for the engaged scholarship approach is that the gap between rigor and relevance (Tushman & O'Reilly, 2007) is a problem of knowledge production and not one of knowledge transfer. The engaged scholarship approach stands in a position to address the “knowledge production problem” by focussing on a research problem that is grounded in reality, conducting the research as a collaborative effort of researchers and

practitioners, allowing for an extended research period, and using multiple models and methods (Van de Ven & Johnson, 2006).

3.2.1 Real-Life Research Problem

A research approach building on the notion of engaged scholarship is particularly suited to increasing the understanding of how strategic issue management operates in a real-life corporate setting. Not only is strategic issue management certainly a complex, social phenomenon as defined by Van de Ven (2007), it remains an under-researched area, at least from a practitioners' standpoint (Kajanto *et al.*, 2004). Moreover, from the academic standpoint, the focus in strategic issue management research has been on individual strategic issues rather than on the entire strategic issue management system of the corporation.

The research problem of this dissertation then acts as a suitable starting point for an engaged scholarship approach. The research problem is grounded in a fundamental challenge that corporations face, as senior executives frequently express their frustration for calendar-driven planning cycles (e.g., Beinhocker & Kaplan, 2002).

As for the criticism that practitioner involvement in formulating the research problem may steer into narrow, short-term or particularistic directions (Brief & Dukerich, 1991; Grey, 2001; Kilduff & Kelemen, 2001), the author shares the view that heedful accommodation and integration of diverse viewpoints yields a richer understanding of the question being investigated than the sensemaking of a single stakeholder (Morgan, 1983; Van de Ven & Johnson, 2006; Weick, 1995). In essence, by moving back and forth between the observation of natural phenomena, the construction of abstract models, and subsequent testing and refinement of theory, theory of higher quality can be developed (Chatman & Flynn, 2005; Tushman & O'Reilly, 2007).

3.2.2 Joint Academic and Practitioner Research Team

Consistent with the engaged scholarship approach, the "knowledge production problem" (Van de Ven & Johnson, 2006) can be mitigated by improving the exchange of knowledge between researchers and practitioners. For this to happen, research needs to take place in collaboration with practitioners while designing, conducting and implementing research in real-life settings (Anderson *et al.*, 2001; Lawler *et al.*, 1985; Miller *et al.*, 1997; Rynes *et al.*, 1999). In particular, research teams where some researchers in a setting are relative insiders, whereas some are relative outsiders have been argued to offer distinct advantages for integrating diverse perspectives on the problem under study (Evered & Louis, 1981; Louis & Bartunek, 1992; Van de Ven & Ferry, 1980).

While conducting research in a joint academic and practitioner research team can help in creating theory which is both rigorous and relevant, some important concerns have been expressed: the scientific requirements of internal and external validity may be difficult to meet (Cook & Campbell, 1979; Sackett & Mullen, 1993), practitioner involvement may compromise the independence and objectivity of the research (Beyer & Trice, 1982; Grey, 2001; Hackman, 1985), practitioners may be unwilling to release results of research for publication (Lawler *et al.*, 1985), and organisational pressures and events

may compromise or sacrifice the research methods and goals (Rynes *et al.*, 1999). However, these risks are not particular to the engaged scholarship approach but, to all collaborative research in general (Van de Ven & Poole, 2002), and can be mitigated through the careful design of the working group (Amabile *et al.*, 2001).

3.2.3 Longitudinal Research

Pettigrew (1992a) proposes that longitudinal studies are needed to get to holistic explanations about strategy process. Indeed, a longitudinal approach is likely to be indispensable in any research dealing with organisational change (Huber & Van De Ven, 1995). In essence, a longitudinal approach allows for the examination of the direction of causality as well as the association between organisational attention, organisational moves and cognitive change over time. Moreover, longitudinal research promotes deeper learning because it provides repeated trials for approximating and understanding the research question (Van de Ven & Johnson, 2006). For an engaged scholarship approach, an extended duration of the research allows for building meaningful relationships between the researchers and practitioners (Mintzberg, 1979; Van de Ven & Johnson, 2006).

However, longitudinal research faces the strategic issue of recall bias if the data collection takes place *ex post*. To mitigate this risk, research can accommodate a rich variety of data sources, including interviews, archival data, survey data, ethnographies, and observations (Eisenhardt & Graebner, 2007). Jick suggests that “*organizational researchers can improve the accuracy of their judgments by collecting different kinds of data bearing on the same phenomenon*” (1979: 602). In fact, Fiol (1995) has found that private and public communications can differ materially from each other. Furthermore, retrospective bias can be reduced through triangulating, using multiple informants and cross-checking against archival and public documents (Yin, 2003).

3.2.4 Multi-Method and Multi-Level

This dissertation employs multiple research methods that are needed to understand a complex reality (Van de Ven & Johnson, 2006). The use of multiple methods concurrently allows us to distinguish between features of reality and features that are merely a function of the theoretical framework applied (Azevedo, 1997). Comparing and contrasting multiple models reflecting different perspectives is essential for discriminating amongst error, noise, and robust information about a complex problem being investigated (Van de Ven & Johnson, 2006). The combination of inductive and deductive approaches allows, on the one hand, the deepening of understanding of the complex processes at work in strategic issue management in the inductive logic, whereas on the other hand allows testing of the relative importance of some those processes on strategic issue management outcomes (Dougherty, 2002). In the terminology used by Van de Ven and Poole (2005), this represents a combination of the variance and process approaches of research.

The empirical part of this dissertation begins with an inductive research approach that aims to increase understanding of how strategic issues are processed in a real-life organisation. This approach is applicable to the analyses in Chapters 4 and 5, where the evolution of a single strategic issue, and the cognitive space of the issue processing are

discussed, respectively. In its inductive logic, this research draws on ideas from the grounded theory building approach (Glaser & Strauss, 1967), which assumes that social life is inherently complex, and that outcomes are produced by ongoing interactions amongst people within a particular context (Strauss, 1987). This line of research aims at understanding why and how structures, conditions or actions may arise (Dougherty, 2002), and focuses on understanding the complex interrelationships of a phenomenon (Stake, 1995).

The inductive logic of research in a qualitative study is fundamentally about building from the data to broad themes to a generalised model or theory. The process typically begins by collecting information from the participants, after which the data is analysed to form themes or categories. These themes and categories are the basis for broad patterns, generalisations or theories that can be later drawn from them. Finally, the generalisations or theories are compared with past experiences or extant literature (Creswell, 2003). The fundamental objective is to build, rather than to test or verify theory.

The final empirical part of this dissertation in Chapter 6 integrates extant literature from Chapter 2 and emerging findings from Chapters 4 and 5, and applies a deductive logic to test and verify the theory. In general this type of process entails the development of hypotheses based on theory, collects data to test them, and reflects on the confirmation or disconfirmation of the theory by the results (Creswell, 2003). In contrast to the inductive approach, the fundamental objective is to test or to verify, rather than to build theory.

This dissertation can also be viewed as incorporating many aspects of the case study approach. Yin (1981: 59) defines a case study as an “*empirical inquiry that examines a contemporary phenomenon in its real-life context (---) when the boundaries between phenomenon and context are not clearly evident*”. Similarly, Eisenhardt (1989b: 534) describes the case study as a research approach that “*focuses on understanding the dynamics present within single settings*”. Case studies are a suitable method of theory building when little is known about the phenomenon, or current perspectives seem inadequate or conflicting (Eisenhardt, 1989b). Yin (2003) asserts that the applicability of the case study approach depends on the type of research question, the extent of control over behavioural events, and the degree of focus on contemporary as opposed to historical events. The case study approach is used to generalise the case results into a theoretical framework, focussing on finding cases that predict similar results, or produce contrary results with predictable reasons. Then, analytical generalisation is used for building the theory from study.

In terms of the case methodology, this dissertation leverages a single, nested case design (Eisenhardt, 1989b; Eisenhardt & Graebner, 2007). Using a single case design makes sense for the purposes of uncovering the micro-mechanisms associated with strategy making processes (Pettigrew, 1987), and can richly describe the existence of a phenomenon (Siggelkow, 2007). Restricting the research to a single case also helps to eliminate the potentially distracting influence of differing structures and strategic issue processing practices of different firms (Thomas & McDaniel, 1990). Furthermore, the use of single-case studies is justified when they are unusually revelatory, or opportuni-

ties for unusual research access exist (Yin, 2003), both of which apply in the present context.

In addition to a research approach embracing multiple methods, this dissertation addresses the research problem also on multiple levels of analysis (Babbie, 1998; Dansereau *et al.*, 1999; Garud & Kumaraswamy, 2005). On the one hand, the focus is on the macro-level operations of the strategic issue management system of the company (e.g., Ansoff, 1980), and its strategy formulation at large (Hutzschenreuter & Kleindienst, 2006). These include the analysis of longitudinal issue evolution in Chapter 4, and the analysis of cognitive space of issue processing in Chapter 5. On the other hand, the focus is on the micro-level mechanisms of strategy making (Johnson *et al.*, 2003). These include many of the features analysed in Chapter 6 that pertain to, for example, meeting-level practices of strategic issue processing.

3.3 Research Design

3.3.1 Research Setting

Industry and Case Company Context

The industry context for the research setting was selected from the high-tech industry, and, in particular, the information and communications technology sectors. During the timeframe under study from the latter half of the 1990s towards the early years of the 2000s, the industry was experiencing rapid growth in terms of diffusion of information and communications technologies. While the roots of this evolution were in the 1970s with the introduction of modern microelectronics (e.g., Koski *et al.*, 2001), it was during the 1990s when the industry experienced a true sea change. Not only did the technological diffusion in the industry reach new heights as the internet became a true mass market technology, but also the commercial potential of information and communication technologies was realised. At the same time in the 1990s many national markets were opened up to international competition. Internationalisation progressed rapidly also in the financial sector that was further fuelled by overall positive economic environment. All this led to a widely held belief that traditional economic logic and laws were outdated in an environment driven by these new information and communications technologies (Koski *et al.*, 2002).

The American press heralded this as the “New Economy” (Mandel, 1996), and publishers came out with strategy guidebooks for the new era (e.g., Cronin, 1996). The party, however, came to an abrupt end in the early 2000s, as the “irrational exuberance” (Greenspan, 1996) of the “new economy” ended with the burst of the internet bubble (Goldfarb *et al.*, 2006; Ofek & Richardson, 2003), decimating the market capitalisations of many internet companies and driving the global economy into a downturn. Overall the boom-and-bust cycle is not unlike the developments that transpired in the adoption of other significant technological advances, namely the inventions of steam, railroads and electricity that fuelled the first and second industrial revolutions (IMF, 2001).

Few, if any, companies were immune to the effects emanating from these kinds of changes in their broader environment. First, as the economy headed into a downturn, many companies were affected as their target markets experienced plateaus or even contracted. This effect was particularly pronounced in the information and communications industry, where the hangover from the “new economy” effectively not only halted corporate investments but also curtailed consumer spending. Second, investors overwhelmingly gave up their focus on “internet companies” with a great technological idea but no business to speak of, thus putting more pressure on the more solid companies in the market to deliver results. Overall a great deal of uncertainty prevailed in the industry from the crash up until 2003, when markets began to pick up again.

After the bubble had burst and the economy started improving again, the information and communications technology industry continued on its growth track, yet in more modest terms. At the same time, the industry underwent substantial technological changes, and there were significant business logic changes, and the entrance of new competitors took place.

The high-tech industry is ideally suited to studying strategic issue management practices, as it is characteristically a high-velocity environment (Eisenhardt, 1989c). In such environments, the ability of the company to react to and even anticipate changes can set it apart from its competitors, underscoring the role of responding to emerging strategic issues. Competitive positions are continuously threatened and advances in technology open up new fields of competition. The industry faces a fast pace of innovation in all aspects, including technology, suppliers, competitors, and customers. Such an industry therefore ensures a sufficiently large number of strategic issues to focus on.

Case Company and its Strategic Issue Management Practices

The research was carried out in a large, global high-technology company headquartered in Europe, with branch offices in the United States and abroad. All in all, the company has an extensive global presence in more than 100 countries. The company employed between 30,000 and 60,000 workers and generated between USD 25 and 50 billion in turnover in 2004. During the research period, the company has been one of the leading companies in its markets, being either the first or second player in terms of market share.

Strategy work is carried out throughout the organisation. A dedicated strategy unit is responsible for facilitating corporate-level strategy process and supporting business strategy development. Strategy work is also carried out in business groups, which all have their own strategy functions. In this respect the planning mode is fractal-like: in addition to the corporate strategy unit, each business group has its own planning staff and so on down to lower levels of the organisation.

The company employs an annual planning cycle to determine the overall focus of the corporation and its businesses as well as to assure coherence and cooperation between the entities. The annual process focuses on evolutionary rather than revolutionary

changes. Strategic plans are rolled down into more specific operational plans for all units as well into employee-level target-setting.

The annual planning work is complemented by ongoing strategy work, which is driven by strategic issues that the company faces. It deals with developments that can have an important impact on the corporation, and it is thus likely to address more fundamental strategic concerns. To qualify as a strategic issue, the issues have to have corporate-wide importance and hence they are typically cross business group issues; issues which do not fall directly into any business group; or issues which merit corporate-level attention due to their importance, even though they fall into a specific business group.

Over the course of the three-year study period for the entire strategic issue portfolio, the corporation addressed in total 16 strategic issues through its strategic issue management process. For reasons of confidentiality, these strategic issues are labelled as I01...I16 in the subsequent discussion. The substance of the strategic issues is not a particular concern in this study, since the purpose at hand is to describe the implementation of the strategic issue management process rather than the particular substance discussed. The author has had, nonetheless, access to the specific strategic issue substance to broaden the thinking in the present discourse.

The progress of strategic issue processing in the corporation can be divided into a number of topics. Topics represent active work that typically took place in a taskforce mode, following which a decision was taken. Each of the 16 strategic issues can therefore be broken down into specific topics as presented in Figure 3.1. Each topic is associated with a specific decision episode taking place in a meeting of the strategic issue management board of the corporation.

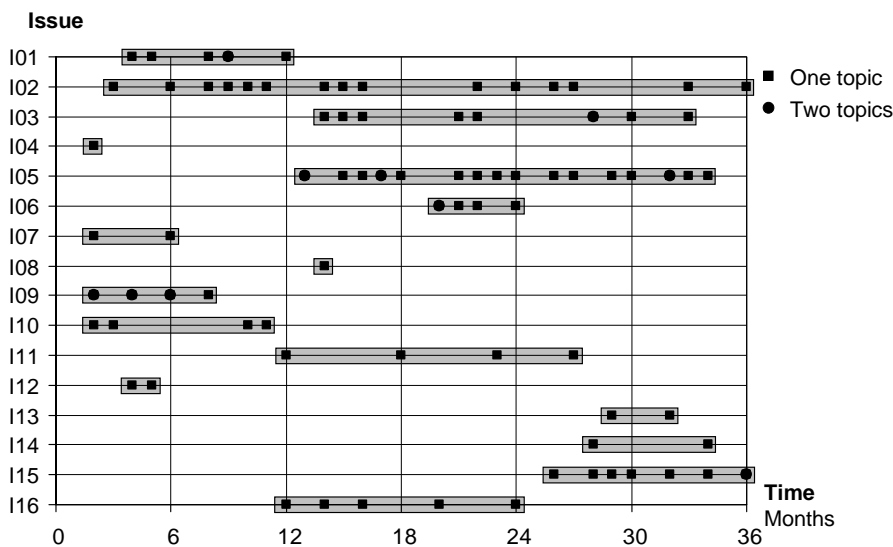


Figure 3.1 Breakdown of 16 strategic issues into 92 topics over time

Depending on the analyses in this dissertation, either the level of the 16 strategic issues or their 92 constituent topics is used (Babbie, 1998). First, Chapter 4 – analysing how a

single strategic issue is processed within the strategic issue management system of the corporation – uses the level of the 16 strategic issues as the unit of analysis. Second, Chapter 5 – in linking the cognitive space of the corporation to the categorisation and processing of strategic issues – analyses the level of strategic issues utilising the topic-level as unit of observation. Third, in Chapter 6 – linking organisational attention allocation with the performance of the strategic issue management system – the unit of analysis is the decision making situation regarding an individual topic.

3.3.2 Data Collection

The research makes use of multiple sources of data of both qualitative and quantitative in nature (Yin, 2003). By using a variety of different means to gather the data for the research, triangulation and validation of the data can be achieved. Data collection was concluded when a level of saturation was reached (Glaser & Strauss, 1967).

The analyses started in 2003 and the research team consisting of five people spent hundreds of hours during 2003 and 2007 in different tasks tracking and analysing the strategic issues and in searching for ways to quantify their different characteristics. Two members of the research team (one being the author of this dissertation) have worked in the case company's corporate planning unit, providing unrestricted access to all the internal materials and discussions concerning all the strategic issues that had been processed during the time period of the analysis. However, since these people had also been important actors in the strategic issue management process, a number of precautions had to be taken to ensure that the data was non-biased.

One of the ways to eliminate subjectivity was that the two internal people involved in the analysis process cross-checked each other's judgments. A good degree of convergence was found in the ratings. The second stage of verification took place when the strategic issues were discussed together with the internal and external members, and where the judgments were discussed and compared to the descriptions of the strategic issue histories. In addition to these subjectivity checks, several alternative measures for the different strategic issue characteristics were developed, and measures that could also be quantified *ex post* were emphasised. For example, to ensure external validity of the perceptual measures, a text analysis of the original meeting notes was carried out, concluding that the total investment made into a strategic issue correlated strongly with the number of words used in strategic issue reporting.

Interview Data

Key managers of the company under study were formally interviewed, some of them repeatedly, during 2004-2006. The list of interviewees comprises managers from different levels, different functional groups, and different organisational entities who had been involved in or affected by the investigations, discussions or decisions of the case.

Table 3.1 lists the interviewees and their positions while involved with the case. For reasons of confidentiality, the interviewees are presented under pseudonyms.

Table 3.1 Interviewees and their positions

| Pseudonym | Position while involved with the case |
|------------------|--|
| Brian Smith | President |
| Paul Thompson | Senior Vice President, CxO |
| George Brown | Vice President, Sales |
| David Harris | Vice President, Business Development |
| Daniel Moore | Director, Strategy Development |
| Richard White | Manager, Strategy Development |
| Charles Jackson | Manager, Business Intelligence |

The interviews were semi-structured and thematic (Denzin, 1989; Kvale, 1996; Wengraf, 2001), and were from one to three hours in length. In general, structure is needed to explain behaviour within pre-established categories, but the unstructured approach allows us to understand the complex behaviour of members of a society without imposing any *a priori* categorisation that may limit the field of inquiry (Fontana & Frey, 1994). Detailed interview notes were made from all of the interviews, with some of the interviews and discussions also recorded and transcribed *ad verbatim*. All the interviews were conducted on site. The interviewer typically invited the interviewee to recount the key events of his involvement in the development of the strategic issue, after which the discussion was directed to more particular questions. As the understanding of the evolution of the strategic issue became more exhaustive, the interviews became more structured. In addition to the interviews, informal discussions helped to clarify details and corroborate the interview findings.

Archival Data

The research also utilised an extensive amount of archival data. These included company annual and quarterly reports, press releases, trade journals, general business press, and market and financial analyst reports. Furthermore, the researcher was granted access to management meeting presentations and minutes as well as various working documents that pertained to the evolution of strategic issues. This archival data was contrasted with the data obtained through interviews to validate the interview data further (Golden, 1992). The archival data also allowed a construction of a chronology of key events of the case that could be used in the interviews.

Archival data also provided a basis for a quantitative examination of the case. This part of data collection covers a period of three years, which is less than the whole duration of the strategic issue analysed as a case study. This particular reference period was used because commensurate data was obtainable, both for the particular case as well as the overall portfolio of strategic issues. Nonetheless, this duration can be effectively used to illustrate the dynamics of the case *per se* as well as in relation to the overall portfolio of strategic issues, since the bulk of the activities related to the case took place under the reference period.

In addition to assigning the timing and giving the episode an abstract, the episodes were categorised by type, organisational bodies involved, and nature of work. The main contributors were identified and the share of the attention estimated. Decision episodes, specifically, were assessed on a plethora of additional dimensions (see Table 3.2). For dimensions that were not numerical by nature (e.g., perceived uncertainty associated with the topic), indicative values were assigned for purposes of statistical analyses.

The decision episodes were categorised by two strategy managers according to a predetermined classification scheme. The strategy managers, who worked in the corporate headquarters, were fully conversant with the strategic issues. However, it should be noted that any effort to classify strategic issues through a classification scheme is potentially subject to inaccuracy and distortion, not least because the strategic issues by their very nature are multifaceted and complex.

Table 3.2 **Classification scheme for topics**

| Dimension | Classification | Assigned values |
|--|---|--|
| Source of topic | <ul style="list-style-type: none"> • Top management • Escalated from business • Planning process | n/a |
| Value at stake | <ul style="list-style-type: none"> • Low – Value impact less than 0.5% of market capitalisation • Medium – Value impact between 0.5% and 5% of market capitalisation • High – Value impact more than 5% of market capitalisation | <ul style="list-style-type: none"> • 0,25 • 2,5 • 7,5 |
| Uncertainty | <ul style="list-style-type: none"> • Procedural • Structural • Fundamental | <ul style="list-style-type: none"> • 1 • 2 • 3 |
| Implementation challenge | <ul style="list-style-type: none"> • Procedural • Structural • Fundamental | <ul style="list-style-type: none"> • 1 • 2 • 3 |
| Nature of work (in preceding task episode) | <ul style="list-style-type: none"> • Scanning and undirected research (i.e., almost a “pre-issue” stage) • Directed research and gaining understanding (i.e., “it is a strategic issue, but we're not quite sure what to do with it yet”) • Planning for action (getting ready to implement) | n/a |
| Resourcing | <ul style="list-style-type: none"> • Low – “One man show” • Medium – 1...10 people (actively) involved • High – More than 10 people (actively) involved | <ul style="list-style-type: none"> • 1 • 5 • 15 |
| Amount of discussion notes | Number of words in meeting minutes for topic | n/a |

| | | |
|-----------------------------|--|---|
| Number of members involved | Number of members of the issue management board involved in preparing the topic for decision making | n/a |
| Number of visitors involved | Number of visitors (i.e., non-members of the issue management board) involved in preparing the topic for decision making | n/a |
| Rightness of decision | <ul style="list-style-type: none"> • Right • Somewhat right • Neutral • Somewhat wrong • Wrong | <ul style="list-style-type: none"> • +2 • +1 • 0 • -1 • -2 |
| Impact of decision | <ul style="list-style-type: none"> • No concrete impact • Focussed impact on limited scale • Wide impact and implications for subsequent work | <ul style="list-style-type: none"> • 0 • 1 • 2 |

The following discusses in detail each of the dimensions used to classify the issue topics for the analyses.

Source of topic. Strategic issues may emerge from multiple sources into the organisation's agenda. First, they can be noticed and put forward by top management, given that strategy is the domain of senior management in particular (Mintzberg, 1973). Second, strategic issues can be escalated from the various business units of the corporation, because business-specific issue may require input from the corporate level (Jackson, 1992). Third, since strategic issue management represents a complement to the calendar-driven planning process, open issues may be fed from the planning process into the issue management process (Ansoff, 1980; Dutton & Duncan, 1987b).

Value at stake. The purpose of any business enterprise is to increase its shareholder value (Lazonick & O'Sullivan, 2000; Prahalad, 1994; Rappaport, 1986). Strategy is one important constituent element to that end, and its formulation should be focussed on the most significant decisions of the company (Porter, 1980). Therefore the most significant strategic issues that a company faces should also be the ones with the highest value at stake. Since defining exact values at stake can be difficult particularly in the absence of detailed financial models for each and every decision, the classification is operationalised by assessing the likely range of value at stake. The market capitalisation of the studied company during the time period of study ranged between USD 50 and 200 billion. Relative instead of absolute value at stake was used, since it better reflects the relative importance of a given decision *vis-à-vis* others and need not be recalibrated over time. Put differently, relative classification considers the decision within the decision making context of the management in the particular company.

Uncertainty. Strategic issues are typically associated with high levels of uncertainty, which can influence both the interest the issues raise (Dutton & Webster, 1988) as well as their processing (Dutton & Duncan, 1987a). Reduction of uncertainty associated with

a strategic issue is a key task for the issue management process, where sense is made of otherwise ambiguous and equivocal strategic issues (Weick, 1995). For the purposes of this dissertation, uncertainty is defined as follows: Procedural uncertainty refers to a situation where the uncertainty can be recognised procedurally, and where the uncertainty can be resolved analytically. In structural uncertainty, existing structures prevent the recognition of the issue as well as prevent resolving the uncertainty. Fundamental uncertainty refers to a situation where a fundamental inability to know regardless of analysis exists. However, fundamental uncertainty can be resolved over time (Kajanto *et al.*, 2004).

Implementation challenge. Similarly to the inherent uncertainty regarding the strategic issue, the perceived implementation challenge is likely to influence its processing (Dutton & Duncan, 1987a; Kuvaas, 2002). For the purposes of this dissertation, implementation challenge is defined as follows: in a procedural implementation challenge, existing structures do not restrain implementation, yet successful implementation is still dependent on the ability to plan and commit people appropriately. A structural implementation challenge refers to a situation where the prevailing structures and assets do not provide support for implementation. Rather, they would pose a barrier to implementation by either contradiction or cannibalisation. In fundamental implementation challenge, implementing the change is almost impossible (e.g., breaks the laws of nature, technology may be impossible to develop). However, as with the similar type of uncertainty, fundamental implementation challenges may be mitigated through time (Kajanto *et al.*, 2004).

Nature of work. The processing of strategic issues can be defined as comprising three different stages, namely (i) Scanning, undirected research and problem recognition, (ii) Directed research and gaining understanding, and (iii) Planning for action (Kajanto *et al.*, 2005). Each of the stages of the strategic issue management process entails different types of activities being performed by the organisation. First, in scanning stage, information is being acquired about potential strategic issues (Aguilar, 1967). Second, in directed research stage, strategic issues are recognised, isolated for further consideration, and interpreted (Dutton *et al.*, 1983; Mintzberg *et al.*, 1976). Third, in planning for action stage, more detailed plans to implement the issue are made, buy-in is solicited from various organisational members, and momentum for change is created in the organisation (Dutton & Ashford, 1993; Dutton & Duncan, 1987a, b).

Resourcing. Strategic issues are often processed in taskforces that can have anything from a focussed to very extensive participation (Ansoff, 1980; Jackson, 1992). Task force size in itself has been found to be dependent on inherent characteristics and perceptions of strategic issues (Dutton, 1986a). Resourcing is therefore likely to illustrate both how important the strategic issue is perceived as being as well as the difficulty of resolving it.

Amount of discussion notes. Discussions in the strategy board meetings are captured in meeting minutes. Longer discussions – typically on more ambiguous and equivocal issues – are likely to result in longer notes, thus acting as a proxy for allocation of meeting time within the meeting (cf. Yu *et al.*, 2005). Moreover, since making sense of stra-

tegic issues takes place through the use of language (Weick, 1995), the length of meeting notes indicates the extent of sensemaking carried out for the strategic issue.

Number of members and visitors involved. Strategic issue processing in a corporation can rely extensively on the wide-ranging participation of the organisation, with much activity centred around a few key individuals but complemented by a large number of additional strategic issue management board members and visitors (i.e., non-members) (Jackson, 1992; Kunnas *et al.*, 2006). The composition of the participants is also likely to influence the processing of strategic issues (Dutton & Duncan, 1987b). Therefore the number of members and visitors to the strategic issue management meetings are likely to reflect the different knowledge and competencies required to process strategic issues, depending both on their characteristics as well as the stage of the process.

Rightness of decision. Strategy formulation should result in making decisions that resolve the given strategic problem on a rational basis (Allison, 1971). This implies that the rightness of the decision – assuming an optimal solution (cf. Taylor, 1911) – becomes an important measure of success of a strategic issue management system. The rightness of the decision describes the ability to of the strategic issue management system to produce the correct outcomes.

Impact of decision. The strategic issue management system needs not only to generate the right decision, but it also needs to generate momentum for change (Dutton & Duncan, 1987a). However, not all decisions – even if they were the correct ones – are implemented and lead to strategic change (Ocasio, 1997). Therefore the impact of the decision made is the other main success measure of a strategic issue management system (Schendel, 1992).

3.3.3 Data Analysis

The analysis proceeded in stages. First, the analysis focussed on making sense of the strategic issue management system of the case company in general by using a combination of grounded theory strategy and quantification strategy (Langley, 1999). The former was used to make sense of the organisation and its industry context, including the way the case company formulated its strategy both in its annual planning cycle, as well as in its ongoing strategic issue management process. Not only did this approach provide a thorough foundation for the rest of the research, it provided important clues into what the dimensions to be used when applying the quantification strategy should be. In other words, the significance of this work was to make sense of how the strategic issues themselves were processed in the strategic issue management system of the company, but also how that system is both explicitly and implicitly linked to the other processes and functions of the company.

This stage of the analysis heavily leveraged the research team's ability to rely on two members that were part of the case company, thus providing an in-depth understanding of the organisational phenomena in strategic issue management (cf. notion of clinical research; Normann, 1975). By combining the viewpoints of researchers and practitioners, the research team was able to generate a rich description of how strategic issue

management operates in the case company, and how it is linked to the overall mechanisms for attention allocation in the organisation. This comparative approach helped to gain further perspective on the data available (cf. Pettigrew, 1990). The resulting descriptions also allowed for comparing the case company's strategic issue management practices with other leading companies: The research team interviewed representatives of other companies as benchmarks, and studied the secondary material that is publicly available on the strategic planning practices of corporations such as Hewlett-Packard and IBM (Kajanto *et al.*, 2004). This helped to further validate the research concepts to be applied in the study going forward.

This sensemaking process provided the foundation for the quantification strategy. Based on the understanding of the strategic issue management system, a rich set of unique data was collected for a plethora of dimensions for all of the 92 topics that constituted the 16 strategic issues the case company faced over the study period. The 92 topics were then coded based on a predetermined classification scheme (see Table 3.2 for details) to form a strong dataset that could be used for statistical testing (cf. Van de Ven & Poole, 1990).

Second, a narrative strategy was applied (Langley, 1999). The first stage of research suggested that performing a “deep-dive” into one of the most central strategic issues could provide further illustration of how attentional processes on the organisational level affect the processing of a strategic issue over time. Drawing both on the qualitative and quantitative dataset compiled in the first stage, key organisational participants involved in the strategic issue throughout its lifespan were identified and interviewed. The interviewees varied in terms of their positions during the lifespan of the strategic issue from middle up to senior management. Individual interview meetings were set up and conducted by one of the company insiders part of the research team. In addition to providing their views and recollections of the events, the interviewees provided additional documentary material from their own archives, including presentations at various stages to top management. This approach enabled the development of a “thick” description (Lincoln & Guba, 1985) that helped to uncover the causal links that show how strategic issues are processed in organisations. Specifically, an explanation-building approach is used as analytic tool (Yin, 2003).

Once the initial interviews were conducted and compared to the picture derived from the archival data to assess validity, a chronology of key events was constructed (cf. Burgelman, 1996). The list of key events was then further analysed to achieve understanding of organisational phenomena in strategic issue management by providing a “vicarious experience” of a real setting in all its richness and complexity (Lincoln & Guba, 1985: 359). What emerged from the analysis of the chronology of key events was a pattern of cyclicity not unlike that observed earlier by Mintzberg *et al.* (1976). Within this cyclicity, the attention allocation processes of the organisation could then be analysed in more detail as they pertain to the different phases of strategic issue management, including scanning, directed research and planning for action. Further analysis – as presented in Chapter 4 – through the lens of strategic issue management provided further insights into the social, distributed nature of the strategic issue management process across the organisation, highlighting the role of social and organisational cognition (Ocasio, 1997) in the process.

Third, an innovative way to map the cognitive space of the strategic issue sensemaking process was developed utilising text analysis. Use of cognitive spaces to depict and explore the cognitive structures of members of organisations facing complex strategic issues has become well-established in recent years (Eden, 2004). The benefit of graphical representations of cognitive spaces lies in their ability to simplify the complexity of organisational cognition (Eden *et al.*, 1992). Graphically presented cognitive spaces make it “*relatively easy to see how each of the concepts (---) relate to each other, and to see how the overall structure of the whole set of portrayed assertions*” (Axelrod, 1976: 5). In other words, cognitive spaces can be seen as a visual aid in comprehending the understanding of particular elements of thoughts of an organisation (Eden, 1992a), and what the relationships between cognitive elements are (Huff & Fletcher, 1990).

This research builds on Bougon’s (1992) notion that a congregate cognitive space is inherently linked to the strategy of the organisation, rather than an aggregation of individual cognitive spaces of top management team members. Thus the congregate cognitive space provides a holistic picture of the organisation’s overall perspective (Jenkins & Johnson, 1997), and allows reflecting managerial perceptions of strategic issues they face (Clarke & Mackaness, 2001; Eden, 2004).

Yet because there are few well-developed, standard methods of constructing depictions of cognitive spaces, the analysis needs to be within the context of a clear theoretical framework and analytical purpose (Eden *et al.*, 1992). Similarly the terminology to describe cognitive maps is to date scarce (Walsh & Fahey, 1986). Eden (1992a) argues that the ability of the map to model the cognitive space depends particularly on the method of elicitation of cognition, to which there are but a few well-developed methods (Eden *et al.*, 1992). The concern lies primarily in the way that most representations of cognitive spaces are built based on interviewing: According to Weick (1995) articulation and thinking interact, thus making the elicitation of cognition “out-of-step” with cognition before, during and after the elicitation process.

To build a congregate cognitive space to illustrate the processing of strategic issues in the case company, this research leverages the discussion notes from the strategy board meetings in the case company. Covering all 92 topics constituting the entire strategic issue portfolio of the case company over three years, the discussion notes provide a unique view into the cognition of the management of the case company. Although recorded by a single individual (the same person throughout the study period) and thus prone to biases, the discussion notes have been circulated as standard practice shortly after the respective meeting amongst the participants to scrutinise the notes and provide feedback. Therefore the discussion notes can be seen to reflect the congregate view of the senior management rather than just the view of a single individual.

A text analysis was performed on the discussion notes to identify the most common words in the set of discussion notes over a three year period. First, the 20 most common words (excluding articles and prepositions) used to document the strategy board’s discussion on strategic topics were identified. Second, each of the 92 topics constituting the strategic issues was then coded into 20 item vector corresponding to the occurrence

of these 20 words, which turned out to be a sufficiently fine-grained classification to generate insights into how management made sense of different types of topics.

Third, social network mapping software UCINET (Borgatti *et al.*, 2005) was then used to analyse the co-occurrence of the same words across topics. The so-called ‘spring embedding’ algorithm was applied to perform a clustering of the topics in the network diagram according to the geodesic distances between each pair of words, as determined on the basis of their co-occurrence in the notes of different strategic topics. The spring embedding algorithm was superior to other network theoretical visualisations of the concept relationships. For example, the principal component analysis tended to focus on the most commonly occurring words such as ‘business’, ‘market’, or ‘strategy’ and lump all the other less commonly occurring words together into the same cluster. The spring embedding algorithm enabled better visualisation of the largely implicit dimensions used by management when trying to make sense of the emerging strategic issues. In doing so, the complexity of cognitive spaces can be simplified through clusters, as the cognitive space breaks down into a system of interrelated themes (Eden, 2004) that can be analysed further, both in regard to the properties of the clusters themselves as well as the relationships between clusters.

The results of the text analysis were used predominantly in the analyses that illustrate the effect of cognitive space on the processing of the strategic issues on the system level, as described in Chapter 5. In addition, the strategic issue categories constructed were utilised to augment the dataset from the first stage of the research to be used in the statistical analyses (Chapter 6).

The statistical analyses were carried out using ordered logit regression. All the regressions were performed using White’s heteroscedasticity-adjusted robust standard errors. The data was also tested for multicollinearity problems inherent in the research setting.

Throughout the research process, the emerging insights were continuously checked for validity in discussions with the project team, case company managers, and other experts (e.g., industry peers, other researchers). These discussions resulted in numerous revisions and redefinitions of the constructs applied (cf. Brown & Eisenhardt, 1997), and helped to develop and refine the insights emerging from the analysis.

4 Evolution of a Strategic Issue

This chapter presents the evolution of a single strategic issue over time. Throughout the discourse, the point of view is distinctly on the strategic issue management procedure and its phases, from scanning through directed research and into planning for action. However, the chapter serves also to demonstrate how attention allocation and sensemaking processes influence the evolution of the strategic issue. Using an inductive logic, this chapter aims at highlighting key aspects of strategic issue evolution that will be explored in more detail in the subsequent chapters of this dissertation.

The discussion is structured as follows: first, a brief theoretical background is presented to set the context for the subsequent discussion. Second, an analysis of the case development (largely in chronological order) is presented. Third, the key findings of the analysis are presented, including (i) Cyclicity of strategic issue processing, (ii) Strategic issue urgency and timing, (iii) Multiplicity of strategic issue categorisation, (iv) The social, distributed nature of the process, and (v) Shifting taskforce composition.

4.1 Theoretical Background

The development of strategic issues is inherently a cyclical process, as strategic issues can only rarely be resolved in a single instance but typically require multiple, subsequent elaborations and decisions. Strategic decision processes usually begin with little understanding of the decision situation or the route to its solution, and only a vague idea about the solution and its eventual evaluation (Mintzberg *et al.*, 1976). During the various stages of the sensemaking process (Weick, 1995), the strategic issue is categorised (Dutton & Jackson, 1987), diagnosed (Dutton & Duncan, 1987a; Dutton *et al.*, 1983) and interpreted (Dutton, 1993). The definition of the strategic issue is likely to change, as understanding increases: They may emerge with a narrow focus at the time of initiation, but expand over time (Dutton, 1983), or may begin as a broad problem formulation and become focussed on more particular concerns during its duration (cf. Chapter 4 of this study). The cycles of sensemaking do not need to be strictly sequential, though, as gaps in strategic issue processing may occur (Dutton, 1983).

In particular for strategic issue categorisation, framing has been established to have an important bearing on the response the strategic issue elicits in the organisation (Chattopadhyay *et al.*, 2001). Particularly the framing of the strategic issue to represent either a threat or an opportunity has been a significant area of research (e.g., Dutton & Jackson, 1987; Jackson & Dutton, 1988). The argument for the influence of framing on organisational action is essentially two-pronged: First, threat-rigidity thesis (Staw *et al.*, 1981) posits that there are general tendencies for individuals, groups and organisations to behave rigidly in threatening situations. Second, prospect theory (Kahneman & Tversky, 1979) states that presence of risk in decision situations influences the decision made. These suggest that categorisation appears to influence the direction of organisational actions, particularly when the events are categorised as threats. The results show

that control-reducing threats lead to more conservative internally directed actions, and that likely losses lead to riskier externally directed actions (Chattopadhyay *et al.*, 2001).

Furthermore, in relation to the cyclical nature of strategic issue processing in organisations, framing needs to be understood longitudinally (rather than in single-period models; cf. Gilbert, 2006). Each of the main phases or periods of the issue's duration may exhibit distinct framings. Put differently, once the strategic issue definition changes, previous framings may or may not apply in the changed context. (The same obviously applies also to key assumptions as well as cognitive maps made of the strategic issue.)

The involvement of the organisation and its actors can vary widely in different modes of strategic issue management. Group composition is likely to play a significant role both in the way strategic issues are processed and how good the decisions reached are (Jackson, 1992). For example, the diversity of participants is likely to lead to a greater number of strategic issues with broader scope identified (Dutton & Duncan, 1987b). Diversity can be the result of the involvement of, for example, both staff and line managers (Dutton & Duncan, 1987b), multiple organisational layers including middle management (Floyd & Wooldridge, 1992, 1997; Wooldridge & Floyd, 1990), or visiting substance matter experts (Kajanto *et al.*, 2005). However, deep and diverse participation may consume excessive managerial resources, increase the time needed to reach the decision, and reduce the number of strategic issues that can be handled concurrently (Kajanto *et al.*, 2004). Nonetheless, for example Kajanto *et al.* (2005) have found evidence that the size and composition of the strategic issue management taskforces impacts decision quality and impact, implying that it is worthwhile to consider the optimal organisation and staffing of the taskforces working on the strategic issues.

4.2 Analysis

The following lays out four distinct periods of the duration of the strategic issue as presented in Figure 4.1. For each period, key developments of the strategic issue are highlighted.

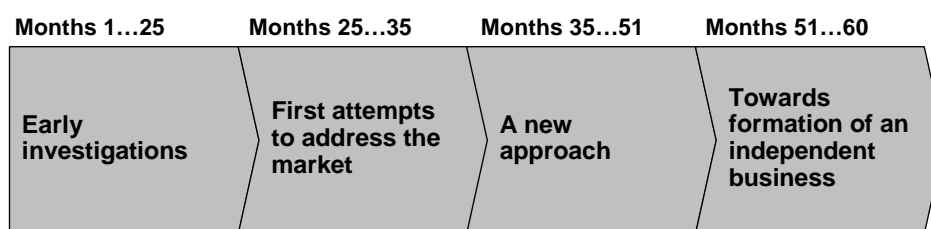


Figure 4.1 Four separate periods comprising the evolution of the strategic issue used as the case

These periods will describe how the strategic issue has developed over time by explaining how changes in the company's environment, developments in its business, and changes in attentional processes have influenced the issue. In the interests of thorough-

ness, a full list of events throughout the strategic issue lifecycle is presented for reference in the appendices.

4.2.1 Period 1: “Early Investigations” (Months 1...25)

The original stimulus for the whole chain of events came from outside the company. In the preceding couple of years, technological development within the industry and in adjacent industries had been both rapid as well as widespread. These changes, widely discussed in the business press yet still inchoate in their factual development, caught the attention of one of the members of the top management, who assigned a number of task forces to assess the implications of the new technologies for the current business. One of the task forces was assigned to look into the impact in a specific, emerging segment of the market, out of which a significant new business opportunity for the company could develop.

Top management felt that this market could be a vital avenue to manage the long-term development of the industry, while at least in part mitigating some potential threats in the environment. In essence, top management felt that the industry was approaching a new phase in its development and that this change could bring about potentially significant changes to the industry structure, player roles, and, eventually, distribution of value. Given its advantageous position in the market, top management obviously felt that the company’s position should be protected. Whereas the likely outcome of this transition was impossible to sketch out conclusively, or even to some degree of reliability in advance, top management could lay out some of the potential risks involved. The early task force work was perceived as providing at least some tentative ideas to manage any unpropitious industry transformation.

As the first practical move, roughly half a year after initial deliberations, a dedicated sales unit was established within one of the regional entities. The choice for the specific regional set-up may have been influenced more by regional proximity and understanding of the market overall rather than any particular features of the target market segment. In fact, the chosen region represented the home market for the company. This allowed the company to begin exploring the new market in a familiar business environment while being supported by established reputation, contacts and market position.

The unit was given the mandate to develop a new channel to address the novel market segment, and to work directly with customers while doing so. The direct sales approach was markedly different from the typical approach used by the company, yet it allowed the company to gain preliminary, first-hand experience of the market.

However, after a year worth of experimenting with the new sales unit, top management felt that the currently rather limited channel strategy addressing the new market segment should perhaps be expanded into something more substantial. In particular, although top management may not have fully understood the market or its significance at this point yet, they saw the opportunity of developing the company’s position further. This may have been induced at least partly by exogenous factors: While the company had experienced strong top-line and bottom-line growth for a number of years already, the stake-

holder expectations for growth going forward remained substantial. This is likely to have induced an interest in top management to readdress the strategic issue. Put differently, the need or indeed pressure to deliver on the growth expectations may have contributed to the increased interest in the thus far limited-scale exercise.

4.2.2 Period 2: “First Attempt to Address Market” (Months 25...35)

Based on the decision to expand the approach, a first proper strategic plan was developed in multiple stages and discussed amongst the top management. In the first stage, after a few months of task force work, a current state analysis of the extant approach was presented to top management. The key conclusion of this analysis and subsequent discussion was that a company-wide approach needs to be developed, thereby significantly widening the scope of the work. Spending another month on developing a preliminary approach, top management understood that establishing an advantageous position in an adjacent, but somewhat related market would require a broad scope both in terms of activities and product and services offered. Prompted by this conclusion, top management decided that the initially proposed corporate-wide approach was insufficient *per se*, and would need to be complemented with the provision of additional products and services.

However, some uncertainty and ambiguity existed regarding, for example, key differentiating factors, as well as the significance of the business overall. On the one hand, persistent uncertainty and equivocality about the key dimensions of the market led to a need for more investigation. A feasibility study commissioned by top management provided an indication of potential differentiating factors for the company against competition. On the other hand, however, top management felt that there was too much ambiguity about key dimensions of the market at this stage, including the significance of key success factors and the importance of the market segment overall for the company's growth strategy. Furthermore, the prevailing uncertainty also prevented the company from formulating holistic strategies to address the market. Consequently, top management decided that the directed research to increase understanding should continue.

Due to the conclusion that a comprehensive approach would be needed to succeed in the novel market, top management began to rethink which organisational entities would need to be included in the effort to devise a strategy for the business. Top management specifically discussed what the role of one of the units that had not been involved thus far should be, and yet no decision was taken at this point. However, a month later top management decided to bring a previously passive unit into the effort, arguing that their products would be important in the business in aggregate.

4.2.3 Period 3: “A New Approach” (Months 35...51)

In conjunction with the introduction of an additional organisational unit into the effort, a new task force work was kicked off to formulate a holistic strategy for the new market. This effort was led by a newcomer to the company, who had joined the company literally days before. A virtual outsider to the company was chosen, not only because of suitable functional experience, but also to provide an unbiased view to the effort. Recalling the situation later, he noted about the situation:

*“When I was assigned to take a shot at figuring out a solution to this strategic issue, I essentially got two types of comments from various members of the organisation. The first was of the type ‘We have tried to solve this already earlier, so good luck with it!’, whereas the second type was along the lines of ‘Take the old slides and build a new presentation based on them’.”*²⁵

The quote highlights important findings about how the strategic issue was perceived at this particular time within the organisation. It appears that there was a perceptible disbelief about the attractiveness of the potential market altogether, as indicated by the first type of comment the task force leader received. The second comment suggests that the organisation perceived that all that needed to be understood had already been effectively researched, and that few additional things could be done to increase organisational understanding of the strategic issue.

The disbelief about market potential was fuelled as customer spending in the core markets of the company, as well as in adjacent markets, declined rapidly. The market decline also continued strongly in the following year. This adverse development further raised incredulity within the organisation as to the feasibility of the proposed market segment. Indeed, notes one interviewee:

*“Scepticism about the rationality of even considering the new market segment was great.”*²⁶

The new task force work resulted in a revised, expanded approach to address the market, and brought more organisational entities into the discussion. Previous efforts had not been able to develop a comprehensive approach and offering, and had limited contacts to, and understanding of, the true needs of the customers. The work was also instrumental in itemising a number of drivers that could make reconsidering the approach to the market well-motivated. First, the customers, through their unique needs and behaviour, could serve as instrumental beachheads in pushing for the adoption of new technologies to the market. Second, beyond promoting new technologies, the customers could potentially have wider, indirect influence on a larger group of customers. Third, the market would have a good strategic fit with the existing business. Fourth, by entering the market, the company could have a possibility to mitigate a potentially substantial competitive threat in the future. Finally, the business opportunity could be substantial, as put in quite uncertain terms in a presentation to top management:

*“Our business opportunity [can be] anywhere from ‘slightly positive’ to ‘significant.’”*²⁷

²⁵ Source: Interview with David Harris

²⁶ Source: Interview with David Harris

²⁷ Source: Presentation to management by David Harris

Although investigations suggested that the existing approach had some deficiencies, based on further investigations management concluded that the company could, in fact, have an advantage over its competitors. Due to the inherent complexity of the products and related systems, the market could be difficult to approach as a new entrant. However, management thought that the company could leverage its existing products to enter the market.

Despite the multiple studies into the market, top management did not feel confident in the strategy developed, and prompted a new iteration to reach a concerted strategy. Although much progress had been achieved in detailing the particulars of the strategy, top management felt that the extant approach still needed some sharpening. Based on a broad task force work, top management received an update on a preliminary, holistic approach to tackle the market. Management again stressed the systems approach and co-operation with other industry players.

While the market was still inchoate and hampered by setbacks in adjacent markets, management was concerned by the relatively slow development of the business for the company. Management therefore also considered an alternative positioning of the company in the novel market, an approach that would have required a radically different business model than that the company had previously employed. No clear decision was taken, however. This was not least influenced by the fear of retaliation from other industry stakeholders who might feel threatened. In the preceding years, the company had become a significant player in its industry. This had caused some discord within certain stakeholders in the industry, who were apprehensive of the growing influence of the company. At the same time, nevertheless, the company felt that the other stakeholders could threaten its leadership position, since they were essentially controlling much of the consumer relationships. This drove the company to seek strategic options that could be implemented without the support of the concerned stakeholders.

As the detailing of the strategy continued, inherent uncertainty still inhibited management to make a committing decision to the market at that point. In the short-run, management decided that more emphasis would need to be placed on establishing product requirements for the new market, yet the results of these efforts served to support later efforts, too. Subsequent task forces focussed their efforts on more specific question areas. Specifically, a task force worked on establishing more detailed product requirements for the new market, followed by a need to devise a specific product strategy.

Whereas the various efforts increased the company's understanding of the new market, they also made explicit a number of potential strategic issues that the company faced as it contemplated how to enter the market. Specifically, various units were active, with multiple initiatives underway, yet the coordination between them was very low or even non-existent. A good description of this was provided by one of the interviewees:

*“The coordination was inadequate already from the very beginning. This was further aggravated by one of the units who were for some reason not too willing to share information and participate in cross-company coordination.”*²⁸

While the work with the concerted strategy was ongoing, top management raised a question of the organisational set-up that would be needed to run the effort in an optimal fashion. One option discussed was the establishment of an independent unit, yet that decision was not reached due to, for example, political pressure. In essence, reallocating the responsibility would have also implied a redistribution of organisational clout. Finding the right leader for the unit proved to be quite difficult, too. As one observer recalled:

*“[A senior manager] considered to lead the proposed entity appeared somewhat perplexed by the fact that his name had been brought into the discussion.”*²⁹

However, an upcoming reorganisation in one of the business units was thought to address the organisational problems around the new business, especially as the latest strategy emphasised the coordination responsibility across various units. The premise, on which the new strategy was formed, was that the organisational fragmentation may not be an issue after all. Rather, one of the units would be in charge of creating the products, and the rest of the organisation would take care that the products would reach the market. As described by one of the interviewees:

*“It was believed that somebody will handle [the sales] once the products are there.”*³⁰

The question of appropriate organising seemed to underpin many of the discussions of the case. Throughout the period, the deficiencies of the organisational set-up were raised. Even top management seemed to acknowledge that at least part of the problem, in fact, was that the current organisational structure could restrict implementing a comprehensive strategy in the given market segment. However, notes an interviewee:

*“One of the fundamental obstacles of resolving the strategic issue overall was a lack of will amongst top management to settle the organisational problem between the various entities.”*³¹

²⁸ Source: Interview with Daniel Moore

²⁹ Source: Interview with Daniel Moore

³⁰ Source: Interview with George Brown

³¹ Source: Interview with David Harris

4.2.4 Period 4: “Towards Formation of Independent Business” (Months 51...60)

Similarly to what already had happened once earlier, discussions amongst top management raised concerns about the success of the now current approach. Management consequently undertook a review of progress thus far, and concluded that the systems approach initially called for had not been fully implemented. A small team was set up to come up with plans to improve the situation, yet top management agreed that fixing the situation was a matter for the unit’s management and not a corporate-level strategic issue. As one interviewee put it:

“[Top management] gave [the unit’s management] a new try to make a success out of the business.”³²

A number of factors contributing to the lack of progress can be identified. First, the effort to address the new market segment was split over multiple organisational units. Second, it remained unclear which of the units was to lead and which were to follow. Third, even within one of the units, different opinions existed as to the appropriate strategic direction and the areas of focus. Fourth, a member of the senior management running one of the units may have been unwilling to let his unit to be overtaken by others.

Rethinking the corporate-level approach to the new market segment was initiated again. The apparent lack of progress in executing the current strategy for the new segment focussed the minds of the top management in order to assess how the current approach could be fixed. To this end, a large-scale task force work was established. The mandate of the team was as follows:

“From a customer perspective, analyse strategic options and develop a strategic intent and key directions in the new segment for the company.”³³

Whereas this mandate was not fundamentally different from previous efforts, both the shortcomings of, and the lessons from, the previous efforts heightened the need to make a difference this time. With senior management ownership and broad-based participation, the team started by assessing the overall attractiveness and relevance of the market, as well as formulating tentative strategic directions.

Somewhat by chance, an impending organisational change on the corporate-level made resolving the organisational issues less complicated. Although the organisationally distributed approach was questioned already at an early stage of the process, reaching a decision on the matter was never achieved, at least partially due to political and also technical implications. However, a planned restructuring on the corporate-level would

³² Source: Interview with David Harris

³³ Source: Kick-off meeting presentation by Paul Thompson

have made it possible to reassess the organisational issue with respect to the specific market.

The corporate-level restructuring was announced only slightly later, yet planning for it had been already begun somewhat earlier, albeit only with a small core group. Nonetheless, as the organisational option becoming viable again, the task force work refloated the question of forming an independent organisational unit to house the currently dispersed activities. The impetus to bring the organisational option back into the discussion was an extremely weak signal from top management. As the primary driver of the task force work explains it:

*“[Around the months 55..57], I sensed from one of my discussions with a member of the top management that they could be willing to accept a more radical organisational change proposal, and that something to that end had already been discussed at least initially.”*³⁴

Other interviewees also recounted episodes supporting the above perception. One person explained having received vague indications of a potentially upcoming organisational change a few months later:

*“I had some idea of an upcoming organisational change – if nothing else than a qualified guess based on experience – sometime [around month 60].”*³⁵

Another interviewee recalled a similar incident from already a few months earlier:

*“Based on the way [a member of the top management] addressed a question regarding the organisation, I assumed that something must be going on in the background.”*³⁶

Indeed, the validity of the indications was confirmed by a member of the top management of the company:

*“The planning for the reorganisation had been initiated amongst a very small group of senior executives already during [the months 55...57].”*³⁷

³⁴ Source: Interview with Paul Thompson

³⁵ Source: Interview with George Brown

³⁶ Source: Interview with Charles Jackson

³⁷ Source: Interview with Brian Smith

Based on the guidance from top management to focus on formulating an implementation plan, the task force ended up proposing setting up an independent organisational unit. This was recalled by one member of the task force as follows:

“With hindsight, the question of resolving the organisational issue seemed to underpin the whole effort.”³⁸

This suggests that the guidance of top management helped to again raise the issue of the organisational set-up as part of the discussion, even though in an implicit manner. Finally, top management decided on establishing a single, independent unit while retaining much of the earlier strategic directions as being valid. The decision to house all the activities in an independent unit was communicated on its own within weeks of the final decision, whereas the announcement of the larger organisational change took place only a few months later. By establishing an independent business unit, the strategic issue became essentially solved from the point-of-view of the corporate strategic issue management system.

4.3 Discussion and Conclusions

This chapter presented a deep-dive into the development of a single strategic issue (within the strategic issue management system of the company). The preceding discussion has been focussing on the evolution of the strategic issue from the strategic issue management process perspective. In this setting, attentional processes both on the individual and organisational levels act as mediating factors (while remaining in the background) to the strategic issue management process.

The discussion provides five main observations from the case. First, the case highlights the cyclical nature of strategic issue management in corporations. Over a time span of five years, the strategic issue went through four distinct periods with somewhat unique problem formulations, punctuated by periods of implementation. Second, the case raises the question about appropriate timing and urgency to address the strategic issue. Being a first-mover may be advantageous particularly in technology-driven industries, yet it may allow others to “free-ride” on earlier investments. Third, the case highlights that categorisation of strategic issues does not take place in a clear-cut, threat-opportunity dichotomy, but that strategic issues can be categorised both as an opportunity and as a threat at the same time. Fourth, the findings provide support for the view of strategic issue recognition as a social phenomenon, leveraging a wide network of participants both internal and external to the company. Fifth and finally, during the four different periods of strategic issue processing, multiple changes were made in the leadership, organisational involvement, and key contributors to reflect changes in strategic issue definition.

³⁸ Source: Interview with Charles Jackson

4.3.1 Cyclicity of Strategic Issue Processing

This case excellently demonstrates the cyclical nature of the strategic issue management process (Ansoff, 1980; Dutton, 1983; Hendry & Seidl, 2003; Mintzberg *et al.*, 1976). The overall length from initiation to close of the strategic issue was roughly five years. During this time, the strategic issue went through four distinct periods with somewhat unique formulations of the problem (cf. Dutton, 1983). These periods went through distinctive (adapted) cycles of problem formulation, interpretation and planning for action in the strategic issue management system, punctuated by periods of implementation in the organisation (put differently: temporal gaps for implementation).

Over the course of the strategic issue's lifespan, its definition changed as the issue and its implementation unfolded, yet the underlying *raison d'être* for the strategic issue remained virtually unchanged: "How to address the new market in order to find sustainable, profitable growth for the company?" As an analogy, while the primary "colour" of the strategic issue stayed the same, its "shade" changed over time. During the first period the focus was on gaining first insights into the market through taskforce work and real market activities. In the second period, the focus shifted to formulating the first strategic plan as well as putting it into implementation. In the third period the focus shifted again, this time towards clarifying the approach and organisational concerns, which were subsequently at the heart of the fourth period.

The long duration of the strategic issue raises concerns, however. On the one hand, one can quite easily claim that such a complex, ambiguous strategic issue would in any case require a lengthy period to resolve. On the other hand, the long duration can be seen as a waste of time and valuable top management attention. So would the outcome of the strategic issue have been different if the company had been able to compress the time needed for the strategic issue processing? As the most plausible explanation, it is unlikely that faster processing would have yielded better results at least *per se*, as the most significant hurdle for the development of the strategic issue was in fact exogenous to the company (that is, the underdeveloped market environment).

The strategic issue was brought back from implementation from the relevant organisational entities to the strategic agenda a number of times. The primary trigger seemed to be performance-related (cf. Mintzberg *et al.*, 1976): In all three instances, top management was concerned by the slow development of the business, thus prompting management to reconsider the strategy. Whereas part of the shortfall from expectations was clearly attributable to encountering challenges in implementation within the company, the reason was partly exogenous to the company. As the market seemed to form and develop considerably slower than was assumed in the company's business plans, the development of business results was also slower than anticipated.

However, even though lacklustre performance was a major factor, triggering may not have been as monochromatic an event as it seems. Rather, other factors are likely to have played a role, too. At least organisational concerns seem to have contributed to triggering, in particular in the beginning of the fourth and final period (cf. Dutton, 1983).

The early periods, which may not have yielded substantial financial results, nonetheless allowed the company to increase its understanding of the new market as well as to gain first-hand yet tentative experiences. The numerous studies conducted helped the company to solve some of the subissues and explicated a number of concerns, but also strengthened the basis for formulating subsequent strategies. Moreover, they may have acted as valuable probes for the future in areas unrelated to the strategic issue *per se* (cf. Brown & Eisenhardt, 1997; McGrath, 1999; McGrath *et al.*, 2004).

The periods also demonstrate how attention was allocated to solving more particular questions as to the overall understanding of the strategic issue increased. Whereas in the first and second period the focus was largely on making sense of the strategic issue overall, focus subsequently shifted into solving more detailed sub-issues concerning, for example, the product offering. Interestingly, this development appears to be in contrast to Dutton's (1983) finding that strategic issues tended to have a narrow focus at time of initiation but expanded over time.

The periods also demonstrate a variety of different approaches of tackling the strategic issue. As a new organisational entity was established very early in the lifetime of the strategic issue, it gave the company a good way to gain preliminary experience of the market. These experiences not only provided the company a vehicle to conduct experiments, that is, to test new propositions in the market place and learn from them as feedback from customers was channelled back.

Whereas establishing a new entity provided a concrete way to develop the strategic issue, persistent ambiguity made the company somewhat unwilling to commit to any one approach, though. The company sought to conduct more investigations into the strategic issue, thus hoping to reduce the ambiguity and equivocality of the situation. In one way, the case company appears to have implicitly treated the strategic issue more with a real option reasoning rather than with the conventional discounted cash flow approach (e.g., Adner & Levinthal, 2004a, b; Barnett, 2008; Kogut & Kulatilaka, 2004; McGrath *et al.*, 2004; Trigeorgis, 1996; Zardkoohi, 2004) as the strategic issue unfolded.

However, this is unlikely to have been an explicitly chosen approach for two main reasons. First, based on the company's archival material and interviews with managers, real options reasoning was not prominently exercised in the company. Second, given the significant investments that were made into the market, the logic of the case does not seem to follow entirely the notion of real options providing a relatively inexpensive "entry ticket" to potential future opportunities (put differently, curtailing investments while preserving the option value).

Moreover, as the investments took place over a prolonged period of time, the case could be described as having exhibited an escalation of commitment (Adner & Levinthal, 2004a, b; Kogut & Kulatilaka, 2004; McGrath *et al.*, 2004; Staw, 1981; Whyte, 1986; Zardkoohi, 2004). Yet as the eventual outcome has been at least a moderate success, this conjecture would appear to be somewhat misplaced.

4.3.2 Strategic Issue Urgency and Timing

Another question related to the long duration of processing relates to the appropriate timing to put the strategic issue resolution into implementation. After all, having been identified, the strategic issue may not be so urgent that it would warrant immediate resolution but merely monitoring (Dutton & Duncan, 1987a; Miller, 1982). Establishing the right timing for strategy implementation is one of the key questions a strategy needs to address in various areas, including product launches (e.g., Bayus *et al.*, 1997), geographical market entry (e.g., Gaba *et al.*, 2002), or innovation in general (e.g., Reinganum, 1989).

Advantageous timing becomes even more important in technology-driven industries, where technological discontinuities (Anderson & Tushman, 1990) trigger the process of the “creative destruction” of industries (Schumpeter, 1943/1976). Increasing returns (Arthur, 1994, 1996) are idiosyncratic to knowledge-based industries, and are brought about by up-front costs (Dosi, 1996), network externalities (Economides, 1996; Katz & Shapiro, 1985; Liebowitz & Margolis, 1994a, b, 1995a, b) and learning curve effects (Arthur, 1996; Lieberman, 1987; Spence, 1981). Markets that are characterised by increasing return adoption often exhibit path dependence, where small, ostensibly unimportant events in the history may determine market development, further amplified by positive feedback. Due to increasing returns, a path-dependent process may become locked-in to a technological path that is not necessarily efficient (Arthur, 1989).

Numerous studies suggest that first-moved advantages do exist (e.g., Lambkin, 1988; Miller *et al.*, 1989; Suarez & Utterback, 1995; Urban *et al.*, 1986). Advantages of early entry comprise technological leadership, the pre-emption of scarce assets, and buyer switching costs (Lieberman & Montgomery, 1988). Conversely, late entry may lock the company out from reaching a leadership position, and force it to adopt an existing technology. Furthermore, timing is not entirely within the control of the company, especially in terms of technical development, coproduction, user education, and learning effects (Grindley, 1995). Nevertheless, first-mover advantages are neither indisputable nor certain to prevail. Late-movers may benefit from the ability to “free-ride” on the first-mover investments in technological development, the resolution of technical and market uncertainties, shifts in technology or market needs, and incumbent inertia, which all undermine potential first-mover advantages (Lieberman & Montgomery, 1988). Furthermore, it is argued that there is no single time of entry that would be universally beneficial, but that relationship between order of entry and competitive performance does exist (Lambkin, 1988).

In the context of this particular strategic issue, the case company was clearly at least an early-mover (if not entirely a first-mover) in its new business. In the technology-driven industry that the case corporation operates in, and particularly in the new business area that overlapped multiple technical domains, being an early-mover is likely to have been an appropriate strategic posture. The learning effects from early market contact and technology development are likely to add to the benefits. However, these benefits did not come without cost. Engaging in a multi-year market and business ecosystem development project certainly cannot have been an inexpensive exercise. Therefore, for this

particular case and for strategic issue management in general, one of the critical determinants for success is to assess the urgency for the processing of a given strategic issue (Dutton & Duncan, 1987a). As this case demonstrates, much of the ambiguity regarding the appropriate timing is caused by an inherent uncertainty about the issue: Uncertainty whether the issue should be processed or not, as well as uncertainty how the issue should be resolved and brought to implementation (cf. Kajanto *et al.*, 2004).

4.3.3 Multiplicity in Strategic Issue Categorisation

At first, the strategic issue was framed largely as a potential opportunity for the company. However, in addition to the opportunity-framing, the strategic issue was concurrently perceived to also constitute a potential threat. The threat-framing may have been caused by a fear on the part of top management that the technological change could mark the onset of long-term structural changes in the industry (Anderson & Tushman, 1990; cf. Schumpeter, 1943/1976; Tushman *et al.*, 1996). This change could have changed the sources of competitive advantage in the industry, thus threatening the established and advantaged position of the company in its markets. This possibility underlined the need to look for new ways to manage industry development. Consequently, perception of the motives and aims of other actors in the business system shaped the decision and action premises. This bipolar perception of the strategic issue is largely related to its ambiguity (cf. Dutton, 1983), which remained substantial for a considerable time.

Longitudinally, the decision episodes of the strategic issue moved around in their categorisation. In the beginning, threat-framing was most prevalent. As the strategic issue progressed market and implementation emphases became more typical. This shift in strategic issue categorisation coincides with the changing perception of the issue, and also its maturity. As the strategic issue became clearer during the progress of its processing, threat-framing may have lessened as the uncertainty related to the strategic issue was reduced.

The rise of market-emphasis is likely to have been caused by the reoccurring shortcomings in the performance of the business *vis-à-vis* set targets. These shortcomings were driven to a large extent by slower than anticipated development of the target market, further strengthening the market-emphasis categorisation at that point of time. Finally, as the concerns about the correct organisational set-up became substantial, the cognitive focus shifted to implementation emphasis.

The multiplicity in framing raises important questions regarding the interpretation of the strategic issue and its implementation. Under the threat-rigidity thesis (Staw *et al.*, 1981), a response induced by an external threat may lead to severe forms of 'group-think' (Janis, 1972) where cognitive flexibility is compromised. At the same time, threat perception is likely to increase commitment of resources, yet it is likely to narrow down cognition in exploring organisational routines as to how to allocate those resources (Gilbert, 2005). However, to secure both high commitment (through threat-framing) as well as flexible plans (through opportunity-framing), both frames need to coexist temporally (Gilbert, 2006).

In the context of the case strategic issue, perception of a threat was evident in particular as the strategic issue emerged and was interpreted. In essence, it is likely that threat-framing has been instrumental in putting the strategic issue on the organisational agenda in the first place. Moreover, threat-framing helped to secure the organisational commitment to resolving the strategic issue, and to allocate sufficient resources to do so. However, at the same time, threat-framing may have automatically limited organisational flexibility to explore all possible options to resolve the strategic issue. Nonetheless, a potential solution to the strategic issue was indeed found, and it was even perceived as an opportunity for the company. Consistent with the notion of opportunity-framing providing flexibility in execution, a variety of approaches were used over the multi-year resolution of the strategic issue. However, this may have led to a situation where managerial cognition did, in fact, clamp down on the potential solution so that the threat-induced initial resource commitment was never strongly challenged. This can be seen to suggest that if the strategic issue is initially perceived as a threat, to which an opportunity-framed solution is found, managerial cognition can be rigidified so that initial commitment cannot easily be questioned – a case where sequential threat-opportunity framing is not enough to open up managerial cognition for the exploration of strategic options (cf. Gilbert, 2006).

4.3.4 Social, Distributed Process

The original stimulus to initiate any activity regarding the strategic issue was exogenous to the company. In fact, it was largely technological developments that caught the attention of one member of the top management, coupled with an interest for any impending business opportunity. However, it was the growth strategy of the company that induced the interest to expand the approach to the new market segment. Overall, the case supports the notion of strategic issue emergence being a social process (cf. Eden, 1992b; Weick, 1995). While the origin of the strategic issue can be attributed to top management, it is likely that the problem formulation has taken place in a wider setting. This is likely to have involved a large network of organisational members, but also potentially outsiders to the company (cf. Kiesler & Sproull, 1982).

Only a minority of the topics handled in the strategic issue management processed pertained to the phase of scanning. This does not imply, however, that the process was not concerned with scanning for and identifying new strategic issues. Instead of a formal and explicit process for scanning, a social and distributed process seemed to have been responsible for feeding new strategic issues onto the strategic agenda of the corporation. Although only anecdotal evidence exists to support the proposition, the following account of the scanning process seems reasonable: first, on the individual level, various weak signals catch the individual's attention and are fitted to the prevailing individual cognition, thus representing a cognitive formation process that is typically not explicated or revealed to others.

Second, these weak signals are then strengthened through discussions amongst key strategic decision makers and experts internally, but also to some extent externally (cf. Paroutis & Pettigrew, 2007). From a cognitive perspective, social and structural cognition

play a substantial role at this point: discussions with other individuals help to clarify the relationships between complex strategic issues and established cognition.

Third, the discussions not only provide cognitive assistance, but they can also provide social support and encouragement for proceeding with the initial strategic issue. With enough social and organisational backing, the potential strategic issue will be admitted as part of the strategic issue portfolio of the company.

4.3.5 Shifting Taskforce Composition

During the four different periods of the processing of the strategic issue, multiple changes were made to the formation of actors involved both in the processing of the strategic issue as well as the organisational structure assigned to implement the decisions. This observation is well in line with Dutton's (1983) finding that key sponsors and organisational arrangements are important determinants of changes in the definition of a strategic issue.

Changes in organisational involvement in implementation were performed based on two different arguments. First, on quite practical grounds, expanding the approach in the progress of strategic issue processing to a more comprehensive one drove top management to reconsider the involvement of organisational entities. Second, at some point the existing organisational set-up was viewed as potentially insufficient to fully drive the new market segment. Establishing an independent unit was therefore considered, yet rejected after deliberation. However, an impending organisational change on the corporate level made resolving the organisational issues less complicated, paving the way for the independent unit.

Each of the periods involved changes to the key contributors to the task forces. Of consequence are the changes in the owners of the particular task forces during the periods. To some extent this reflects the changing nature of sub-issues to be resolved: new task force owners were assigned to bring in particular knowledge or competencies into the processing of the strategic issue. More importantly, though, changes in task force leadership were made as new approaches to resolving were needed: the new task force owners were perhaps thought to bring in novel views to the problem. This seems to have been the case particularly when a recent recruit to the company was named as the task force leader.

In addition to the explicit, formal coordination of the task force work and its participants, a key characteristic would seem to be the use of autonomous, self-configuring networks in the process. Despite the fact that employees tend to participate in multiple communities and social networks outside the organisation, the internal communications patterns of many firms tend to resemble the formal hierarchical structures of the company (Burt, 2004; Han, 1996). The self-configuring internal networks provide the means to pool resources to make sense of strategic issues and develop plans for an appropriate response at the same time as the organisation is otherwise proceeding according to its strategic objectives put forward in the company's overall strategic plan.

This finding seems to be also in line with recent findings on communication and coordination in large organisations. Evidence in the study by Kleinbaum *et al.* (2008) suggests that whereas formal structures of the organisation are influential in guiding communication, they are substantially augmented by informal, boundary-spanning communication in personal networks (cf. Hoon, 2007; Ocasio & Joseph, 2006), as is also evident in this case. Coordination in self-configuring internal networks does not necessarily mean that senior management would have no control over the networks, however. Coordination can occur through the actions of a few key people, who manage either the strategic issue management process in general on the corporate level, or through people that are located in a structurally central position in the organisational network (cf. Kunnas *et al.*, 2006).

5 Cognitive Space of Strategic Issue Processing

This chapter presents how the cognitive space of the case company influences strategic issue processing, building upon the findings of the preceding chapter, and links them into the discussion of cognitive spaces of strategic issue processing. In so doing, the present discussion revisits the strategic issue that was described longitudinally in the previous chapter. The earlier discussion, portraying the origins of the strategic issue from the very beginning, gave a description of the social process through which strategic issues emerge and become explicated in the system.

The discussion highlights how cognitive spaces can describe the strategic discourse taking place as the strategic issues are processed, and how the cognitive spaces can be illustrated through the language employed in those discourses. Through the analysis of the cognitive space, this chapter deals with (i) strategic issue categorisation and (ii) spatial configuration and temporal evolution of strategic issues in the cognitive space.

5.1 Theoretical Background

Organisations typically share a common mental set of beliefs and views that are used as lenses through which strategic issues are processed (e.g., Kiesler & Sproull, 1982). These mental models or knowledge structures play a vital role in organisational information processing (Barr *et al.*, 1992). For the purposes of this research, “cognitive spaces” can be defined as the “*images and patterns engaging the mind when considering markets, products, industries, boundaries, strategies and capabilities*” (Leibold *et al.*, 2004: 62).³⁹ Cognitive spaces comprise the mindsets, beliefs and attitudes that the organisation holds as an idealised cognitive model, and not necessarily a faithful representation of reality (Fauconnier, 1985). On the individual level, organisational participants construct meaning in their minds by putting together similar mental models (Johnson-Laird, 1983).

Cognitive spaces provide organisations a medium in which cognitive activities can take place (Baars, 1997; Fauconnier, 1985). Within cognitive spaces individuals and organisations process information for the purposes of understanding and action. A plethora of cognitive spaces can be interconnected, and they can be modified as thought and discourse unfold (Fauconnier & Turner, 1998). For example, Leibold *et al.* (2004) argue that whereas cognitive spaces typically constrain organisations in their thinking, managers can use appropriate levers to cultivate mindsets conducive to changing their business. Although cognitive space is one part of human and organisational cognition, it does not define thought processes, methods for interaction with external stimuli, memory, or other cognitive processes, however (Newby, 2001).

³⁹ “Cognitive spaces” are sometimes also called “mental spaces” (e.g., Fauconnier, 1985). For the purposes of the present discussion, these terms can be regarded as interchangeable.

Cognitive space links integrally to the theories underpinning the present research. First, from the perspective of the attention-based view of the company (Ocasio, 1997), cognitive space belongs to the domain of the principle of situated attention. As part of the situated attention in the organisation, the cognitive space shapes the organisation's and individuals' focusing of attention and action. Second, in a similar vein, the sensemaking perspective (Weick, 1995) stresses how the organisation and its members construct meanings out of ambiguous and equivocal situations, and thereby utilise and update their cognitive spaces.

Cognitive spaces are inherently connected to linguistics through their application in cognitive semantics (e.g., Fauconnier, 1985, 1997; Fauconnier & Turner, 1998; Johnson-Laird, 1983; Schlesinger, 1995). In cognitive semantics, interpretations are relative to cognitive spaces rather than being context-independent (Fauconnier, 1997).⁴⁰ Incorporating context into cognitive semantics is achieved by assuming that truth values are incomplete as in situation semantics (Barwise, 1989), or that categories (types) are incomplete as in generative lexicon (Pustejovsky, 1995), and by assigning these based on context.

Strategies are abstractions in the minds of the managers (Mintzberg, 1987), which emerge from the sets of ideas and constructs through which strategic issues are identified and interpreted (Hedberg & Jönsson, 1977). The relationship between cognitive spaces and strategies can be made on multiple levels, including individual members of senior management (e.g., Calori *et al.*, 1994) as well as on top management (e.g., Bougon, 1992) levels.

The newly emerging field of strategy-as-practice (e.g., Jarzabkowski, 2004, 2005; Johnson *et al.*, 2003; Kaplan, 2007; Whittington, 1996, 2007) has made frequent comments that touch the area of strategic issue management by focussing on the microlevel processes and practices constituting strategy and strategising. Strategic practices include administrative and episodic as well as discursive practices (Jarzabkowski, 2005). Organisational discourse can be regarded as being significant for strategy processes, as language can be seen not only as enabling information exchange but also as constructing social and organisational reality (Dandridge *et al.*, 1980; Pondy & Mitroff, 1979), highlighting the intimate relationship between language and organisation (Daft & Wiginton, 1979). In particular, strategy is often shaped through discussions around the organisation (Samra-Fredericks, 2003).

The discursive perspective to strategy (e.g., Vaara *et al.*, 2004) rests on the assumption that structural aspects such as language are not separate from participants' actions in the organisation (Giddens, 1976/1993). In organisational discourse, both communicative actions on the surface level and discursive structures on the deeper level are recursively linked through the actors' cognitive spaces (Heracleous & Barrett, 2001). Discursive structures are largely implicit, inter-textual, trans-temporal and trans-situational

⁴⁰ Context-independent semantics often refers to the so-called Montague grammar, which is limited by the context-dependent variability in the word sense (e.g., Dowty *et al.*, 1981).

(Heracleous & Hendry, 2000), and are manifested, instantiated or challenged in daily communicative actions (Heracleous, 2006). Action arises out of cognitive spaces, and new experiences further influence cognitive spaces, and thereby subsequent action (Gioia, 1986a, b).

5.2 Analysis

The results of the network analysis of the cognitive space are discussed subsequently in more detail. First, the clusters within the cognitive space are presented in order to demonstrate how the case company categorises its strategic issues. These clusters will also provide a useful way to control the types of strategic issues in the analysis of strategic issue attention allocation in Chapter 6. Second, four different strategic issues out of the strategic issue portfolio of the case company are portrayed, so as to illustrate how different types of strategic issues evoke different sets of the cognitive space, and how the strategic issues evolve within the cognitive space as they are processed in the strategic issue management system of the company.

5.2.1 Strategic Issue Categorisation

Figure 5.1 presents the cognitive space of the case company based on the text analysis performed. The result of the network analysis is a graph mapping the co-occurrence of the most common 20 words in the meeting notes of the studied 92 topics. In the graph the small solid circles represent the 92 topics coded according to the coding scheme. The small solid squares represent words that were mentioned in the notes of those topics that are linked to them. The words that are located closer to each other in the graph had a higher co-occurrence than words that are located more distantly from each other.

The mapping of the words revealed the key distinctions used by the management in the case company to make sense of strategic issues. Based on the network analysis, the dotted circles and their associated labels have been added later to demonstrate the clustering of the most co-occurring words together in the cognitive space.

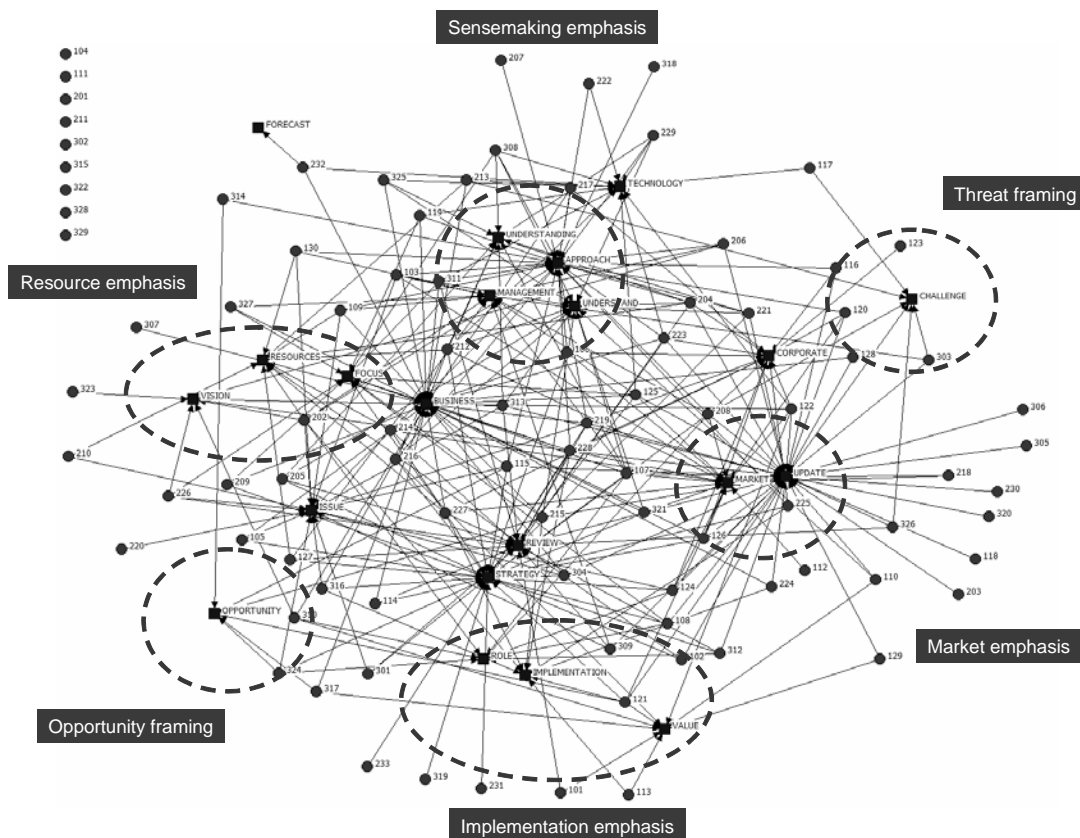


Figure 5.1 Dichotomies for categorising strategic issues in cognitive space derived with text analysis

In addition to extending the understanding of strategic issue categorisation beyond the threat-opportunity dichotomy, these results will be used in subsequent analyses in Chapter 6 to link attention allocation and cognitive space to strategic issue management system performance.

Multiple Dichotomies for Strategic Issue Categorisation

Consistent with previous research (e.g., Dutton & Jackson, 1987), a distinction is apparent between labelling a topic an ‘opportunity’ or a ‘threat’ (the case company tended to use the word ‘challenge’). Interestingly, however, this categorisation of topics into threats and opportunities does not seem to be as central for the case organisation as implied by the prior strategic issue management research.

As an even stronger dimension, the dichotomy between ‘understanding’ of what is happening in the business environment and ‘implementation’ becomes apparent. It is interesting to note that in the case company the sensemaking related to ‘understanding’ is close to the word ‘technology’ instead of, for example, ‘implementation’. This is a reflection of the case company specific importance of making sense of how the case organisation should deal with rapid technological changes that are taking place – after all, the case company’s industry is a high-velocity, technology-driven environment (cf. Eisenhardt, 1989c).

Finally, as the third key dimension of the cognitive space, a dichotomy of ‘resources’ versus ‘market’ is found. In the resources area, the words ‘vision’, ‘resources’ and ‘focus’ tend to cluster together. Here management tends to deal more with business-specific strategic issues in contrast to the market dimension that would seem to be associated with the ‘corporate’ dimension. The resource dimension would seem to relate more to the opportunity and understanding aspects of strategic issues, whereas market-related topics are related to challenge and implementation aspects of strategic issues. This collocation of the words market, implementation and challenge could very well imply that many of the market-related topics are concerned not merely about performance gaps against the market development, but about how market development coupled with concerns of implementation are likely to be perceived as threats to the company.

Within the strategic issue portfolio of the case company, strategic issues were categorised using all three dichotomies, so each strategic issue could have multiple labels. In fact, on average, each topic was associated with c. 1.3 categories at the same time.

Characteristics of Strategic Issue Categories

Table 5.1 presents summary statistics for topics belonging to each of the strategic issue categories as defined above.

The opportunity–challenge dichotomy did not appear to be central in the strategic issue management system of the case company, as only a handful of strategic issues out of the entire portfolio were associated with the opportunity–challenge dichotomy (only 13% of topics were categorised as either an opportunity or a challenge). Overall these topics tended to focus on planning for action rather than directed research, with more than 80% of topics involving planning for action. However, topics categorised as opportunities were on average more likely to have almost twice the value at stake (often more than 5% of market capitalisation) than topics regarded as challenges. Opportunity-related topics had, in fact, the highest average value at stake by a significant margin out of all the topics analysed. In terms of resourcing, topics categorised as challenges had overall the highest average resourcing levels out of all topics, with typically either 1...10 people or even more than 10 people actively involved. Also in relation to opportunities, challenge-topics had on average higher resourcing (cf. Dutton & Jackson, 1987), although the effect is less pronounced than with other categories. What is surprising, though, is that although opportunity-topics had higher values-at-stake, they had lower resourcing and resulted in lower decision quality on average than challenge-topics (with equal average impact).

Table 5.1 Summary statistics for strategic issue categories⁴¹

| | | Dichotomy 1 | | Dichotomy 2 | | Dichotomy 3 | |
|---------------------------------------|---|--------------------|--------------------------|--------------------------|-----------------------------------|--------------------|-----------------------|
| | | Threat | Oppor- tunity | Sense- making | Imple- menta- tion | Market | Resour- ce |
| Number of topics | | 6 | 6 | 40 | 22 | 43 | 26 |
| Source | Top manage- ment | 67% | 50% | 73% | 68% | 77% | 65% |
| | Escalated from business Planning process | 33% | 50% | 28% | 27% | 23% | 31% |
| | | 0% | 0% | 0% | 5% | 0% | 4% |
| Value at stake | | 3.4 | 6.7 | 3.8 | 4.2 | 3.8 | 3.3 |
| Uncertainty | | 1.7 | 1.7 | 1.8 | 1.9 | 1.8 | 1.9 |
| Implementation chal- lenge | | 1.8 | 1.5 | 1.6 | 1.5 | 1.6 | 1.7 |
| Nature of work | Scanning | 0% | 0% | 0% | 0% | 0% | 0% |
| | Directed re- search | 17% | 17% | 38% | 36% | 40% | 46% |
| | Planning for action | 83% | 83% | 63% | 64% | 60% | 54% |
| Resourcing | | 10.0 | 8.3 | 7.4 | 7.3 | 7.7 | 6.5 |
| Amount of discussion notes | | 81 | 101 | 129 | 135 | 120 | 144 |
| Involve- ment | Members | 0.8 | 0.8 | 0.4 | 0.8 | 0.7 | 0.5 |
| | Visitors | 1.5 | 1.3 | 1.6 | 1.3 | 1.4 | 1.7 |
| Out- come | Rightness | 1.3 | 0.7 | 1.2 | 1.2 | 1.3 | 1.5 |
| | Impact | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 |

The sensemaking–implementation dichotomy was almost equally prevalent in the case company as market–resource focus, with 67% of topics belonging to the former and 75% to the latter. In the sensemaking–implementation dichotomy, the focus in the case company was on sensemaking almost with a ratio of 2:1. A great deal of topics processed were in fact related to understanding the strategic issues more thoroughly, again underlining the inherent uncertainty and ambiguity associated with strategic issues. However, sensemaking-focus does not seem to be related to the amount of discussion notes generated in the strategic issue management meetings, since both sensemaking- and implementation-related topics tended to generate on average notes of equal lengths. Both categories had only somewhat higher than average values-at-stake, were overwhelmingly driven by top management, and focussed on planning for action over directed research with a split of roughly 60% vs. 40%.

⁴¹ Values in the table are averages per topic unless otherwise indicated.

What makes sensemaking-related topics unique, though, is their reliance on outside expertise: out of all categories, sensemaking-focussed topics had more than four times the number of visiting experts to the standing members in the strategic issue management meetings. While sensemaking-related topics do not necessarily generate more discussion notes, their resolution seems to require a wider network of organisational participants. The effect is even stronger for topics that require sensemaking of technology – these terms are closely related in the case company’s cognitive space. For technology-related topics, the strategic issue management forum needed to seek experts beyond its own ranks by a factor of seven!

The third dichotomy, market vs. resources, is the most common one within the strategic issue management system of the case company: 75% of all topics are categorised within this dichotomy. Resource-focus tends to be categorised by the highest amount of discussion notes, perhaps suggesting that the discourse between top management and business unit management is extensive. Market-focussed topics are most often initiated by top management (in 77% of cases), which supports the finding that these topics tend to be related to opportunity and understanding aspects of strategic issues. As with the previous dichotomy, the breakdown of work seems to be roughly 60% vs. 40% between planning for action and directed research. Out of all topics, however, resource-focussed ones tend to have, on average, the lowest resourcing. As these topics are often related to individual business sectors that the corporation operates in, one could argue that these strategic issues leverage resources in the particular business units beyond the typical strategic issue management network. This finding would be supported by a visitor-to-member ratio far higher than the average (and only surpassed by sensemaking-related strategic issues).

5.2.2 Strategic Issues in the Cognitive Space of the Company

This section portrays four strategic issues in the cognitive space of the case company. The purpose of the discussion is to highlight how different strategic issues evoke different parts of the cognitive space due to their intrinsic characteristics. This phenomenon will be described both from a static perspective highlighting the overall area of focus in the cognitive space, as well as from an evolutionary perspective, by describing the paths of the strategic issues as they develop in the strategic issue management system of the company. The strategic issues have been selected out of the entire strategic issue portfolio so as to illustrate these two viewpoints effectively.

Table 5.2 presents summary statistics for the case issues.

Table 5.2 Summary statistics for case issues⁴²

| | | Issue | | | |
|------------------------------------|--------------------------------|-------|-----|------|------|
| | | I02 | I03 | I06 | I15 |
| Number of topics | | 15 | 9 | 5 | 8 |
| Source | Top management | 80% | 56% | 0% | 0% |
| | Escalated from business | 7% | 33% | 100% | 100% |
| | Planning process | 13% | 11% | 0% | 0% |
| Value at stake | | 4.0 | 2.1 | 2.6 | 1.7 |
| Uncertainty | | 1.7 | 2.2 | 1.8 | 2.0 |
| Implementation challenge | | 1.5 | 1.8 | 1.4 | 1.8 |
| Nature of work | Scanning | 13% | 0% | 0% | 0% |
| | Directed research | 33% | 56% | 100% | 38% |
| | Planning for action | 53% | 44% | 0% | 63% |
| Resourcing | | 9.0 | 6.1 | 4.2 | 4.0 |
| Amount of discussion notes | | 89 | 144 | 106 | 55 |
| Involve-ment | Members | 0.4 | 0.3 | 0.4 | 0.1 |
| | Visitors | 1.7 | 2.3 | 0.8 | 1.5 |
| Out-come | Rightness | 1.6 | 0.3 | 1.8 | 0.9 |
| | Impact | 1.8 | 1.3 | 1.4 | 0.9 |
| Number of cate-gorisa-tions | Threat | 1 | 0 | 0 | 0 |
| | Opportunity | 0 | 0 | 0 | 1 |
| | Sensemaking | 6 | 4 | 2 | 5 |
| | Implementation | 3 | 2 | 0 | 0 |
| | Market | 8 | 3 | 2 | 0 |
| Resource | | 2 | 5 | 1 | 2 |

Strategic Issue I02: Formulating Approach for a New Market Segment⁴³

The main problem in strategic issue I02 was how the case company could develop a suitable approach to address a new, growing segment of the market – underpinned by the notion that the company needs to seek new growth areas that would supplement the perhaps decreasing growth in its main market segments. However, inherent uncertainty about the market's viability and the company's competitive advantage in the market as well as challenges in implementation persisted through most of its lifetime.

⁴² Values in the table are averages per topic unless otherwise indicated.

⁴³ Strategic issue I02 was presented in depth in Chapter 4, which detailed how the strategic issue was processed from its emergence to (final) implementation in the organisation. The present discourse links the earlier discussion on longitudinal evolution of the strategic issue with the characteristics of and dynamics within the cognitive space of the corporation.

Figure 5.2 shows strategic issue I02 in the cognitive space of the case company. This strategic issue exhibits a heavy market-emphasis throughout. In the resources–market dimension – the dominant dichotomy for the strategic issue – only two topics are associated with resources, while eight are associated with markets. Market emphasis is likely to reflect the nature of the strategic issue, that is, defining an appropriate way to address a new, emerging market segment for the company. As the strategic approach is developing and being implemented, however, some of the market-emphasis gives way to resource-emphasis.

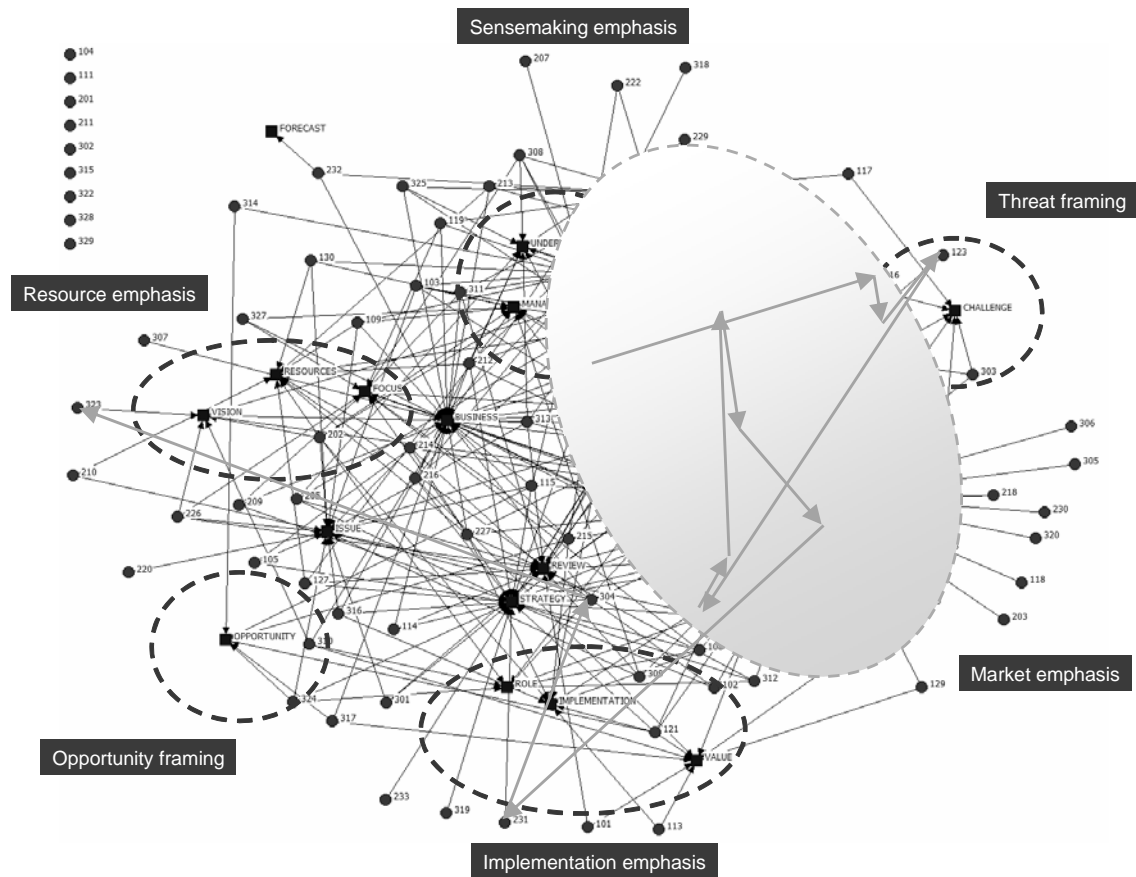


Figure 5.2 Strategic issue I02 in cognitive space: Formulating approach for a new market segment

In the sensemaking–implementation dimension, the sensemaking-emphasis also dominates for the majority of the duration of the strategic issue. Given the ambiguity and uncertainty about the potential target market segment, as well as the company’s competitive advantages, sensemaking played a substantial role in strategic issue processing. What makes the sensemaking phenomenon particularly interesting is that it seems to take place rather intermittently: Three points of time (topics 106, 116 and 120; 204 and 208; and 225) seem to be associated with sensemaking, while other topics are not. This implies that strategic issue processing would exhibit cyclicity, where periods of sensemaking are followed by more concrete execution – a hypothesis that receives further evidence in Chapter 4.

The main thrust of strategic issue I03 (depicted in Figure 5.3) concerned the problem of how the corporation should address the technological changes and possible shifts in profit pools in its industry. As technological development in the company's business environment progressed rapidly, potential new business opportunities began to emerge for various new entrants previously not in the core of the industry where the case corporation was a leading player. Although this had not yet been fully materialised, the corporation saw that this development was more than likely to happen in the future, and therefore wanted to preserve its competitive position as well as its share of the industry profit pool going forward.



The formulation of the problem was quite straightforward for strategic issue I03, because such technology-driven migrations in profit pools have been well recognised as a phenomenon (e.g., Schumpeter, 1943/1976). Examples of such developments include what happened in the computer disk drive (Christensen, 1993), slide rule (Acee, 2001), personal computer (Casadesus-Masanell & Yoffie, 2007; Gawer & Cusumano, 2002; Steinbock, 2003) and digital photography (Zelten, 2000) industries. In a way, the definition for this strategic issue was developed based on an analogy from similar cases in history. The case company's concern was that the same development of value migration would likely take place also in their particular part of the information technology and communications market.

Strategic issue I03 was predominantly about capturing value beyond this migration. The problem to be solved was, in essence, whether there would be a relevant opportunity emerging for the company beyond its current position in the industry. At the same time, another strategic issue also looked into the same overall question of long-term industry evolution, namely strategic issue I01. The main difference between these two strategic issues was the part of the value network of the industry they pertained to, as well as the likely timeframe associated with the potential changes. Since strategic issue I03 had a considerably longer time-to-market and since its inherent uncertainty was far greater than I01 had, I03 related to a completely different part of the cognitive space of the company. Whereas I01 was about approaching the market in the right way and making sure that implementation was suitable and effective, I03 concerned both long-term resource allocation towards the potentially new market as well as making sense out of the ambiguous and equivocal strategic issue (as shown through resource- and sensemaking emphases). One section of the notes illustrates the situation:

“We do not have an understanding of what our end target is [for this strategic issue]. (---) We have only elements of initial directions defined.”

I03 could even leverage the development of I01, at least if things were to develop propitiously to the company. However, value at stake was not perceived to be very great, perhaps due to somewhat lacklustre developments in the market at the time. However, given that I01 was assumed to materialise in a shorter timeframe than I03, its value should be, *ceteris paribus*, be higher. One should also note that dividing the exact values for strategic issues that are at least somewhat related (like I01 and I03) is quite challenging, because of the ability of a significant industry player to influence the locations of the profit pools within the value chain.

In addition to being concerned about resource-allocation to build the new business area, senior management devoted considerable resources into making sense of the strategic issue, as is evidenced by very extensive notes from the strategic issue management meetings. Indeed, commensurate with its nature, most topics under this strategic issue were initiated by the top management, thereby suggesting that reasoning by analogy (e.g., Gavetti *et al.*, 2005; Juthe, 2005) is a matter for senior leaders in the organisation.

explored how the case company should view the market development overall, as illustrated by a section of the meeting notes:

“The key question to explore is whether this plays into our advantages overall. (---) Depending on the point-of-view from which business we look at this, the answer may be different.”

On the other hand, topic 222 focussed on making sense of what would be the right approach to market the technology so as to accelerate adoption. Overall it would seem that market-emphasis supported highlighting the performance concern of the strategic issue (cf. scanning behaviour), whereas a sensemaking-focus was used to deepen the understanding of the strategic issue and thereby reduce equivocality (cf. directed research), after which focus shifted to resource allocation (cf. planning for action).

The topics comprising strategic issue I06 were not at all associated with the threat–opportunity dichotomy. This is somewhat surprising, given the reliance of the company on the advantageous adoption of the technology it supported. However, one could argue that both threat and opportunity aspects are included in the market- and resources-emphases of the topics respectively, given their collocation in the cognitive space. Moreover, the threat–opportunity dichotomy was not central to strategic issue categorisation in the case company anyway.

Strategic Issue I15: Reaching New Growth through Business Development

Figure 5.5 displays strategic issue I15 in the cognitive space. Strategic issue I15 was primarily about how the core businesses of the company could be augmented with new, emerging business domains. Since part of the strategic issue management board’s mandate was to investigate new business opportunities for the corporation, it is only expected that such strategic issues are likely to be on the strategic agenda also. As strategic issue I15 however comprises a number of different new business opportunities, it may in itself be regarded only as a “container” of diverse strategic issues. However, since the corporation had been and intended to continue as a “growth company” (e.g., Fama & French, 1995; Lakonishok *et al.*, 1994), new business development can certainly be described as a strategic issue in its own right. In total this business development–related strategic issue comprised eight individual new business opportunities for the corporation, each valued perhaps up to a few percentages of the corporation’s market capitalisation.

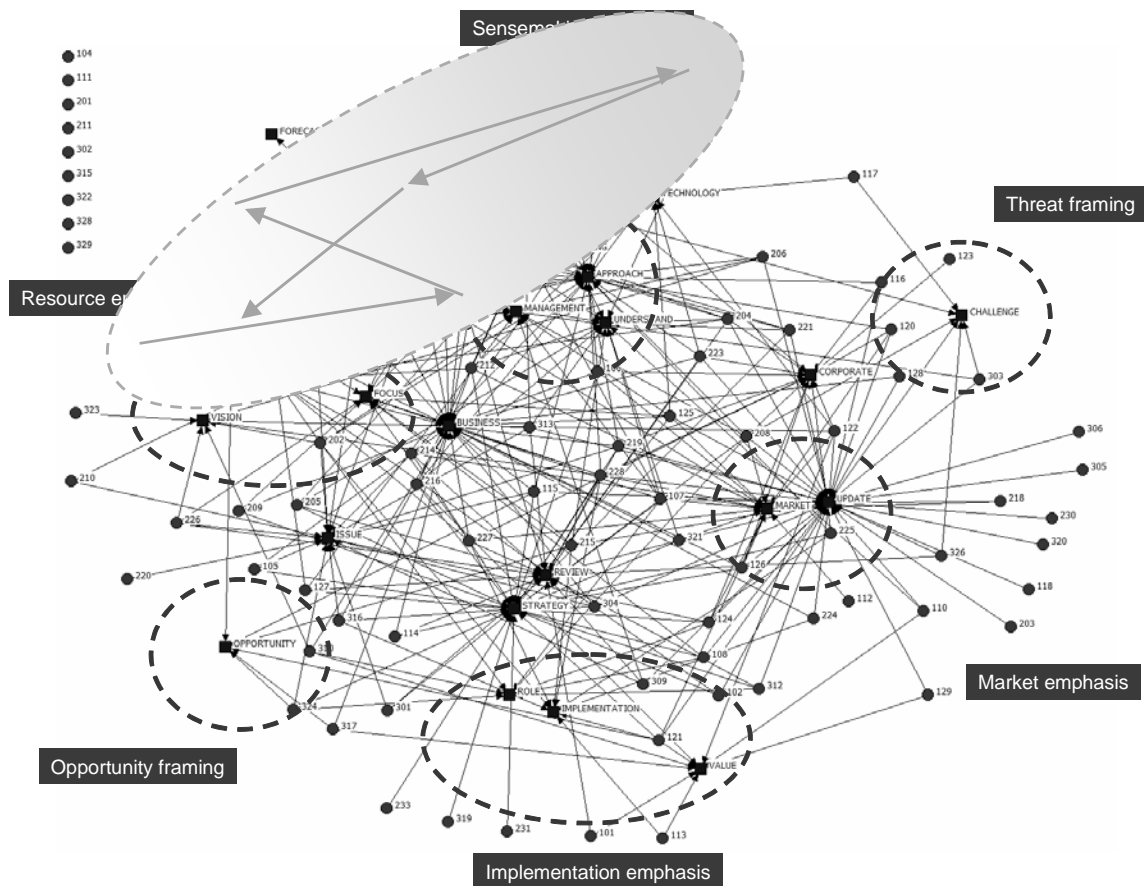


Figure 5.5 Strategic issue I15 in cognitive space: Reaching new growth through business development

Topics belonging to strategic issue I15 have commensurately been primarily sensemaking-focussed and secondarily resource- and opportunity-related, in contrast to strategic issue I03, which was primarily resource- and secondarily sensemaking-focussed. This would be explained by the fact that new business opportunities are, by their very nature, uncertain and unpredictable (e.g., Gartner, 1985; Shane & Venkataraman, 2000), making them a prime target for increasing organisational understanding through sensemaking. Somewhat surprisingly the topics were attributed only secondarily as opportunities. However, since the topics had already been identified as being relevant opportunities for the company, the discussion has likely shifted towards other dimensions (such as sensemaking in particular).

What makes this strategic issue particularly interesting is that there is no evolution of the topics in the cognitive space. Since the individual business opportunities that comprised strategic issue I15 were in the strategic issue management process only for a relatively short period of time, no evolution could be traced for them.

Overall the topics within strategic issue I15 have generated quite little discussion in the strategic issue management board meetings based on the amount of notes recorded. All

of them had been escalated from the different business units of the company (as opposed to being raised by top management). Similarly the processing of these topics has involved a surprisingly high number of participants beyond the strategic issue management meeting, with visitors outranking members by a factor of 12. This obviously reflects the specialised nature of the business opportunities, requiring specific expertise to be brought into the discussion to facilitate the sensemaking process.

Although all of these topics resulted in a fairly low impact as well as decision rightness, they may have had other benefits beyond their intrinsic value potential. Initiatives that have not yielded the highest rightness or impact may have provided the organisation valuable learning opportunities that can have substantial value in processing other strategic issues (cf. McGrath, 1999; McGrath *et al.*, 2004; Tukiainen, 2004).

5.3 Discussion and Conclusions

While extant research has emphasised the categorisation of strategic issues into either opportunities or threats to the company (Dutton & Jackson, 1987), the categorisation of strategic issues in real-life business organisations appears to be a much more multifaceted phenomenon than had previously been thought. Even though the prototypical threat–opportunity dichotomy (e.g., Dutton & Jackson, 1987; Jackson & Dutton, 1988) did appear in the cognitive space of the company, it did not play a pivotal role in the categorisation of strategic issues. Based on analysis of the cognitive space of the case company, the threat–opportunity dichotomy does in fact appear to be far less prevalent than earlier assumed.

In addition to the threat–opportunity categorisation, the analysis suggested two additional dichotomies: sensemaking vs. implementation and resources vs. markets. In the sensemaking–implementation dichotomy, sensemaking-emphasis was prevalent in the case company. This suggests that one of the fundamental roles of the strategic issue management system is indeed to increase the understanding of the strategic issues instead of direct decision making. The resources–market dichotomy was the most commonly used categorisation scheme in the case company. Interestingly, market-focussed topics tended to be overwhelmingly driven by top management, and related to opportunity and understanding aspects of strategic issues, whereas resource-focussed strategic issues seemed to be linked into the individual business sectors the company operates in.

The multiplicity of dichotomies for strategic issue categorisation implies that organisations and senior managers are likely to apply multiple categorisations concurrently to strategic issues (cf. Gilbert, 2006). Not only are strategic issue categories linked to each other in a networked manner, topics themselves were more often than not associated with multiple categories at the same time. The findings of this analysis would also lend support to Gilbert’s finding that the senior management team acts as the “frame integrator” within the company, thus reducing cognitive dissonance in the organisation at large. However, at the same time, it is likely to add to the likelihood of attentional saturation in the strategic issue management system, as incremental attention is needed to manage

coexisting cognitive categorisations and translations between different organisational units.

When compared to the longitudinal deep-dive into issue I02 in Chapter 4, which already demonstrated that the issue was perceived both as a threat and as an opportunity, the picture is somewhat different. Instead of a balanced threat-opportunity split, the decision episodes of the case seem to be more threat-related. On the other dimensions, the emphasis was on market (instead of resource) factors, which illustrates the externally oriented nature of the strategic issue. Indeed, much of the ambiguity and equivocality of the case was due to the inchoate nature of the market. And given the ambiguity and equivocality of the case, sensemaking emphasis would have been a likely hypothesis, yet most of the decision episodes were implementation-related. While this may seem somewhat paradoxical given the nature of the case, one of the main hurdles in the case was indeed implementation and the multiplicity of organisational units involved. Also the action-oriented character of the case company may have had an impact on the result. Nonetheless, although there are some discrepancies between the results from the case deep-dive and the cognitive space mapping, the results – taken together – lend further support to the findings that strategic issues are indeed categorised in multiple dimensions instead of the classical threat-opportunity labelling.

Furthermore, based on the analysis, strategic issue characteristics seem to bear significant influence on which areas of the cognitive space of the company they evoke. This will subsequently also influence how strategic issues are processed within the company and its strategic issue management system. In the sensemaking–implementation dichotomy inherent uncertainty regarding the strategic issue would seem to be associated with a sensemaking-emphasis instead of implementation-focus. This would also be well in line with organisational sensemaking theories overall (cf. Weick, 1995), which would suggest that inherent uncertainty underlies sensemaking as an activity, and that the purpose of sensemaking is to reduce the ambiguity and equivocality of strategic issues.

Also in the most often applied categorisation dichotomy – markets vs. resources – strategic issue characteristics would appear to play a significant role. In the market vs. resources dichotomy, framing would appear to be influenced less by the strategic issue characteristics *per se*, but more by whether the focus of the issue is external or internal, respectively, to the company. For example, business-specific strategic issues concerning resource allocation would tend to be resource-focussed overall, whereas strategic issues with concerns of market development or position in markets would be clearly market-framed.

Since the threat–opportunity dichotomy is not very prevalent in the cognitive space of the company, the strategic issues do not demonstrate any significant bias to either end of the spectrum based on their (antecedent) characters. Threat- or opportunity-framing would instead seem to be associated to strategic issues based on their relative positioning in the cognitive space, and through collocation with other framings. This would suggest that the coexistence of multiple framings at the same time (Gilbert, 2006) are not only possible, but are also quite typical within the cognitive space of the company.

An additional and significant conclusion from the analysis seems to be the overall dynamic of movement over time from sensemaking towards implementation (although all strategic issues may not exhibit this behaviour, as demonstrated by strategic issue I15). This move is likely to correspond to decreasing levels of uncertainty and implementation challenge with the strategic issue following intense sensemaking: Only when understanding of the strategic issue deepens can reasoned decisions about its implementation be made. Progression from sensemaking- to implementation-emphasis may not be a unidirectional movement. In fact, strategic issues can shift back to sensemaking-emphasis when their focus becomes redefined or environmental conditions change, suggesting a cyclical pattern of sensemaking and implementation in the organisation (cf. Mintzberg *et al.*, 1976).

Similar cyclicity was demonstrated also by the longitudinal case presented in Chapter 4. This case could clearly be divided into four distinct phases, each of which represented one cycle of strategic issue processing. The very same cyclical pattern was also evident in the discussion in this chapter. Within the cognitive space this strategic issue can be clearly seen to have intermittent topics of sensemaking, while a great share of the other topics are associated with other areas of the cognitive space. This intermittent pattern of sensemaking ties back to the cyclicity of strategic issue processing, where each redefinition of the problem necessitated a period of sensemaking to move the strategic issue ahead.

The dynamics within the resources–markets dichotomy appear to be more varied: the cases demonstrate movement from resource- to market-focus and *vice versa*. On the one hand, move from market- towards resource-emphasis would seem to be associated with the strategic issue being raised because of concerns over market development or the company's position in the market. As these were being resolved, the focus began shifting towards resource-related questions. On the other hand, a converse situation took place as the problem was redefined during the processing of the strategic issue, which led to a more market-focussed framing for the issue.

The findings on the evolutionary dynamics suggest that strategic issue categorisation at the senior management level is not only more multifaceted than mere threat vs. opportunity framing, but also that top management can change its categorisation dynamically as the strategic issues progress through the strategic issue management process of the company. These evolutionary traits in the cognitive space provide an understanding of how top management can manage competing cognitive frames simultaneously as suggested by Gilbert (2006): In fact, the results suggest that senior management itself changes its cognitive framing of strategic issues throughout the process, thus perhaps reducing the cognitive strain of managing multiple, competing frames concurrently.

6 Attention Allocation as Determinant of Strategic Issue Management System Performance

This chapter draws together the findings of Chapters 4 and 5, and links the discussion to factors affecting the performance of strategic issue management systems. As strategic issues are processed within the organisation, they consume varying amounts of attentional resources on the individual, interpersonal and organisational levels. Correspondingly, this chapter details how the attention allocation and sensemaking dynamics influence the strategic issue management process and its outcomes. The unit of analysis is on the decisions made regarding each of the 92 strategic issue topics.

6.1 Theoretical Background

In the context of strategic issue management and organisational attention allocation, Ocasio's work has had a substantial impact in extending the fundamental research of, for example, Ansoff and Dutton (e.g., Ansoff, 1980; Dutton, 1983, 1986b; Dutton & Duncan, 1987a). To reiterate, Ocasio views organisations as systems of structurally distributed attention (Ocasio, 1997). According to Ocasio, cognition and action of individuals are not predictable from the knowledge of individual characteristics, but are derived from the specific organisational context and situations that individual decision makers are in (cf. Weick, 1969/1979).

Ocasio defines attention as encompassing the noticing, encoding, interpreting, and focusing of time and effort by organisational decision makers on both (a) strategic issues; that is, the available repertoire of categories for making sense of the environment; namely problems, opportunities, and threats; and (b) answers, that is, the available repertoire of action alternatives; namely proposals, routines, projects, programs, and procedures. The central relationship in Ocasio's systems view of organisations is the relationship between individual and organisational information processing. This contrasts with the earlier perspectives of organisational cognition that have emphasised the shared cognitions of organisational members or its top management team (e.g., Walsh, 1995).

Ocasio proposes three interrelated metatheoretical premises for information processing that underlie how a company distributes and regulates the attention of its decision makers. At the level of individual cognition, the principle of focus of attention links attentional processing to individual cognition. At the level of social cognition, the principle of situated attention highlights the importance of the situational context for decision makers' action. At the organisational level, the principle of structural distribution of attention relates to how the company's economic and social structures regulate and channel strategic issues, answers, and decision makers into the activities, communications, and procedures that constitute the situational context of decision making.

At the individual level, attentional processes focus energy, effort, and mindfulness of organisational decision makers on a limited set of elements that enter into consciousness at any given time. Focused attention facilitates perception and action towards the strategic issues and activities being attended to. Two models of attentional processing can be distinguished: controlled and automated processing (see also Dutton, 1993). In the case of automatic processing, actions are routinised and habitual. In the case of controlled processing, the action of decision makers is triggered by those strategic issues and answers they are mindful of. However, given their selective attention, decision makers are limited in the number of strategic issues and answers they can attend to in any situation (Ocasio, 1997).

Focus of attention is triggered by the characteristics of the situations the decision makers are confronted with. Thus, individuals vary their attention depending on the situational context. The situational context provides a link between how individuals think and decide in a particular context, and how the organisation and its environment shape the situations that individuals find themselves in. Also, the dynamics of attention focusing and strategic issue strengthening are related to how an organisation distributes and controls the allocation of strategic issues, answers, and decision makers within the firm's activities, communications, and procedures. According to Ocasio, attentional processes of individual and group decision makers are distributed throughout the multiple functions that exist in organisations, with different foci of attention in each local procedure, communication or activity.

Simon (1947/1997) uses a similar conception of organisations when he describes organisational behaviour as being a complex network of attentional processes. Also Weick's social-psychological perspective stresses that sensemaking is a social process (Weick, 1995), occurring in an organisation characterised by "*a network of intersubjectively shared meanings that are sustained through the development and use of a common language and everyday social interactions*" (Walsh & Ungson, 1991: 60).

Because the processing of strategic issues often relies extensively on a wide network of participants in the organisation, and because making sense of the strategic issues is often characterised by an intensity of resource consumption, the strategic issue processing system may become saturated. The choice of appropriate approach to process the strategic issues should be dependent on issue characteristics, thereby mitigating the risk of saturation in the strategic issue management process (Kunnas *et al.*, 2006).

6.2 Hypotheses

The hypotheses focus on strategic issue management meeting, strategic issue management system, and organisation level processes of attention allocation. Figure 6.1 presents an overview of the logic utilised for building the hypotheses for the analyses.

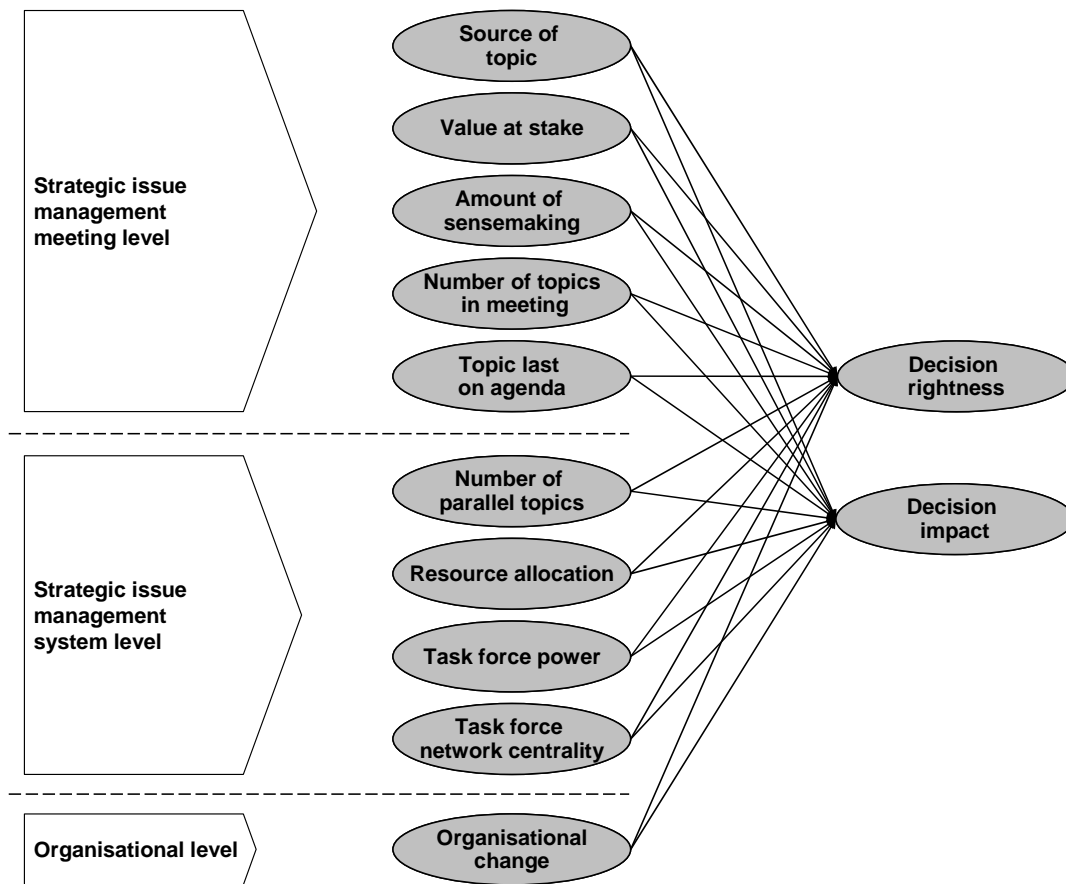


Figure 6.1 Overview of logic applied for hypotheses building

On the interpersonal level in strategic issue management meetings, the analysis examines how the strategy meeting was set up, that is, how many topics were discussed in the same meeting and how the topics were positioned on the meeting agenda. On the strategic issue management system level, the analysis examines how many parallel topics were being processed at the same time in the organisation, and what the overall resource consumption of these strategic issues was. Finally, on the organisational level, the analysis examines the influence of external organisational shocks, such as an extensive organisational change that was carried out in the case organisation. This analyses how the nature of strategic issue processing changes from the previous years where no such organisational capacity consuming events took place.

6.2.1 Attention Allocation in Strategic Issue Management Meetings

The perceived importance of a strategic issue (and a topic) can be regarded as one of the most critical characteristics of strategic issues from the managerial point of view. Since the actual importance of the strategic issue cannot be known during the processing of the issue, but only afterwards once the strategic issue has been clarified, the perceived judgment by the management has to be relied upon. Whether the perceived judgment is sufficient can be compared to having no judgment at all, which is obviously not a satisfactory situation.

The importance of a topic is affected by the initiation of the topic. In the strategic issue management system of the case company, top management played a pivotal role as a source of strategic issues. In well over half of the topics, top management was the primary source. Given that top management has multiple ways to control organisational attention allocation in addition to their direct power (e.g., Simons, 1991), strategic issue topics initiated by top management are likely to be given a higher priority in strategic issue management meetings than topics escalated from the divisions or emerged from the strategic planning process. Such elements of the structural context serve as a control mechanism for influencing members' contributions to the strategic discussions (Jarzabkowski, 2008; Lovas & Ghoshal, 2000; Simons, 1994). Senior managers can thus easily influence which strategic issues appear on the organisational agenda (Bansal, 2003; Bantel & Jackson, 1989; Finkelstein & Hambrick, 1990). Therefore, the higher the source of the topic, the higher the attention allocation in the strategic issue management meetings it is likely to receive.

The perceived value at stake contributes to the perceived importance of a topic. Topics that are seen to have a high loss or value-creation potential for the company are likely to receive more top management attention, since strategy formulation should be focussed on the most significant decisions of the company anyway (Porter, 1980). Also the perceived urgency contributes to the perceived importance of the topic. If the processing of strategic issues is seen as urgent and thus implying immediate potential losses, they are likely to receive more managerial attention (Dutton, 1986a). Similarly, perception of a threat has been found to lead to greater organisational actions than perceived opportunities (Chattopadhyay *et al.*, 2001). Therefore, the higher the value at stake associated with the topic, the higher its attention allocation in strategic issue management meetings is likely to be.

Strategising often takes place through discussions that generate and shape the understanding of the strategic issue at hand (Laine & Vaara, 2007; Mantere & Vaara, 2008; Samra-Fredericks, 2003). Interpreting and making sense of strategic issues is one of the most fundamental aspects of the strategic issue management process. Because the discursive structures present in the organisation are inherently linked to organisational cognition and attention allocation (Heracleous & Barrett, 2001), strategy can be seen as having become formulated (at least in part) through discussion in top management meetings (cf. Jarzabkowski & Seidl, 2008). Therefore, the more attention allocated to the topic in the strategic issue management meeting, the more it is discussed in the strategy meetings, and the longer the meeting notes of important points from discussion are generated.

Since senior management time is a scarce resource (Mankins, 2004; Mintzberg, 1971), the structure of the meeting agenda is both a critical attention allocation device as well as an indicator of collective attention. Given finite meeting time, the number of topics that can be processed in a single meeting is limited. Thus the more important the topic is perceived to be, the greater its share of the agenda is likely to be (Yu *et al.*, 2005). Therefore, the more important the topic is, the more attention is allocated to the topic, and the less other topics are able to make it into the meeting agenda.

Employing a similar logic, the structuring of meeting agendas can play a substantial role in how strategic issues are processed. In addition to deciding which strategic issues form the agenda, the prioritisation of strategic issues within the agenda indicates the priorities of the organisation and thus its attention allocation (Döring, 1995; McKelvey, 1976; Tallberg, 2003). The less important a topic is perceived to be, the more likely it is, for example, to be positioned as the last item in the strategic issue management meeting agenda. This reflects a practical approach of dealing first with those strategic issues that need to be handled as a high priority, as well as ensuring that there is adequate time (in a meeting of preset duration) for the most significant strategic issues. Therefore, placing a topic as the last item on the meeting agenda signals a topic of lower importance, corresponding to a lower attention allocation in the strategic issue management meeting.

Higher attention allocation in strategic issue management meetings can be expected to contribute to better strategic issue management decisions. Thus, the first hypothesis on the strategic issue management effects of attention allocation in strategic issue management meetings is as follows:

Hypothesis 1. The higher the attention allocation in strategic issue management meetings, in terms of (a) the topic being initiated by top management, (b) the perceived value at stake, (c) the amount of discussion notes written on the topic, (d) lower number of topics discussed in the meeting, and (e) the topic not placed as the last item in the meeting agenda, the higher the ex post rightness of the decision.

Higher attention allocation in strategic issue management meetings can be expected to contribute to better strategic issue management decisions in terms of the impact of these decisions. Thus, the second hypothesis on the strategic issue management effects of attention allocation in strategic issue management meetings is as follows:

Hypothesis 2. The higher the attention allocation in strategic issue management meetings, in terms of (a) the topic being initiated by top management, (b) the perceived value at stake, (c) the amount of discussion notes written on the topic, (d) lower number of topics discussed in the meeting, and (e) the topic not placed as the last item in the meeting agenda, the higher the ex post organisational impact of the decision.

Since the higher amount of attention allocation and sensemaking in strategic issue management meetings can also be driven by the perceived uncertainty and implementation challenge of a topic, management's perceived strategic issue uncertainty and implementation challenge are controlled for.

6.2.2 Attention Allocation on Strategic Issue Management System Level

While attention allocation in a strategic issue management meeting can be driven, for example, by the time available for the meeting and even the order of items on the agenda, attention allocation on the strategic issue management system level is more importantly driven by concerns such as the number of strategic issues that are being proc-

essed and the resources available for strategic issue management task forces, both in terms of person-months as well as the organisational power and the task force members' centrality. All of these aspects of systems level strategic issue management represent concerns with scarce resources and managerial capacity.

The number of simultaneously active strategic issues may cause significant coordination challenges for the people managing the strategic issue management system. To take advantage of the information processing potential of a large group of managers that can be involved in strategic issue processing (Kunnas *et al.*, 2006), it is necessary to have the leaders of individual task forces attend to different things. However, these very differences are themselves the major cause of failure of coordination amongst multiple strategic issues (Geanakoplos & Milgrom, 1991). Coordination challenges stem from the fact that the person managing the entire strategic issue management system needs to be knowledgeable enough of individual strategic issues to be able to direct the work, even if the actual work on the strategic issues has been distributed to different teams. This argument also extends to the top management team who has ownership of the entire strategic issue management system. Therefore, the higher the number of topics addressed in parallel, the lower the attention allocation to individual topic is likely to be.

Whereas all issues that are regarded by management as strategic issues are likely to be given a high priority, there remains quite a large variation across strategic issues that are seen as requiring the strongest possible teams with abundant resources, and strategic issues that can be handled more routinely. Resource allocation to individual strategic issues is constrained by the overall resources available for resolving them. Whereas resourcing to analyse strategic issues can be quite scalable through, for example, the use of consultants, coordination challenges are likely to persist (Geanakoplos & Milgrom, 1991), and increased resourcing may not necessarily improve the rightness or impact beyond a certain level. Moreover, senior management time overall is scarce (Mankins, 2004; Mintzberg, 1971), so involving them on resolving strategic issues is likely to direct their attention away from running the business on a day-to-day basis, thus implying significant costs associated with strategic issue processing. Therefore, resource allocation to strategic issue processing task forces is likely to illustrate the amount of attention invested in the strategic issue.

Furthermore, the strategic issue management team members' combined organisational power and centrality in the strategic planning and management network are constrained by the scarcity of senior management time (Mankins, 2004; Mintzberg, 1971). Although analysis resources can be added to process strategic issues, senior managers are required not only to make decisions on strategic issues, but also to lead the work forward. The role of senior managers is exacerbated by the fact that middle managers are often not knowledgeable about the organisation's strategic direction (Aguilar, 1967).⁴⁴ Senior managers therefore serve as a scarce organisational resource, whose allocation to differ-

⁴⁴ This does not take away the role of middle management as critical source of input to strategy work, as well as their role in implementing strategies (Floyd & Wooldridge, 1992, 1997; Wooldridge & Floyd, 1990), but rather suggests that their visibility is more limited than that of senior managers.

ent strategic issues is likely to reflect their prioritisation. Therefore, the higher the attention allocation to a strategic issue topic, the higher the task force power for processing that topic is likely to be.

Finally, most significant strategic issues are also more likely to be coordinated by some of the most central, key people in the strategic planning organisation. Centrality has been empirically associated with several variables that may lead to superior performance, such as influence (Burkhardt & Brass, 1990) and cognition (Walker, 1985). On the one hand, influence results from the fact that individuals who are central can exert more power by virtue of being more linked with a large number of people in the organisation (Ahuja *et al.*, 2003; Pfeffer, 1992). In addition, influence can translate into access into high level of resources, much in the same way as formal authority would (Burt, 1982). On the other hand, for cognition, proximity to those who control relevant resources and information (Salancik & Pfeffer, 1978) can provide access to situational opportunities (Ahuja *et al.*, 2003). The structural context can also influence or even determine one's interpretation of events, perceptions, cognitions and behaviours (Rice & Aydin, 1991; Walker, 1985). Finally, network links help construct and communicate social norms and expectations (Rogers & Kincaid, 1981). Therefore, the higher the attention allocation to a strategic issue topic, the higher the network centrality of the task force used to process that topic is likely to be.

Therefore, it is hypothesised that these different drivers of attention allocation on the strategic issue management system level contribute both to the rightness of the strategic issue management decisions and the impact of those decisions:

Hypothesis 3. The higher the attention allocation in a strategic issue management system, in terms of (a) a lower number of ongoing parallel topics, (b) higher resource allocation to the strategic issue management task force, (c) higher combined power of the strategic issue task force team members, and (d) higher organisational network centrality of the task force team members, the higher the ex post rightness of a strategic issue management decision.

Hypothesis 4. The higher the attention allocation in a strategic issue management system, in terms of (a) a lower number of ongoing parallel topics, (b) higher resource allocation to the strategic issue management task force, (c) higher combined power of the strategic issue task force team members, and (d) higher organisational network centrality of the task force team members, the higher the ex post impact of a strategic issue management decision.

6.2.3 Attention Allocation on Organisational Level

Compared to attention allocation in strategy meetings and on the strategic issue management system level, the effects of organisational attention allocation structures are more difficult to observe due to the contextual, stable nature of these structures. Therefore, it is not surprising that some of the best research on organisational attention allocation structures has been done as historical case studies on the structural evolution of organisations (e.g., Ocasio & Joseph, 2005, 2006).

The only comparative discontinuity that can be observed in these analyses is a significant organisational change, which took place during the window of the analysis, causing the organisation considerable additional workload on all management layers. Typically a major change is disruptive, time consuming and expensive for the organisation at large (Conner, 1993), whereas in the extreme case change can even paralyse organisations (Tushman & O'Reilly, 1997). For individual employees and managers, such changes are likely to cause tensions and insecurity (Cascio, 1993; Dekker & Schaufeli, 1995; Marks, 1994; Roskies & Louis-Guerin, 1990; Swanson & Power, 2001).

In the case company, the organisational change took almost a year of planning, and it fundamentally changed the business unit structure of the company. Whereas it is not possible to study the different attention allocation changes that the restructuring caused, it is possible to study its effects on the concurrent strategic issue management performance, and hypothesise that due to its attention-consuming nature, a major organisation change affects both strategic issue decision quality and decision impact negatively:

Hypothesis 5. A major organisation change is negatively related to (a) the ex post rightness and (b) the impact of strategic issue management decisions.

6.3 Methods

6.3.1 Dependent Variables

Ex post decision rightness and decision impact. As the first dependent variable, the strategy board's decision quality was coded on a 5-level scale as follows [2 right; 1 somewhat right; 0 neutral; -1 somewhat wrong; -2 wrong]. The coding was based on the *ex post* knowledge of the research team of what happened after the decision. Determining the performance of strategic issue processing is difficult, because although one can clearly distinguish successful and failed decisions, alternative histories do not exist. Thus, it is difficult to say whether other decision options would have been even more successful or whether other decision options would have led to even worse outcomes. Moreover, there were also many decisions that were relatively neutral and thus could not be classified as clearly successful or clearly non-successful decisions. From a practical point of view it is particularly important to be able to distinguish between small and large successes and failures.

In order to complement the measure of decision quality, another measure, named the decision impact, was specified and coded on a three-level scale [0; 1; 2], where 0 corresponded to insignificant effects, 1 to focused impact on limited scale, and 2 to wide impact and major implications. Decision impact complements decision rightness by providing additional insight into the amplitude of changes resulting from a given decision. In general, in every decision making situation, not only is the purpose to reach the right decision, but also to have a sizable impact on subsequent decision making.

One should also note that the judgments made about the outcomes of the decisions can be highly time dependent: for example, what is considered successful by today's stan-

dards may be considered unsuccessful some time later in the future. Moreover, even though a few years have already passed since the end of the data set, some of the strategic issues addressed have not been conclusively settled yet; at least not in a way that would allow for an incontestable assessment even a few years after the fact.

6.3.2 Independent and Control Variables

Initiated by top management. It was identified whether the topic was raised by the top management directly as opposed to, for example, being escalated from a business group, or spun off from the annual planning cycle. This variable was coded with a binary scale [0; 1], where 1 corresponded to the source being the top management.

Value at stake. The perceived value at stake of a topic was determined based on a comparison of the estimated impact of the topic to the market capitalisation of the company using a scale of [0.25; 2.5; 7.5] where the numbers correspond to a value impact between [0%; 0.5%] of the firm's market capitalisation, between [0.5%; 5%] of market capitalisation, and more than 5% of market capitalisation.

Amount of discussion notes. The amount of discussion notes generated was counted from the protocols of the strategic issue management meetings, and was defined as the word count for the topic. The amount of discussion notes reflects the amount of sense-making for the topic in the strategic issue management meeting: more ambiguous topics are likely to require more sensemaking, generate more discussion, and result in longer discussion notes.

Number of topics in the meeting, topic as the last item of the agenda, and number of concurrently active topics. The number of topics in the meeting was defined as a count variable describing how many topics were on the meeting agenda, that is, how many topics were discussed. Topic as the last item of the agenda is a dummy variable [0; 1] taking the value 1 if the topic was placed last on the meeting agenda. Number of currently active topics is a count variable that indicates how many topics overall were in progress in the organisation at a given time.

Resources invested in the strategic issue task force, combined task force power, and the centrality of the strategic issue task force members. Organisational investment in strategic issue processing was determined on a scale of [1; 5; 15] where 1 corresponded to "one man's show", 5 corresponded to 1...10 people actively involved in strategic issue processing, and 15 corresponded more than 10 people actively involved. To create a measure of the organisational seniority of the strategic issue management team, the organisational power of the strategic issue processing task force was determined based on the members' distance in organisational layers from the top of the organisation (sum of squares of the inverse numbers of members' distances in organisational layers from the top). Finally, the network constituted by the members of the strategic planning organisation was also mapped and the network centrality of the strategic issue task force members was determined. The network was created so that a link was established between all the people that had been involved in processing the same strategic issue over the three-year time horizon. Thus, the higher the total centrality of the strategic issue task

force members in strategic issue processing, the more core personnel they were and the more experience they had in managing strategic issues.

Organisational change. Due to a significant organisational change (company-wide restructuring) in the case company, external disturbance to the strategic issue management system must be controlled for. A binary dummy variable [0; 1], was defined receiving the value 1 for the year with a major organisation change and 0 without change, respectively.

Perceived uncertainty and implementation challenge. Perceived management uncertainty as well as implementation challenge at the time of the strategic issue processing were also controlled for. The perceived uncertainty was defined as a perceptual measure on a three-level scale of [1; 2; 3]. Accordingly, 1 corresponded to a simple lack of information that could be reduced through additional information collection, 2 to a lack of knowledge where such information could be gained, and 3 to a more fundamental inability to predict what is going to happen. Similarly, the perceived implementation challenge was defined on a three-level scale of increasing difficulty: 1 corresponded to a situation where the prevailing structures did not restrain implementation, 2 corresponded to a situation where the prevailing structures and assets posed a barrier to implementation, and 3 corresponded to a situation where implementing change was regarded as being highly challenging.

Finally, dummy variables for the perceived threat, perceived opportunity, sensemaking emphasis, implementation emphasis, resource emphasis, market emphasis, business emphasis, and corporate emphasis were coded [0; 1]. A separate control variable was included for technology emphasis. All these variables were coded according to management's notes based on analysis in Chapter 5 on cognitive space mapping and strategic issue categorisation.

6.4 Results

Table 6.1 provides descriptive statistics and correlations of the data. All correlations are below the 0.70 threshold, indicating that there should not be serious multicollinearity problems inherent in the research setting. The highest correlation (0.62) is between the combined power of task force and centrality of task force members. This is as expected, since the most powerful people also tend to be central in a strategic issue management network.

The correlations also show that the topics initiated by top management are perceived as having higher values at stake, are resourced on average more and with more powerful task forces, and have more central task force members. Yet, the number of concurrently active topics would seem to limit the use of central task force members in the task forces, providing initial support for the attention allocation arguments.

Table 6.1 Means, standard deviations, and correlations of the studied variables

| | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
|--|-------|-------|---------|---------|---------|---------|---------|--------|-------|---------|------|--------|---------|---------|--------|------|------|-------|--------|--------|-------|--------|-----|------|
| 1 Rightness | 1.21 | 0.92 | | | | | | | | | | | | | | | | | | | | | | |
| 2 Impact | 1.51 | 0.60 | .44*** | | | | | | | | | | | | | | | | | | | | | |
| 3 Initiated by top management | 0.63 | 0.49 | .12 | .35*** | | | | | | | | | | | | | | | | | | | | |
| 4 Perceived value at stake | 3.42 | 2.94 | .11 | .45*** | .31*** | | | | | | | | | | | | | | | | | | | |
| 5 Amount of discussion notes | 96.68 | 81.46 | .03 | .21** | .18* | .10 | | | | | | | | | | | | | | | | | | |
| 6 Number of issues in the meeting | 3.28 | 0.82 | -.21** | .02 | -.18* | .04 | -.21** | | | | | | | | | | | | | | | | | |
| 7 Issue as the last item of the agenda | 0.33 | 0.47 | -.16 | -.32*** | .10 | -.40*** | .02 | -.19* | | | | | | | | | | | | | | | | |
| 8 Number of concurrently active issues | 4.64 | 0.97 | -.32*** | -.12 | -.15 | .00 | -.04 | .24** | -.05 | | | | | | | | | | | | | | | |
| 9 Resourcing of the issue | 7.11 | 4.39 | .08 | .35*** | .28*** | .27*** | -.08 | -.07 | -.14 | -.11 | | | | | | | | | | | | | | |
| 10 Combined power of task force | 0.28 | 0.17 | .01 | .18* | .28*** | .12 | .06 | -.06 | .05 | -.17 | .11 | | | | | | | | | | | | | |
| 11 Centrality of task force members | 9.66 | 9.16 | .08 | .14 | .32*** | -.07 | .27*** | -.07 | .22** | -.30*** | .09 | .62*** | | | | | | | | | | | | |
| 12 Year dummy, Major organization change | 0.32 | 0.47 | -.33*** | -.46*** | -.26*** | .02 | -.27*** | -.01 | -.02 | .20* | -.16 | -.13 | -.31*** | | | | | | | | | | | |
| 13 Perceived uncertainty | 1.84 | 0.65 | -.37*** | -.07 | -.19* | -.21** | .10 | .34*** | -.08 | .12 | -.01 | -.04 | -.02 | -.05 | | | | | | | | | | |
| 14 Perceived implementation challenge | 1.59 | 0.50 | -.20* | .09 | -.09 | -.15 | -.09 | .16 | -.03 | .10 | -.01 | .03 | .07 | .05 | .44*** | | | | | | | | | |
| 15 Perceived threat | 0.07 | 0.25 | .04 | .00 | .02 | .00 | -.05 | .02 | .19* | -.13 | .17* | .15 | .14 | .01 | -.07 | .13 | | | | | | | | |
| 16 Perceived opportunity | 0.07 | 0.25 | -.16 | .00 | -.07 | .29*** | .01 | -.04 | -.09 | .01 | .07 | .15 | .00 | .11 | -.07 | -.05 | .11 | | | | | | | |
| 17 Corporate emphasis | 0.16 | 0.37 | -.04 | .07 | .16 | -.06 | .36*** | -.19* | .01 | -.20* | .19* | -.05 | .18* | -.30*** | .11 | -.11 | .00 | -.12 | | | | | | |
| 18 Business emphasis | 0.34 | 0.48 | -.14 | .01 | -.07 | .09 | .23** | -.05 | .04 | -.04 | .03 | .00 | -.02 | .01 | .07 | -.06 | -.10 | .09 | .18* | | | | | |
| 19 Technology emphasis | 0.14 | 0.35 | .04 | .02 | -.14 | -.04 | .15 | -.03 | .05 | -.08 | -.08 | .01 | .08 | -.07 | .05 | .09 | .15 | -.11 | -.01 | .31*** | | | | |
| 20 Sensemaking emphasis | 0.43 | 0.50 | .02 | .06 | .17 | .12 | .34*** | -.22** | .00 | -.01 | .06 | -.10 | .12 | -.12 | -.08 | .07 | -.05 | .03 | .21** | .12 | .21** | | | |
| 21 Implementation emphasis | 0.24 | 0.43 | .01 | .07 | .06 | .14 | .27** | -.13 | -.01 | .02 | .02 | .13 | .07 | -.11 | .02 | -.15 | .06 | .26** | .17 | .03 | -.15 | -.08 | | |
| 22 Market emphasis | 0.47 | 0.50 | .12 | .15 | .27** | .12 | .27*** | -.11 | -.09 | .01 | .13 | .16 | .24** | -.17 | .00 | .08 | .11 | .02 | .29*** | .07 | -.13 | .15 | .14 | |
| 23 Resource emphasis | 0.28 | 0.45 | .20* | .07 | .03 | -.03 | .37*** | -.04 | .23** | -.09 | -.08 | .01 | .13 | -.11 | .08 | .09 | -.07 | -.07 | -.08 | .22** | .16 | .28*** | .04 | -.01 |

* significant at 10%; ** significant at 5%; *** significant at 1%

Ordered logit regression analyses were employed to test the hypotheses, and to gain a deeper understanding of how allocation of attention on the strategic issue management meeting, strategic issue management system, and organisational levels affect the strategic issue management process and, more specifically, the *ex post* evaluated rightness and impact of the individual decisions regarding strategic issues. All the regressions were performed using White's heteroscedasticity-adjusted robust standard errors and the variance inflation factor statistics show no serious signs of multicollinearity. The results of the first set of regression analyses are shown in Table 6.2.

Table 6.2 Ordered logistic regression results on strategic issue management system performance with *ex post* decision rightness as the dependent variable

| | Decision rightness | | | | |
|---------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| | Model I | Model II | Model III | Model IV | Model V |
| Initiated by top management | | 0.394 (0.637) | | | -0.399 (0.933) |
| Perceived value at stake | | -0.058 (0.123) | | | 0.063 (0.159) |
| Amount of discussion notes | | -0.001 (0.004) | | | -0.003 (0.005) |
| Number of issues in the meeting | | -0.516 (0.342) | | | -0.853 (0.471)* |
| Issue as the last item of the agenda | | -1.973 (0.690)*** | | | -1.824 (0.706)*** |
| Number of concurrently active issues | | | -0.797 (0.288)*** | | -0.548 (0.275)** |
| Resourcing of the issue | | | 0.047 (0.059) | | 0.011 (0.084) |
| Combined power of task force | | | -0.969 (1.037) | | -1.712 (1.212) |
| Centrality of task force members | | | -0.016 (0.036) | | -0.003 (0.041) |
| Year dummy, Major organization change | | | | -1.711 (0.604)*** | -2.368 (1.014)** |
| Perceived uncertainty | -1.192 (0.407)*** | -1.275 (0.513)** | -1.179 (0.466)** | -1.292 (0.496)*** | -1.249 (0.600)** |
| Perceived implementation challenge | -0.662 (0.576) | -0.800 (0.616) | -0.496 (0.579) | -0.665 (0.582) | -0.853 (0.649) |
| Perceived threat | -0.097 (1.031) | 0.927 (1.613) | -0.529 (1.198) | -0.147 (1.264) | 0.582 (1.767) |
| Perceived opportunity | -0.975 (0.852) | -1.241 (0.847) | -1.194 (1.293) | -0.572 (1.176) | -1.237 (1.783) |
| Corporate emphasis | 0.132 (0.679) | -0.004 (0.744) | -0.566 (0.666) | -0.663 (0.784) | -1.623 (0.978)* |
| Business emphasis | -1.115 (0.692) | -1.123 (0.670)* | -1.142 (0.765) | -0.899 (0.706) | -1.013 (0.79) |
| Technology emphasis | 1.044 (1.05) | 0.935 (1.083) | 1.084 (1.175) | 1.000 (1.188) | 0.817 (1.302) |
| Sensemaking emphasis | -0.426 (0.487) | -0.675 (0.502) | -0.320 (0.538) | -0.451 (0.531) | -0.699 (0.721) |
| Implementation emphasis | -0.024 (0.503) | -0.124 (0.527) | 0.302 (0.503) | -0.240 (0.51) | -0.207 (0.565) |
| Market emphasis | 0.799 (0.453)* | 0.592 (0.475) | 1.007 (0.497)** | 0.828 (0.488)* | 1.130 (0.741) |
| Resource emphasis | 1.596 (0.573)*** | 2.313 (0.580)*** | 1.525 (0.674)** | 1.257 (0.622)** | 1.954 (0.608)*** |
| Observations | 92 | 92 | 92 | 92 | 92 |
| Wald Chi-Squared | 25.63 | 38.93 | 49.23 | 44.84 | 61.11 |
| Prob > Chi-Squared | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pseudo R-squared | 0.15 | 0.20 | 0.19 | 0.20 | 0.31 |

Robust standard errors in parentheses. Two-tailed test of significance

* significant at 10%; ** significant at 5%; *** significant at 1%

Model I provides the base model with control variables only. Model II provides a test for Hypotheses 1a, 1b, 1c, 1d, and 1e. No support is found that, when evaluated *ex post*, better decisions would have been made regarding topics that are initiated by top management or topics where the value at stake is high. Moreover, no evidence is found that the amount of sensemaking in terms of discussion notes or the number of topics discussed in the meeting would affect the quality of the decisions, even though the number of topics in the meeting and the amount of discussion notes written regarding a topic are negatively related to each other. However, support is found for hypothesis H1e, according to which less correct decisions are made regarding topics that are placed as a last item in the strategy board's agenda.

Model III examines the effect of attention allocation on the strategic issue management system level on the rightness of strategic issue management decisions, in line with Hypotheses 3a, 3b, 3c, 3d, and 3e. On the strategic issue management system level, support is found for Hypothesis 3a that the number of concurrently active topics is negatively related to the quality of the decisions. This would seem to indicate that the system-level attention allocation capacity constraints are not in terms of the resources allocated to an individual topic, or the power or network centrality of the strategic issue management team members. Instead the capacity limits would seem to be caused by the system level coordination and strategic issue processing capacities.

Model IV examines the effects of major organisation level changes that took place during one of the three years of the observation period. Consistent with the organisation-level attention allocation Hypothesis 5a, support is found that external constraints to organisational attention allocation capacity may lead to lower quality of strategic issue management decisions when the decision quality is examined *ex post*.

Finally, Model V combines Models I through IV demonstrating that the results remain stable even when the three layers of attention allocation structures are jointly included in the analysis. In addition, on the basis of the control variables, it can be noted that, as expected, the perceived uncertainty at the time of decision is also a strong negative determinant on the rightness of the decisions. In contrast, categorisation with resource-emphasis would seem to be positively related to decision rightness in a significant way, whereas market-emphasis would also have some positive influence.

The second set of regressions, shown in Table 6.3, examines the impact of strategic issue management decisions as an alternative outcome measure to decision rightness.

Table 6.3 Ordered logistic regression results on strategic issue management system performance with *ex post* decision impact as the dependent variable

| | Decision impact | | | | |
|---------------------------------------|-------------------|----------------------|---------------------|----------------------|----------------------|
| | Model VI | Model VII | Model VIII | Model IX | Model X |
| Initiated by top management | | 1.816 (0.643)*** | | | 1.275 (0.753)* |
| Perceived value at stake | | 0.446 (0.168)*** | | | 0.652 (0.294)** |
| Amount of discussion notes | | 0.010 (0.006)* | | | 0.013 (0.009) |
| Number of issues in the meeting | | 0.138 (0.355) | | | 0.043 (0.484) |
| Issue as the last item of the agenda | | -1.937 (0.621)*** | | | -2.674 (0.937)*** |
| Number of concurrently active issues | | | -0.149 (0.244) | | 0.002 (0.318) |
| Resourcing of the issue | | | 0.239 (0.064)*** | | 0.290 (0.117)** |
| Combined power of task force | | | 2.589 (1.782) | | 1.088 (2.36) |
| Centrality of task force members | | | -0.024 (0.037) | | 0.005 (0.072) |
| Year dummy, Major organization change | | | | -2.283 (0.561)*** | -4.518 (1.144)*** |
| Perceived uncertainty | -0.549 (0.363) | -0.846 (0.561) | -0.671 (0.42) | -0.681 (0.397)* | -1.345 (0.687)* |
| Perceived implementation challenge | 0.682 (0.549) | 1.650 (0.764)** | 0.896 (0.617) | 0.998 (0.649) | 2.668 (0.843)*** |
| Perceived threat | -0.073 (1.135) | 0.940 (1.858) | -1.350 (1.628) | -0.147 (1.102) | 0.584 (1.939) |
| Perceived opportunity | -0.245 (0.885) | -1.592 (1.534) | -0.605 (0.854) | 0.110 (1.092) | -2.856 (1.984) |
| Corporate emphasis | 0.308 (0.6) | 0.303 (0.876) | 0.070 (0.788) | -0.470 (0.724) | -1.647 (1.534) |
| Business emphasis | -0.103 (0.467) | -0.132 (0.533) | -0.210 (0.521) | 0.199 (0.547) | 0.535 (0.599) |
| Technology emphasis | 0.185 (0.601) | 0.151 (0.671) | 0.737 (0.693) | -0.117 (0.753) | -0.874 (0.89) |
| Sensemaking emphasis | -0.233 (0.464) | -1.123 (0.665)* | -0.282 (0.516) | -0.206 (0.491) | -1.364 (1.007) |
| Implementation emphasis | 0.393 (0.587) | -0.181 (0.776) | 0.488 (0.66) | 0.296 (0.545) | -0.332 (1.401) |
| Market emphasis | 0.554 (0.473) | -0.360 (0.702) | 0.562 (0.535) | 0.353 (0.535) | -1.262 (1.497) |
| Resource emphasis | 0.349 (0.501) | 1.055 (0.607)* | 0.496 (0.529) | 0.036 (0.556) | 1.056 (0.635)* |
| Observations | 92 | 92 | 92 | 92 | 92 |
| Wald Chi-Squared | 5.91 | 32.61 | 29.45 | 21.54 | 65.02 |
| Prob > Chi-Squared | 0.88 | 0.01 | 0.01 | 0.04 | 0.00 |
| Pseudo R-squared | 0.04 | 0.32 | 0.15 | 0.16 | 0.55 |

Robust standard errors in parentheses. Two-tailed test of significance

* significant at 10%; ** significant at 5%; *** significant at 1%

Model VII shows the effects of the strategic issue management meeting level determinants as a test for Hypotheses 2a, 2b, 2c, 2d, and 2e. Four of the five hypotheses are supported. The decision impact is higher when the topic was initiated by top management, when the perceived value at stake is high, when the topic led to extensive sense-making in the strategic issue management meeting as evidenced in the meeting discussion notes, and when the topic was not the last topic on the agenda. The only hypothesis that was not supported was Hypothesis 2d, relating to the number of topics in the meeting agenda.

Model VIII examines the effect of strategic issue management system characteristics on the decision impact consistent with Hypotheses 4a, 4b, 4c, and 4d. Model VIII provides support only for Hypothesis 4b, according to which resource allocation to the resolution of a strategic issue topic contributes to decision impact. No support is found that task force power or the centrality of the task force members would have a similar effect. Moreover, the number of concurrently active topics does not seem to contribute to decision impact.

Model IX confirms, similarly to Model IV, that a major organisation change can have a substantial effect on a strategic issue management system performance that depends on task force participants from around the organisation. Taking into account that similar overarching structural changes take place, for example, in connection with mergers and acquisitions, this finding provides important evidence of the negative effects that may be experienced as a consequence of a reduced strategic issue management capacity (see also Yu *et al.*, 2005). Finally, as a conclusion of the analysis, Model X combines the three different levels of explanatory variables into a combined model. All the independent variables remain statistically significant, although the effect of the perceived value at stake decreases somewhat.

With regard to control variables, the threat and opportunity controls would not seem to be related to the performance of the strategic issue management system whereas an emphasis on resources would seem to be an important determinant of decision rightness.

Table 6.4 summarises the results of the regression analyses with respect to the hypotheses.

Table 6.4 Summary of results of regression analyses

| | Hypothesis | Supported |
|--|--|------------------|
| Attention allocation in strategic issue management meetings | | |
| H1 | Higher attention allocation in strategic issue management meetings leads to a higher <i>ex post</i> rightness of the decision | |
| H1a | The higher in the organisation the source bringing the topic forward, the higher the decision quality | No |
| H1b | The higher the perceived value at stake, the higher the decision quality | No |
| H1c | The higher the amount of discussion notes written on the topic, the higher the decision quality | No |

| | | |
|--|--|-----|
| H1d | The lower number of topics discussed in the meeting, the higher the decision quality | No |
| H1e | If the topic is not placed as the last item in the meeting agenda, the higher the decision quality | Yes |
| H2 | Higher attention allocation in strategic issue management meetings leads to a higher <i>ex post</i> organisational impact of the decision | |
| H2a | The higher in the organisation the source bringing the topic forward, the higher the decision impact | Yes |
| H2b | The higher the perceived value at stake, the higher the decision impact | Yes |
| H2c | The higher the amount of discussion notes written on the topic, the higher the decision impact | Yes |
| H2d | The lower number of topics discussed in the meeting, the higher the decision impact | No |
| H2e | If the topic is not placed as the last item in the meeting agenda, the higher the decision impact | Yes |
| Attention allocation on the strategic issue management system level | | |
| H3 | Higher attention allocation in strategic issue management system leads to a higher <i>ex post</i> rightness of the decision | |
| H3a | The lower the number of ongoing parallel topics, the higher the decision quality | Yes |
| H3b | The higher the resource allocation to the strategic issue management task force, the higher the decision quality | No |
| H3c | The higher the combined power of strategic issue management task force team members, the higher the decision quality | No |
| H3d | The higher the organisational network centrality of task force team members, the higher the decision quality | No |
| H4 | Higher attention allocation in strategic issue management system leads to a higher impact of the decision | |
| H4a | The lower the number of ongoing parallel topics, the higher the decision impact | No |
| H4b | The higher the resource allocation to the strategic issue management task force, the higher the impact | Yes |
| H4c | The higher the combined power of strategic issue task force team members, the higher the decision impact | No |
| H4d | The higher the organisational network centrality of task force team members, the higher the decision impact | No |
| Attention allocation on the organisational level | | |
| H5 | A major organisation change is negatively related to <i>ex post</i> decision rightness and impact | |
| H5a | A major organisation change is negatively related to decision <i>ex post</i> rightness | Yes |
| H5b | A major organisation change is negatively related to decision impact | No |

6.5 Discussion and Conclusions

This chapter discussed the link between organisational attention allocation and the performance of the strategic issue management system. While earlier research has emphasised the effect of categorising a strategic issue into an opportunity or a threat, the preceding analysis shows that attention allocation also more generally plays a significant role in determining the quality and impact of decisions regarding strategic issues. However, contrary to what one would have expected based on literature, the different strategic issue management characteristics, such as task force power or network centrality, seem to have quite limited explanatory power for decision outcomes.

Some of the strongest strategic issue management system relationships would seem to be between the relationships between perceived value at stake and resources invested in managing the strategic issue, and strategic issue impact. In line with extant theory that links perceived urgency (e.g., Chattopadhyay *et al.*, 2001; Dutton, 1986a) – whether in terms of threat-perception or potential financial losses – with increased attention to resolve the strategic issue, the analyses in this chapter provide further evidence that a perception of high value at stake leads to higher organisational impact (cf. Gilbert, 2006).

The other significant contributor to organisational impact was resourcing put into resolving the strategic issue. Resource investment alone is, however, a rather blunt instrument in managing a strategic issue. Large amounts of resources invested may ensure a high impact already due to its escalation of commitment effect (Adner & Levinthal, 2004a, b; Conlon, 1999; Kogut & Kulatilaka, 2004; McGrath *et al.*, 2004; Staw, 1981; Staw & Hoang, 1995; Whyte, 1986; Zardkoohi, 2004) without ensuring decision quality. Whereas resourcing is influencing organisational impact when processing strategic issues, it appears surprising that neither task force power (cf. Aguilar, 1967) nor task force centrality (cf. Burkhardt & Brass, 1990; Walker, 1985) contribute to organisational impact. This could imply that top executives and other senior managers, albeit from a corporate governance standpoint (Shleifer & Vishny, 1997), might be less instrumental in implementing the strategy than assumed (e.g., Aguilar, 1967; Hambrick & Mason, 1984), and that middle management's role in driving impact of strategic decisions would be significant (cf. Floyd & Wooldridge, 1992, 1997; Guth & MacMillan, 1986; Wooldridge & Floyd, 1990).

One of the strongest determinants of decision quality, on the other hand, would seem to be the perceived uncertainty. Because strategic issues are, by their very nature, complex and ambiguous, one of the key functions of the strategic issue management system is to interpret and make sense of them (Daft & Weick, 1984; Weick, 1995). Those strategic issues that are inherently more uncertain than others, are thus likely to pose greater challenges for the organisation. Therefore, *ceteris paribus*, more uncertain strategic issues would be more difficult to resolve, and thus lead to poorer quality of decisions. What is noteworthy, though, is that the effects of uncertainty would not seem to be eliminated entirely by the different strategic issue management process characteristics, suggesting that process has not been entirely successful in processing strategic issues that are characterised by a great deal of uncertainty. Nonetheless, reduction of uncertainty surround-

ing strategic issues is a tall order, so this in itself cannot be regarded as a failure for the system overall.

On the basis of the control variables, it can be further noted that resource-emphasis would seem to be positively related to both decision rightness and decision impact, whereas the other strategic issue categories would seem to have little statistical significance with respect to strategic issue management system performance. This would suggest that in terms of processing strategic issues, categories would explain only a little of the differences in decision rightness and impact. This finding is in contrast to existing literature stating, for example, that threat-framing would lead to higher organisational impact than opportunity-framing would (e.g., Dutton & Jackson, 1987; Kahneman & Tversky, 1984). However, since the case organisation typically tended to categorise the same strategic issue into more than one frame at any given time, the company's top management may have indeed been able to maintain coexisting, competing frames (cf. Gilbert, 2006). This can have, for its part, reduced the effect of strategic issue categories *per se* on decision rightness and impact, but may have led to an increased cognitive burden for top management.

The results also provide evidence that strategic issue management is integrally linked to the wider cognition of the organisation. Put differently, organisational attentional capacity is likely to be largely constant (or at least highly inelastic), implying that organisational attention can only be reallocated, not increased. Significant corporate events such as large reorganisations (as in this study) or mergers and acquisitions (Hitt *et al.*, 1990; Hitt *et al.*, 1991; Yu *et al.*, 2005) can absorb significant amounts of managerial attention, diverting attention away from strategic issue processing, thereby negatively influencing both decision rightness and organisational impact.

Extending the findings of Thomas and McDaniel (1990) on top management teams' information processing capacity, evidence of limits to the strategic issue processing capacity in the firm on multiple levels of the system is found. Prior research that has examined strategic issue management predominantly at the issue level (e.g. Dutton, 1986a; Dutton & Duncan, 1987a) has given limited attention to the strategic issue management capacity of an organisation, or has dealt with it on a relatively abstract level (Daft & Weick, 1984; Dutton & Ottensmeyer, 1987).

The results provide support for the notion that an organisation's attention allocation capacity and its saturation are influenced by practices (i) in the strategic issue management meetings, (ii) on the strategic issue management system level, and (iii) in the organisation at large. The concept of strategic issue management system saturation contributes to bridging the recent attention allocation stream of strategy process research (Ocasio, 1997; Ocasio & Joseph, 2005, 2006) with the more established strategic issue management research.

7 Discussion and Conclusions

7.1 Discussion of Results

This dissertation set out to analyse how corporations deal with strategic issues that emerge from outside their regular strategy processes. The research took a portfolio view of the entirety of strategic issues of the corporation, and examined their development over time. In particular, the aim of the research was to increase the understanding of (i) how individual strategic issues evolve over time as they are processed in the strategic issue management system of the company, (ii) how the cognitive space of the company impacts strategic issue processing, and (iii) how attention allocation is linked to strategic issue management system performance.

Two bodies of knowledge underpinned the present research, namely information processing and sensemaking dynamics in organisations, as well as strategic issue management. For the former, the attention-based view of the company (e.g., Ocasio, 1997) – which integrates many of the earlier strands of research ranging from the so-called Carnegie school on bounded rationality (e.g., Cyert & March, 1963/1992; March & Simon, 1958/1993; Simon, 1947/1997) to the social-psychological perspective of sensemaking (e.g., Weick, 1969/1979, 1995) – serves as the primary theoretical foundation that addresses the organisational cognition underpinning strategic issue management. For the latter, the received literature on strategic issue management links the particular aspects of processing strategic issues into the cognitive foundations present in the organisation. Working in the backdrop, organisational cognition influences strategic issue management in a systematic manner throughout the process, namely scanning (e.g., Aguilar, 1967; Hambrick, 1982), interpretation (e.g., Daft & Weick, 1984; Dutton *et al.*, 1983), and planning for action (e.g., Dutton & Ashford, 1993; Dutton & Duncan, 1987a, b). Despite recent advances in the research of managerial cognition (e.g., Gilbert, 2006; Kaplan, 2004, 2008; Kaplan *et al.*, 2003; Yu *et al.*, 2005), the extant literature has still some gaps, particularly in regard to the longitudinal evolution of strategic issues within the strategic issue management system of a company, the cognitive space applied in processing strategic issues in companies, and the effects of organisational attention allocation on strategic issue management system performance. It is to these three areas that the present dissertation has tried to make its contribution.

Beginning with a deep-dive into the longitudinal evolution of a strategic issue over time in the strategic issue management system of the case company, the analysis followed the processing of a strategic issue for a period of more than five years. First, the case clearly highlights the cyclicity of strategy making in companies (cf. Hendry & Seidl, 2003; Mintzberg *et al.*, 1976), as the case clearly was manifested into four distinct periods spanning over five years in time with distinctly different formulations of the problem (cf. Dutton, 1983). Second, related to the long duration of the strategic issue in the strategic issue management system of the company, the case raises the question of the appropriate timing to put the interpreted issue into implementation (as opposed to maintaining in a monitoring state). Based on the analysis, companies in technology-driven

industries with discontinuities (Anderson & Tushman, 1990) with increasing returns adoption (Arthur, 1989, 1994, 1996) may benefit from being an early-mover (Lieberman & Montgomery, 1988) to avoid being locked out of the industry. Third, the case demonstrates how categorisation of strategic issues is not related merely to the threat–opportunity dichotomy (e.g., Dutton & Jackson, 1987). Not only did the case exhibit both threat and opportunity categorisation over its lifespan, the strategic issue was categorised also utilising the two other dichotomies (markets vs. resources, and sense-making vs. implementation) in the case company’s cognitive space. Fourth, the case effectively demonstrates how processing strategic issues is a social, distributed process, where weak signals are either further strengthened or filtered out through a social sensemaking process, thus influencing how strategic issues end up on the corporate agenda (cf. Dutton, 1986b). Fifth, and linked to the previous point, the case provides further evidence to the networked mode of strategic issue processing takes place in organisations. In particular, the study finds further support to the notion that autonomous, self-configuring networks can contribute to strategic issue management by bringing in appropriate expertise as well as supporting in moving strategic issues into implementation.

Analysing the impact of cognitive space of the company to the processing of strategic issues on a system level, the research sheds more light on both the categorisation of strategic issues (e.g., Dutton & Jackson, 1987; Jackson & Dutton, 1988), as well as the cognitive space (e.g., Bougon, 1992; Eden, 1992a) that underpins strategic issue processing in companies. Whereas strategic issue categorisation literature has traditionally focussed on the threat–opportunity dichotomy (e.g., Dutton & Jackson, 1987), the analysis suggests that the situation is more complex. Based on the illustration of the cognitive space developed based on text analysis, threat and opportunity do indeed serve as typically occurring labels for strategic issues, consistent with previous research. However, the analysis suggests that there may be more dimensions to categorise strategic issues than merely threat–opportunity, and that the threat–opportunity dichotomy may not be as central as previously thought. In addition, two other dichotomies were present in the case company, namely sensemaking–implementation and market–resource emphases. And not only was strategic issue categorisation more multifaceted than previously thought, the categories themselves turned out to be quite different, based on descriptive statistics: For example, sensemaking-related topics not surprisingly tended to have the broadest network of experts involved in strategic issue processing, whereas market-focussed topics were overwhelmingly initiated by top management.

Since strategic issues tend to be substantially different in their characteristics, they also employ different areas of the cognitive space, which subsequently influences how they are processed. For example, inherent uncertainty with the strategic issue is likely to lead to a sensemaking-emphasis (instead of implementation-focus). In a similarly predictive manner, strategic issues that would appear to be focussed on the inside of the company would be more likely resource-focussed, whereas outside-focussed strategic issues would tend to have market emphasis. Based on their antecedent characteristics, strategic issues seem to evolve in the cognitive space of the company as they are processed. A general trend would appear to be a movement from sensemaking towards implementation, corresponding to decreasing levels of uncertainty and implementation challenges.

Lastly, linking allocation of attention (e.g., Ocasio, 1997; Ocasio & Joseph, 2005) and strategic issue management system performance, the results provide support for the fundamental role of organisational attention allocation capacity in the processing of strategic issues. In fact, organisational attention allocation – instead of strategic issue categorisation or different strategic issue management characteristics, such as task force power or network centrality – is likely to play a more general role in determining the quality and impact of decisions regarding strategic issues than had been previously thought. Overall, the results suggest that decision impact would be positively influenced by perceived value at stake and resources invested in managing the strategic issue. For decision quality, one of the strongest determinants would seem to be the perceived uncertainty of the strategic issue, although the effects of uncertainty would unfortunately not seem to be entirely eliminated by the different strategic issue management process characteristics. On the general level, the results suggest that organisational attention allocation capacity is influenced by practices in the strategic issue management meetings, on the strategic issue management system, and in the organisation at large.

7.2 Theoretical and Empirical Contributions

The present study makes several theoretical and empirical contributions to the literature on strategic issue management and the attention-based view of organisations in general. Through access to actual and relevant corporate data, the dissertation has been able to open up the ‘black box’ of a company’s corporate-level strategic issue management system.

First and foremost, this dissertation puts forward a novel concept, namely the saturation of an organisation’s strategic issue management capacity. The concept of saturation contributes to bringing the recent attention allocation stream of strategy process research (Ocasio, 1997; Ocasio & Joseph, 2005, 2006) and the research on organisations as interpretation systems (Daft & Weick, 1984) with the more established strategic issue management research (e.g., Ansoff, 1975, 1980; Dutton, 1983, 1986b; Dutton *et al.*, 1983; Dutton & Ottensmeyer, 1987).

By introducing the concept of attentional saturation, this dissertation extends the received knowledge on organisational attention allocation by demonstrating how attentional structures on multiple organisational levels develop over time. In so doing, the present research expands the attention-based view of the company by building a sense of dynamism into Ocasio’s (1997) framework. To arrive at this contribution, the present research employs the logic of progressive coherence (Locke & Golden-Biddle, 1997) that integrates the two parallel research streams of organisational attention allocation and strategic issue management.

Figure 7.1 summarises the findings of this study with respect to the notion of saturation in the strategic issue management process of the company.

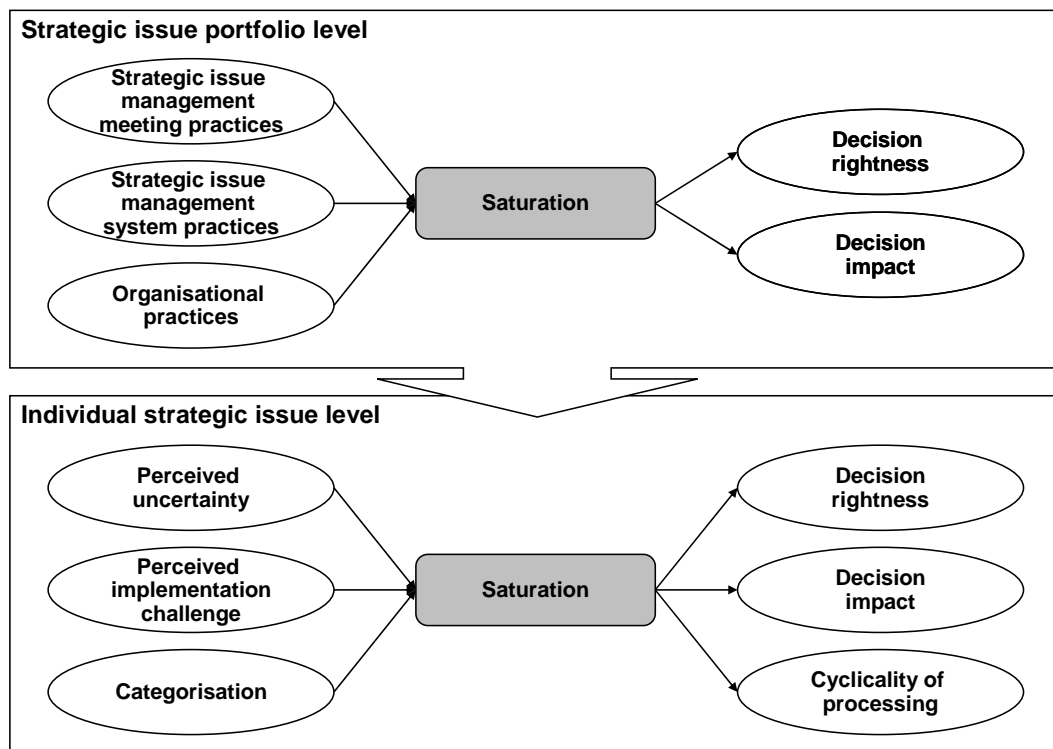


Figure 7.1 Summary of theoretical and empirical contributions

On the strategic issue portfolio level, when examining the performance implications of the different organisational processes for managing strategic issues, the research suggests that a company's attention allocation capacity represents one of the most critical determinants of strategic issue management performance. Extending earlier research on organisational information processing and attention allocation (Cyert & March, 1963; Ocasio, 1997; Yu *et al.*, 2005), the results provide evidence of constraints on the attention allocation capacity on the interpersonal, social cognitive, and organisational levels. The results suggest that the attention allocation of strategy board members in strategic issue management meetings, the simultaneous existence of multiple major strategic issues, and overarching organisation-level changes all contribute to an organisation's attention allocation capacity. This ultimately impacts also the rightness and impact of decisions made, thus demonstrating a linkage between saturation and the performance of the strategic issue management system.

First, practices in the strategic issue management meetings play a significant role as drivers for saturation in the strategic issue management system. Meeting practices directly influence short-term attention allocation; they also thereby impact the ability to reach decisions on the strategic issues, and thus act as a key driver for the performance of the entire strategic issue management system (cf. Jarzabkowski & Seidl, 2006). In terms of saturation, relevant meeting practices are likely to comprise both how the agenda for the meeting is structured (Döring, 1995; McKelvey, 1976; Tallberg, 2003) as well as how the meeting itself is run (Cornforth, 2001; Herman *et al.*, 1997).

For the former, the key attentional mechanism related to saturation would appear to be the ordering of the agenda so that all strategic issues receive the required attention in order of importance. It should be noted, however, that the number of items on the agenda would seem to be an insignificant factor on saturation *per se*, because the complexity of the decision on a strategic issue in a meeting can vary substantially. (However, the complexity of the strategic issue itself is likely to increase the risk of saturation, as is discussed below.)

For the latter, the discursive practices in the strategic issue management meetings (cf. Laine & Vaara, 2007; Vaara *et al.*, 2004) would appear to be in a prime position both to mitigate as well as to cause saturation. Discourse in the strategic issue management meetings is fundamentally related to making sense (Weick, 1995) of strategic issues, which is undeniably needed for strategic issue processing. In this sense, discourse in the meetings is likely to lead to reduced uncertainty and equivocality about the strategic issue, thus enabling the progress of strategic issue processing. However, should the discourse remain stuck (and thereby unable to reduce uncertainty), the strategic issue is likely to consume excessive amounts of attentional capacity from the finite supply for the given meeting, thus causing saturation.

Second, practices on the strategic issue management system level can significantly impact on the propensity of the system to saturate. Here the key underlying driver is the number of strategic issues being processed in parallel, that is, on the strategic agenda at a given time. On the one hand, the company needs to maintain a broad strategic agenda so that none of potential strategic issues are overlooked, and so that enough probing for the future is taking place (e.g., Brown & Eisenhardt, 1997; March, 1991). On the other hand, as top management time and attention is scarce (Mankins, 2004; Mintzberg, 1971), adding another strategic issue onto the strategic agenda implies redistributing attention from some other area, be it another strategic issue or any operational priority. The role of senior management is paramount in managing strategic issues, not only because it is their domain of responsibility, but also because they are often in the only position to be capable of doing so: Although middle management can play a substantial role in making sense of (Dutton *et al.*, 1997; Kunnas *et al.*, 2006) and implementing decisions on strategic issues (Floyd & Wooldridge, 1997; Wooldridge & Floyd, 1990), their visibility into truly strategic issues may be limited (Aguilar, 1967). Furthermore, the more strategic issues are on the strategic agenda, the more likely coordination challenges are (Geanakoplos & Milgrom, 1991) both for senior management as well as staff functions managing the process.

Third, substantial changes on the organisational level are likely to reduce the availability of attention for other activities (cf. Hitt *et al.*, 1990; Hitt *et al.*, 1991; Yu *et al.*, 2005), given the disruptiveness of major change overall (cf. Conner, 1993). The experience of the case company also supports this, since the organisational change took almost a year of planning, indicating a sizable project engaging a group far wider than merely the senior management. On a general level, since the attentional capacity in the organisation is largely constant, significant occurrences other than strategic issues can substantially reduce the capacity available for strategic issue processing, thereby increasing the risk for saturation (cf. Tushman & O'Reilly, 1997).

On the level of individual strategic issues, the results suggest that the main drivers for saturation would seem to be the perceived uncertainty (e.g., Dutton & Webster, 1988; Milliken, 1987) surrounding the strategic issue, the perceived implementation challenge (e.g., Bourgeois & Brodwin, 1984; Dutton & Duncan, 1987b; Reger *et al.*, 1994) of the strategic issue, as well as the categorisation of the strategic issue (e.g., Dutton & Jackson, 1987; Jackson & Dutton, 1988) within the cognitive space of the company.

The reason why perceived uncertainty and implementation challenge can drive saturation in the strategic issue management system is likely to be related to their role in interpreting strategic issues. In a similar way as that in which the urgency and feasibility of strategic issues drive the momentum for change in organisations (Dutton & Duncan, 1987a), so perceived uncertainty and implementation challenge are likely to play a fundamental role in making sense of strategic issues. Therefore, depending on the strategic issue, companies have varying capabilities as to how to respond to them (Kajanto *et al.*, 2004). Based on this notion, the risk of saturation on the strategic issue level is likely to be related to the inherent uncertainty and implementation challenge as depicted in Figure 7.2.

| | | | | | |
|--------------------------|-------------|--|--|---|---|
| Implementation challenge | Fundamental | Procedurally possible to recognise the impossibility of implementation and abandon the strategic issue | Structures inhibit from seeing the fundamental impossibility of implementation | Fundamentally impossible to see the impossibility of implementation | Risk of saturation <div style="display: flex; flex-direction: column; align-items: center;"> <div style="width: 15px; height: 15px; background-color: #808080; margin-bottom: 5px;"></div> High <div style="width: 15px; height: 15px; background-color: #d3d3d3; margin-bottom: 5px;"></div> Medium <div style="width: 15px; height: 15px; background-color: #ffffff; margin-bottom: 5px;"></div> Low </div> |
| | Structural | Procedurally recognisable, but structures inhibit implementation | Structures inhibit recognition and implementation | Fundamentally impossible to interpret issue and structurally difficult to implement | |
| | Procedural | Procedurally recognisable and implementable | Structures inhibit recognition, but otherwise implementation procedurally feasible | Fundamentally impossible to interpret issue, but only procedurally difficult to implement | |
| | | Procedural | Structural | Fundamental | |
| | | Uncertainty | | | |

Figure 7.2 Risk of saturation in the strategic issue management system based on inherent uncertainty and implementation challenge of a strategic issue (adapted from Kajanto *et al.*, 2004)

The highest risk of saturation is likely to occur when the strategic issue is characterised by fundamental uncertainty, which makes it virtually impossible for the company to interpret the strategic issue. Therefore, there is a high likelihood that the strategic issue cannot only be resolved, but also cannot be removed from the strategic agenda, thereby consuming valuable attentional resources of top management. A similar situation may also occur with only structural uncertainty and fundamental implementation challenge:

even though the strategic issue can be understood, it remains impossible to see the impracticality of its implementation. A lesser risk of saturation exists when structural impediments to interpreting the strategic issue exist, even though it can be made sense of, given the right approach.

As for strategic issue categorisation, although the empirical analysis in Chapter 6 found that strategic issue categorisation had only limited explanatory power of the differences in decision rightness and impact, thereby suggesting that they would not play a significant role in saturation. However, the case corporation typically categorised its strategic issues into more than one category at any given time. The maintenance of coexisting, competing frames (cf. Gilbert, 2006) may have reduced the effect of individual categories on strategic issue processing, but may have increased the demand for top management attentional capacity, thus potentially leading to saturation.

Saturation is likely to have a negative impact on decision rightness and impact also on the level of individual strategic issues. In addition, however, saturation may contribute to the cyclicity of strategic issue processing (cf. Ansoff, 1980; Dutton, 1983; Hendry & Seidl, 2003; Mintzberg *et al.*, 1976). Since the inherent uncertainty associated with the strategic issue can contribute to saturation by inhibiting both the progress of strategic issue processing, as well as its potential removal from the strategic agenda, the saturated strategic issue management system may try to enter into more processing cycles than would have been necessary in the first place. Two factors are likely to play a role here: first, if saturation in the first place has been driven by inherent uncertainty that hinders interpreting the strategic issue, the company may wishfully think that “taking another stab” at the strategic issue might solve it (cf. Cyert & March, 1963/1992). Second, if the strategic issue management system is already saturated, it may be more prone to escalation of commitment effects (Conlon, 1999; Staw, 1981; Staw & Hoang, 1995; Whyte, 1986; Zardkoohi, 2004), thus further entrenching the strategic issue into the issue management system (cf. Gilbert, 2005). Unless the multiple cycles of strategic issue processing are purposefully stopped, saturation in the strategic issue management system is likely to increase continually.

However, cyclicity is not entirely a disadvantageous phenomenon in strategic issue management. By attacking the strategic issue in a piecemeal manner, the corporation can potentially structure its response to strategic issues, so that while making sense of the strategic issue the investments needed are contained. In other words, the company could be seen as buying a real option (e.g., Adner & Levinthal, 2004a, b; Barnett, 2008; Kogut & Kulatilaka, 2004; McGrath *et al.*, 2004; Trigeorgis, 1996; Zardkoohi, 2004) on the strategic issue. Moreover, by breaking down the strategic issue into consecutive, but sometimes parallel parts, the company can better manage its attention allocation in the strategic issue management system. Smaller subissues allow the company to increase focus on solving particular aspects of the larger strategic issue, and also allowing to tap into relevant pockets of internal and external expertise without prohibitively increasing coordination costs. Therefore, cyclicity can even be seen as one way to mitigate saturation.

Moreover, avoiding saturation by prematurely removing a strategic issue from the strategic agenda is likely to come only at considerable cost. Not only may the company overlook potentially vital strategic issues, killing strategic issues early limits the ability of the corporation to carry out probes and explorations (e.g., Brown & Eisenhardt, 1997; March, 1991) into potentially new business areas, thereby risking the company's long-term survival (cf. Schumpeter, 1943/1976; Tushman *et al.*, 1996).

Second, the present study also builds on the earlier research on cognitive spaces (e.g., Bougon, 1992; Brown, 1992; Clarke & Mackaness, 2001; Cossette & Audet, 1992; Eden, 1992a, 2004; Eden *et al.*, 1992; Fiol & Huff, 1992; Langfield-Smith, 1992) and extends it by developing a new method to analyse the cognitive space of the company in relation to strategic issue management and information processing. In particular, this dissertation shows how a depiction of a congregate cognitive space (Bougon, 1992) can be constructed based on meeting notes through the use of text and network analysis methods.

Through the depiction of the cognitive space of the organisation's senior management, the results contribute to the theories on strategic issue categorisation (e.g., Dutton & Jackson, 1987; Jackson & Dutton, 1988). First, the results extend strategic issue categorisation from the extant threat–opportunity dichotomy into a multidimensional construct by demonstrating how two additional dichotomies are evident within the cognitive space. Second, whereas earlier research has emphasised the effect of categorising a strategic issue into an opportunity or a threat (Dutton & Jackson, 1987; Jackson & Dutton, 1988), the empirical analysis shows that also the perceived value at stake and perceived uncertainty play important roles in determining the quality and impact of decisions on strategic issues. However, contrary to what one would have expected based on prior research (e.g., Julian & Ofori-Dankwa, 2008), many of the different categorical strategic issue characteristics would seem to have quite little explanatory power with regard to the strategic issue management process practices. Third, the results lend further evidence to Gilbert's (2006) finding that multiple frames for a single strategic issue can coexist at the top management level by showing how strategic issues can be associated with multiple categories at the same time.

Longitudinally the cognitive space provides a view of how strategic issues progress as they are being processed in the strategic issue management system of the company. By providing a longitudinal view into how strategic issues move in the cognitive space, this dissertation contributes to the strategic issue management literature (e.g., Ansoff, 1980; Dutton & Ottensmeyer, 1987) by providing a longitudinal view into a portfolio of strategic issues instead of considered solitary ones at a given point of time (cf. Dutton, 1986a; Dutton & Duncan, 1987a).

7.3 Managerial Implications

Since this study represents one of the most comprehensive empirical analyses of the key practices of a strategic issue management system within a large company, it is expected to be of benefit for persons running their own company's strategic issue management

systems. In particular, the finding that the different means for managing organisational attention allocation inside a company do matter in the successful management of strategic issues does have significant managerial implications.

Whereas strategic issues by definition often have a surprise element in them, processing strategic issues does not need to be entirely *ad hoc*. However, since strategic issues are by their very nature unique, processing them cannot be an entirely mechanical exercise. So how much structure is needed, and when does too much structure induce rigidity and blocks? Based on the findings of this dissertation, a systematic approach of reasonable extent to managing emerging strategic issues is not likely to hinder the process, but rather to support it (cf. Brown & Eisenhardt, 1997; Feldman & Pentland, 2003; Getzels & Csikszentmihalyi, 1976; Weick, 1998).

This dissertation suggests nine practical ways of addressing strategic issue management both pertaining to individual stages of the strategic issue management process as well as process enablers. These recommendations are summarised in Table 7.1, and discussed in more detail below.

Table 7.1 **Nine research-based recommendations for improving corporate strategic issue management practices**

| Recommendation | |
|--|--|
| Scanning, undirected research and problem recognition | |
| 1 | Scan broadly to identify potential strategic issues for the company |
| 2 | Maintain an explicit, prioritised and focussed strategic agenda |
| Directed research and gaining understanding | |
| 3 | Leverage company internal network to build understanding |
| 4 | Complement internal knowledge by bringing in external participants when appropriate |
| Planning for action | |
| 5 | Engage wider organisation to support implementation |
| 6 | Establish milestones and review meetings to track progress |
| 7 | Be prepared to remove redundant strategic issues from the agenda |
| Process enablers | |
| 8 | Secure commitment from senior management to strategic issue management process with appropriate resourcing |
| 9 | Create toolbox to deal with strategic issues |

In the scanning, undirected research and problem recognition stage, companies need to broadly scan their environment for any strategic issues so that they can be brought to the attention of the decision makers (Recommendation #1). Here the company is faced with the challenge of identifying the right strategic issues so that they can be processed in the system. Since missing a potentially vital strategic issue is not a satisfactory solution, extensive scanning is required.

In order to avoid attentional saturation in the strategic issue management system, companies need to maintain an explicit, prioritised and focussed agenda. Ideally the agenda should consist of the most critical six to twelve strategic issues of the company (Recommendation #2). Prioritisation of strategic issues is critical, because if scanning for strategic issues is successful, the strategic issue management is fed with a large variety of potential strategic issues for the company. However, not all potential strategic issues can be processed in parallel, or the strategic issue management system would risk attentional saturation. Moreover, the organisation is also unlikely to be able to implement multiple strategic issues concurrently.

As strategic issues are being made sense of in the directed research and gaining understanding stage, the process should flexibly and dynamically leverage the internal networks of the company to build the best understanding of the strategic issue (Recommendation #3). Making sense of strategic issues should not only be the domain of senior management, although their role is critical in making decisions of them. Teams tasked with processing strategic issues should make sure that they access the right resources regardless of organisational centrality or seniority, since these do not lead to better decisions *per se*.

Internal expertise should be complemented by bringing in external participants to combine the internal knowledge with the best available outside knowledge (Recommendation #4). External experts can provide additional manpower for processing strategic issues, but more importantly they bring in supplementary knowledge that can augment or challenge the existing cognitive space of the company. Through augmenting the existing cognitive space, the company can improve its ability to interpret strategic issues, and through challenging the company can possibly mitigate the risk of escalation of commitment to any one solution.

When strategic issues move into the planning for action stage of the process, the focus of the process moves into supporting the upcoming implementation of the strategic issues. Therefore the strategic issue management process should ensure that required support for implementation is built by engaging the wider organisation with the processing of the strategic issue (Recommendation #5). In the same way as wide internal and external participation supports interpreting strategic issues, gaining momentum for implementation is likely to be supported by proactively working with the organisation to prepare for implementation. In most situations this happens side by side with interpreting strategic issues, because often the people most knowledgeable about the strategic issue also reside in the organisation most likely to be tasked with implementing the strategic issue. Engaging parties external to the company can also be relevant in implementation particularly in technology-driven industries, where complementary assets are needed to launch technologies and products.

To facilitate strategic issue resolution, the process needs to be structured with explicit milestones and regular review meetings at the top management level so that decisions on the strategic issues can be made (Recommendation #6). Strategic issues often cannot be resolved in a single meeting, because making sense of them requires time. Furthermore, building organisational support for implementing the strategic issues takes time.

Proper milestones during strategic issue resolution help in making sure that learning takes place, progress is being made and that current thinking is reflected with the management.

As strategic issues are resolved, redundant strategic issues must be removed from the organisational agenda (Recommendation #7). This is needed to maintain a concise enough strategic agenda that is focussed on the most critical strategic issues of the corporation (cf. Recommendation #2). In doing so, killing redundant strategic issues helps in limiting attentional burden to the organisation, and mitigates the risk for escalation of commitment to any particular solution.

Also two process-related recommendations emerge based on the research. First, the entire strategic issue management process critically rests on having explicit top management (Recommendation #8), as already lamented by Ansoff (1980). The ideal owner for the process is the CEO, who is the ultimate owner of the company's strategy in any case, and who has enough organisational clout to make things happen. In addition to the ownership of the strategic agenda, appropriate resourcing must be provided both to staff functions maintaining the strategic agenda as well as the task forces processing the individual strategic issues.

Second, for the process enablers, companies should create a toolbox to deal with their emerging strategic issues (Recommendation #9). This notion rests on the assumption that whereas each strategic issue may be unique in itself, they can be addressed with a collection of standardised approaches (cf. Kunnas *et al.*, 2006). Depending on the characteristics of each strategic issue, the right tools can be used in an appropriate manner.

7.4 Limitations

This section addresses limitations to the research that need to be acknowledged. First and foremost, this dissertation has focussed on one empirical context of the case corporation. Focus on a single empirical context was deliberately selected to open up the 'black box' of strategic issue management practices within a corporation and amongst its top management. The case company was also well-suited to study strategic issue management practices, given its high-velocity environment that offered ample strategic issues to be analysed. Moreover, the case company provided critical, wide-ranging access to a unique set of archival data, as well as access to key members of the organisation to conduct interviews.

However, this dissertation has tried to mitigate the problems inherent in a single-company study in multiple ways. Use of multiple methods to uncover and test different aspects and features of the strategic issue management system has been used to ensure the validity of the results. Multiple levels of analyses have also been used. The analyses in Chapters 4 and 5 focussed on the entire strategic issue management system of the company, and as such are more dependent on the company context. In contrast, the analysis in Chapter 6 is less likely to be influenced by contextual factors, because the

unit of analysis in Chapter 6 was an individual decision making situation and not a specific organisation.

Second, the analyses of the dissertation rest on an unprecedented access to actual and relevant corporate data. This access has been gained through the researcher being employed in the case company, and thus in close proximity to the phenomenon under study. This may, however, be viewed also as a possible weakness, since it raises the question of sufficient objectivity in the research. Two particular approaches have been used to mitigate this concern (as detailed in Chapter 3). First, two case company insiders (the author and another strategy manager with intimate knowledge of the strategic issues) performed the initial classification so as to ensure inter-rater reliability. Second, the coded material was further subjected to the review of the other three members of the research team to make sure that company-internal biases would not reduce the reliability of the data.

7.5 Directions for Further Research

Events such as 9/11 have recently revived an interest in the concept of strategic surprises (e.g., Byman, 2005; Parker & Stern, 2002; Winter, 2004) that was quite central already in the early work of Ansoff (1975). Strategic surprises are “*events that happen unexpectedly or expected events that take an unexpected shape*” (Pina e Cunha *et al.*, 2006: 317). The key defining variables of surprises are the “(un)expectedness” of the strategic issue and the “(un)expectedness” of the process. Whereas this research stream focuses on deepening the understanding of why organisations become surprised, the results of this dissertation highlight major future opportunities in particular in studying strategy practices for managing the strategic surprises that have occurred.

Consistent with the recent suggestion of Hutzschenreuter and Kleindienst (2006), similar major future potential for integrative work exists between the different streams of strategy process research. In addition to the research streams focusing on strategic issue management and organisational attention allocation, a major opportunity exists in linking the extensive body of research on organisational cognition also more generally to the research on strategic issue management.

For the particular results of this dissertation, conducting similar research in a larger sample of major corporations would enable the validation of further current findings as well as adding significant depth to the understanding of organisational context and its link to strategic issue management practices. This approach, whilst understandably challenging to execute, would allow for improved control over the impact of organisational context on strategic issue management system performance.

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Appendix A: Empirical Findings on Strategic Issue Management

Table A-1 Empirical findings on scanning

| Dependent variable | Independent variable | Author | Effect | Comment |
|---|--|---------------------------|-----------------|--|
| Amount of scanning | Type of strategy | Hambrick (1982) | Not found | |
| Scanning focus | Type of strategy | Hambrick (1982) | Not found | |
| Scanning frequency | Perceived strategic uncertainty | Daft <i>et al.</i> (1988) | Positive | Transitional (Russian) economy |
| | | May <i>et al.</i> (2000) | No relationship | |
| Use of personal sources about the environment | Perceived strategic uncertainty | Daft <i>et al.</i> (1988) | Positive | |
| Use of external sources | Perceived strategic uncertainty | Daft <i>et al.</i> (1988) | Positive | |
| Use of internal sources | Perceived strategic uncertainty | Daft <i>et al.</i> (1988) | No relationship | |
| Company performance | Frequency and broadness of scanning | Daft <i>et al.</i> (1988) | Positive | Performance as ROA |
| | CEO scanning emphasis on external task environment under: <ul style="list-style-type: none"> • higher perceived environmental dynamism; and • higher scanning emphasis on internal functions dealing with innovation | Garg <i>et al.</i> (2003) | Positive | Subjective evaluation of company performance |
| | CEO scanning emphasis on external general environment under: <ul style="list-style-type: none"> • lower perceived environmental dynamism; and • higher scanning emphasis on internal functions dealing with efficiency | Garg <i>et al.</i> (2003) | Positive | |
| Environmental awareness | Past company performance | Lant <i>et al.</i> (1992) | Positive | Performance as ROA |

Table A-2 Empirical findings on strategic issue diagnosis

| Dependent variable | Independent variable | Author | Effect | Comment |
|--|---|-----------------------------|----------|--------------------------------------|
| Resource allocation | Perceived level of crisis of strategic issue | Dutton (1986a) | Positive | Single organisation as data source |
| Centralisation of authority | Perceived level of crisis of strategic issue | Dutton (1986a) | Positive | |
| Incidence of argumentation or explanation | Perceived level of crisis of strategic issue | Dutton (1986a) | Positive | |
| Sensitivity to information | Threat-consistency (vs. opportunity-consistency) of information | Jackson & Dutton (1988) | Positive | Threat-opportunity dichotomy |
| Broadness and variety of interest in strategic issue | Perceived uncertainty | Dutton & Webster (1988) | Negative | |
| Broadness of interest in strategic issue | Perceived issue feasibility | Dutton & Webster (1988) | Positive | |
| Capacity of top management team's information processing structure | Extent of variable usage in interpretation | Thomas & McDaniel (1990) | Positive | |
| | Strategic issue labelled as positive | Thomas & McDaniel (1990) | Positive | |
| | Strategic issue labelled as potential gain | Thomas & McDaniel (1990) | Positive | |
| | Strategic issue labelled as controllable | Thomas & McDaniel (1990) | Positive | |
| Extent of variable usage in interpretation | Orientation toward domain offence | Thomas & McDaniel (1990) | Positive | Domain offensive-defensive dichotomy |
| Perceived extent of controllability/manageability of strategic issue | Orientation toward domain offence | Thomas & McDaniel (1990) | Positive | |
| | Level of information use | Thomas <i>et al.</i> (1993) | Positive | |
| | Past organisational success | Martins & Kam-bil (1999) | Positive | |
| | Level of organisational information availability | Kuvaas (2002) | Positive | Only partial support |
| | Information processing capacity of top management team | Kuvaas (2002) | Positive | |

| | | | | |
|--|--|-----------------------------|----------|---|
| Interpretation in positive-gain terms | Level of information use | Thomas <i>et al.</i> (1993) | Positive | |
| | Past organisational success | Martins & Kam-bil (1999) | Positive | |
| | Perceived centrality to company identity | Sharma (2000) | Positive | Threat-opportunity dichotomy |
| | Degree of discretionary slack | Sharma (2000) | Positive | |
| Likelihood to initiate action | Strategic issue labelled as controllable | Thomas <i>et al.</i> (1993) | Positive | Action defined as product and service changes |
| | Strategic issue labelled as opportunity | Sharma (2000) | Positive | Threat-opportunity dichotomy |
| Organisational performance | Level of actions taken | Thomas <i>et al.</i> (1993) | Positive | Performance as industry-specific metrics |
| Perceived certainty of effects of strategic issue | Past organisational success | Martins & Kam-bil (1999) | Positive | Only marginal support |
| Positive bias in interpretation | Experience with related strategic issues | Martins & Kam-bil (1999) | Positive | As moderator to past success |
| | Amount of information seeking | Martins & Kam-bil (1999) | Negative | |
| Amount of data search | Level of organisational information availability | Kuvaas (2002) | Negative | Only partial support |
| | Information processing capacity of top management team | Kuvaas (2002) | Negative | |
| Variations in the degree of associating controllability with threats and opportunities | Cultural value of uncertainty avoidance | Barr & Glynn (2004) | Positive | |

Table A-3 Empirical findings on strategic issue selling

| Dependent variable | Independent variable | Author | Effect | Comment |
|---|--|-----------------------------|-----------|---|
| Context favourability | Top management's willingness to listen | Dutton <i>et al.</i> (1997) | Positive | |
| | Supportiveness of the culture | Dutton <i>et al.</i> (1997) | Positive | |
| | Competitive and economic pressures | Dutton <i>et al.</i> (1997) | Positive | |
| | Change in organisation | Dutton <i>et al.</i> (1997) | Positive | |
| | Fear of negative consequences | Dutton <i>et al.</i> (1997) | Negative | |
| | Downsizing conditions | Dutton <i>et al.</i> (1997) | Negative | |
| | Perceived uncertainty | Dutton <i>et al.</i> (1997) | Negative | |
| | Conservativeness of the culture | Dutton <i>et al.</i> (1997) | Negative | |
| Perceived risk to own image in organisation | Violation of norms for strategic issue selling | Dutton <i>et al.</i> (1997) | Positive | |
| | Perceived political vulnerability | Dutton <i>et al.</i> (1997) | Positive | |
| | Distance from top management | Dutton <i>et al.</i> (1997) | Positive | |
| Perceived trustworthiness | Use of easy-to-understand language | Elsbach & Eloffson (2000) | Positive | Studied decision explanations in general, not specifically strategic issues |
| | Communication of the use of legitimate decision processes | Elsbach & Eloffson (2000) | Not found | |
| | Use of packaging with either a legitimating label or easy-to-understand language | Elsbach & Eloffson (2000) | Positive | |

Table A-4 Empirical findings on middle management influence

| Dependent variable | Independent variable | Author | Effect | Comment |
|--|---|---------------------------|---------------|---|
| Organisational performance | Middle management involvement in strategy formulation | Wooldridge & Floyd (1990) | Positive | Subjective evaluation of organisation's performance |
| | Middle management's level of consensus on strategy | Wooldridge & Floyd (1990) | Not found | |
| | Variety in upward influence patterns | Floyd & Wooldridge (1997) | Positive | |
| | Consistency in downward influence patterns | Floyd & Wooldridge (1997) | Positive | |
| Middle management's level of consensus on strategy | Middle management involvement in strategy formulation | Wooldridge & Floyd (1990) | Positive | |
| Middle management strategic influence/ involvement | Strategic type | Floyd & Wooldridge (1992) | Supported | Miles & Snow typology |
| | Formal boundary-spanning position | Floyd & Wooldridge (1997) | Positive | |
| Variability to middle management involvement | Strategic type (esp. analysers) | Floyd & Wooldridge (1992) | Supported | Miles & Snow typology |
| Middle management implementation activity | Strategic type | Floyd & Wooldridge (1992) | Supported | Miles & Snow typology |

Appendix B: Key Events in the Evolution of the Case

Table B-1 Key events in the evolution of the case

| Month ⁴⁵ | Episode |
|----------------------------|---|
| 1 | E1. Top management became interested in assessing the impact of new technologies on the current business. Task forces were set up to look into diverse areas, including the novel market segment. |
| 10 | E2. A dedicated sales unit was established within one of the regional entities to work directly with customers. |
| 25 | E3. Question on expanding the approach as a company-wide effort was raised in top management. |
| 29 | E4. A current state analysis of the extant approach was presented to management. Management decided that a company-wide approach needed to be developed, and a task force was set to come up with a proposal in a month. |
| 30 | E5. A preliminary approach was presented to top management, suggesting a revised strategic scope. |
| 32 | E6. More developed plans were presented to top management, broadening the proposed strategy. Top management decided to launch a feasibility study. |
| 32...33 | E7. Task force analysed the dimensions of the approach, resulting in an assumption of key differentiating factors against competing players. However, neither was the significance of the business evident, nor potential strategies yet fully understood. |
| 33 | E8. Results of the task force work were presented to top management, which decided that the key differentiating factors were to be investigated further. |
| 34 | E9. Results of the task force work were presented to top management, thus concluding the work on this matter. Top management raised the question of which organisational entities should be involved in the effort. E10. The market stalled sharply (year-on-year decline 15%). |
| 35 | E11. A new task force work on clarifying the approach was kicked off by management, led by a newcomer to the company to provide an unbiased view. E12. Top management revisited the question of organisational involvement, and brought a previously passive entity into the effort. |
| 35...36 | E13. Feasibility study of the business was kicked off. E14. A separate study analysing customer needs and segmentation was conducted. |
| 36 | E15. An update of progress thus far was presented to management. Management concluded that the current organisational structure restricted driving the strategy. E16. Work on overall approach continued in task force. Various options were being developed and evaluated. |

⁴⁵ Time is indicated as months from emergence of the strategic issue.

| | |
|---------|--|
| 38 | <p>E17. An update on the task force work was presented to management. The study concluded that the current approach was insufficient, but the market could be attractive overall due to a number of reasons. However, the company's goal and role was far from self-evident. Management assigned a new taskforce to create product requirements, liaising with the ongoing task force work, and to report to management the following month.</p> <p>E18. Task force worked on establishing product requirements.</p> |
| 39 | <p>E19. Results of product specification work were presented to management, which concluded that the inherent complexity of the products and related systems could act as an entry barrier. However, existing products had shortcomings. Management decided that the task force work should continue to look into leveraging existing products and systems, and report back in a month.</p> |
| 39...40 | <p>E20. Task force worked to assess the company's capabilities.</p> |
| 40 | <p>E21. Conclusions of the capability assessment were presented to management. Some confusion still existed about the level of fragmentation of a part of the market. Management decided that strategy for a specific product needed to be formulated.</p> <p>E22. Management considered an alternative positioning of the company in the novel market, due to difficulties in a previous approach. However, no clear stance was taken.</p> <p>E23. Task force worked on formulating a specific product strategy.</p> |
| 41 | <p>E24. An update of the specific product strategy work was presented to management. They concluded that an independent approach needs to be taken, or the company could become sidelined in the industry. Management assigned the strategy to a specific entity for further development and implementation.</p> |
| 40...44 | <p>E25. Task force worked to crystallise the enterprise approach, as prompted by a member of top management.</p> |
| 43...55 | <p>E26. The market continued to shrink by another 11% year-on-year.</p> |
| 44 | <p>E27. Preliminary views of a holistic approach were presented to management. The development of the market on multiple dimensions was still too difficult to forecast, including the role of differentiating factors. The discussion centred, nonetheless, on the competitive implications. Management agreed that the work should continue, with the next update to be presented in the spring. Going forward, the work was handed over for future development to new facilitators.</p> |
| 44...46 | <p>E28. Multiple task forces worked to develop the approach further.</p> |
| 45 | <p>E29. A strategy proposal was presented to management, who concluded that a systems approach was required.</p> <p>E30. Top management subsequently concluded that the opportunity could be addressed only in cooperation with other industry players. Top management discussed establishing an independent unit, but this decision was not made. However, the strategy was approved with an emphasis on systems approach and coordination responsibility.</p> |

| | |
|---------|---|
| 47 | E31. A new organisational structure was implemented in one of the business units of the corporation, now housing also parts of the effort to address the new segment. E32. Top management discussed the role of a geographical market for the segment, having realised that the specific market represented a dominant share of the total market. |
| 51...52 | E33. Discussions amongst top management raised concerns about the success of the current approach. |
| 52 | E34. Management reviewed progress thus far with the approach. Current work had been one-sided, thereby neglecting in part the systems approach initially called for. A small team was assigned to come up with proposals for solutions. |
| 52...53 | E35. Task force worked to revisit the existing strategy and track progress against plans. |
| 52 | E36. Dedicated sales unit (established in month 10) is run down when it is perceived that the market is not ready. |
| 53 | E37. Top management discussed the current strategy for the segment and decided that fixing it is a matter for the unit's management. |
| 54 | E38. Top management initiated a study to create a corporate-level strategy to fix the issues in the current approach. The task was assigned to a member of senior management. |
| 55...56 | E39. Work on strategy was kicked off, with a large-scale task force comprising multiple units. The mandate of the team was to specifically take the customer perspective into account. |
| 56 | E40. Top management received an update of the strategy, including initial hypotheses and directions for work. |
| 56...57 | E41. Task force work on draft strategy continued, with work focussing assessing the attractiveness and relevance of the market as well as formulating tentative strategic directions. |
| 57 | E42. Progress review with management. In the discussion, changing the organisational set-up was proposed as a solution. E43. Top management received an update on the strategy. The presentation covered the attractiveness and relevance of the market, and also included initial strategic directions. Directions were approved and a team was assigned to formulate an implementation plan. |
| 57...59 | E44. Strategy was being crystallised in task force work. The work focussed on formulating an implementation plan with product portfolios, go-to-market strategies, and organisational set-up. |
| 59 | E45. Based on the task force's proposal, top management decided that all activities are to be located in a single, independent unit. Systems approach remained. |
| 60 | E46. The formation of the new business unit was announced publicly. |