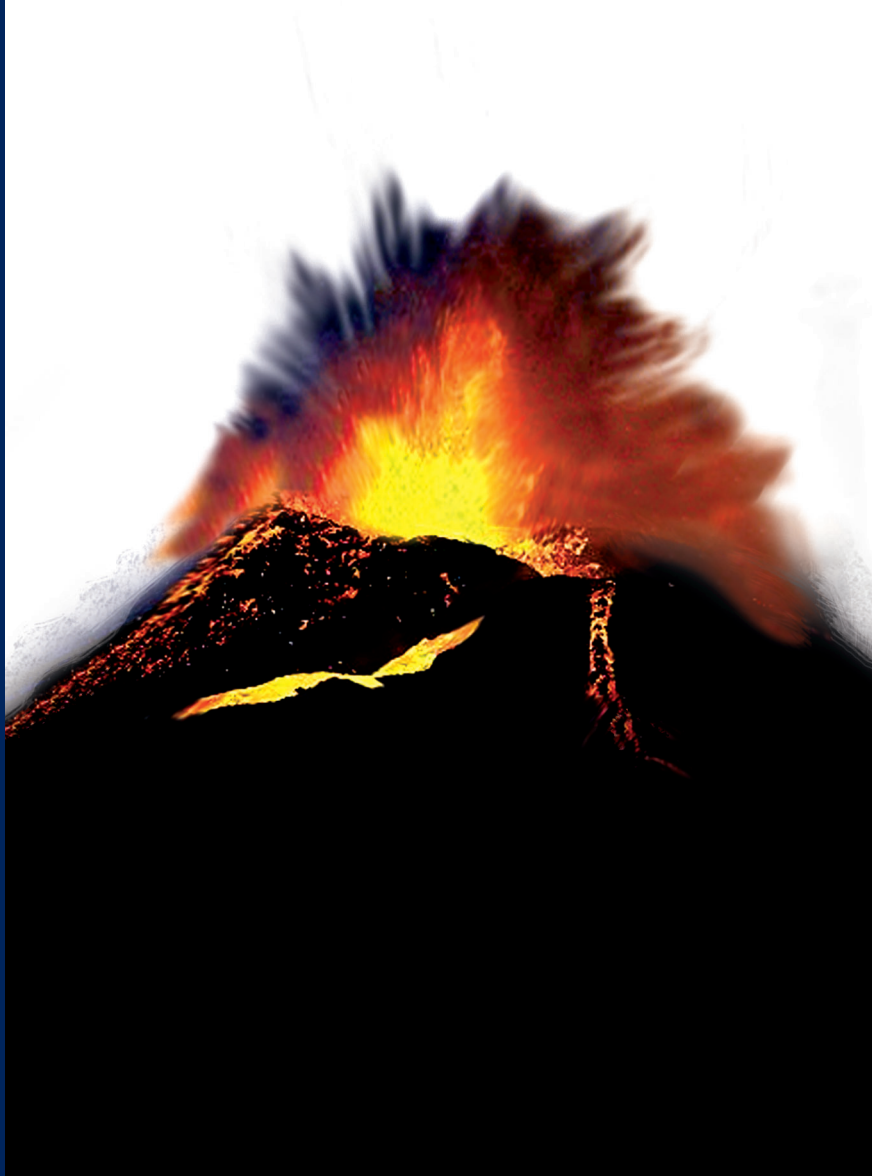
MARTIN WIELEMAKER

Managing Initiatives

A Synthesis of the Conditioning and Knowledge-Creating View



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A Synthesis of the Conditioning
and Knowledge-Creating View

Martin Wielemaker

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Het managen van initiatieven:
Een synthese van de condities en kenniscreatie perspectieven

Proefschrift

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To Rita, Dan,
Ad, and Willem

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PREFACE

Innovation is fascinating because it deals with the potential future in which we may live. For firms, this fascination with the future must, however, be balanced with the need to ensure profitability today. Initiatives to pursue new ideas, therefore, cannot be considered in isolation, but must be considered with respect to the other activities of the firm. This necessity to balance exploration and exploitation is fundamental to the survival of firms; an emphasis on merely one aspect would surely be doomed.

Before I entered the field of strategic management this point was missed on me. Having studied Industrial Design Engineering at Delft University of Technology, I was active on the exploration side of the balance. The realm of the designer is represented in dogmas like "innovate or perish." The designer's goal is to invent better, nicer, more sophisticated products or services than are currently available. Naturally, these are to be designed in such a way that they are not just technologically but also economically viable. Market size, customer needs, product pricing, production and material costs, competitive positioning are all fundamental aspects considered in the design process. Why some firms still found it difficult to adopt innovations that were economically viable was therefore something that dumbfounded me as a designer.

Having moved into the field of Strategic Management as a PhD candidate at the Rotterdam School of Management, the existing strategic management literature almost instantly answered the now seemingly naive questions that had boggled me as a designer. Firms have commitments. They need to exploit their explorations before cannibalizing on them. How firms are to manage this balance of exploration-exploitation became my primary concern. Two views in the literature stand out. The conditioning view looks at what organizational conditions firms use to control explorative processes. Although it offers much insight into the firm-initiative relationship, it was very detached from the inner workings of the explorative process that I had been involved in as a designer. That aspect was captured by the knowledge-creating view. Yet, that view was succumbing to the same trap that I had fallen into as a designer. It failed to take into account that initiatives occur in firms, which must balance exploration-exploitation. Finding a resolution for this discrepancy is what led to the writing of this study on "Managing Initiatives.'

This study of firm renewal through initiatives benefited greatly from being embedded in the Erasmus Strategic Renewal Center at the Rotterdam School of Management. At the time this study was conducted, the center brought together various researchers, such as Henk Volberda, Frans van den Bosch, Charles Baden-Fuller, Tom Elring, Eva Meeusen-Henniger, Bert Flier, and Marjolijn Dijksterhuis, who were all concerned with how firms renew their strategy and whose involvement in the center has resulted in a stream of research publications. Although these researchers concerned themselves with different aspects of the renewal process, this study benefited greatly from

the cross-fertilization enabled by the center. As such, I am grateful to the members of the center for their ideas and support. More specifically, I am particularly indebted to the center's chair, Henk Volberda, for having laid much of the foundation for this study. He ensured cooperation of the firms investigated, organized and was involved in the investigation of these firms and their initiatives, and provided the Farsys expert system (Volberda, 1998) that was used in this study for the measurement of organizational forms. Tom Elfring and he also laid much of the groundwork for this study in terms of the methodology used for collecting the initiative data.

During the research project a team of academic supervisors without whose expertise this endeavor could not have been completed surrounded me. Henk Volberda of the Rotterdam School of Management went out of his way to review my manuscripts, even on short-term notice. He divulged much of his expertise on strategic management as described in his 1998 book 'Building the Flexible Firm,' which formed the basis for measuring the conditions of the three firms investigated. My other supervisor, Charles Baden-Fuller of City University Business School in London offered many critical and creative contributions that have moved this study beyond its initial focus. I am greatly indebted to these two academic scholars for having guided me from start to finish. During the initial trajectory of my research Tom Elfring, before he left to become a full professor at the Free University of Amsterdam, also offered much guidance that helped shape this study. Henk Volberda and he organized and were heavily involved in the research at Van Ommeren Tank Storage, KLM Cargo, and Ericsson ETM and I am very thankful to them for use of their data.

I was also lucky to benefit from the cooperation and interest of the three companies described in this study: KLM Cargo, Van Ommeren Tank Storage (now Pakhoed), and Ericsson Telecommunications. Many people within these companies graciously offered their valuable time to cooperate in the larger studies of the Renewal Center that this particular study draws upon. Their enthusiasm and support for the research carried out through the Erasmus Strategic Renewal Center enabled this study. Since my dealings were with Ericsson in particular, I would very much like to thank Joop van Troost and Tom Paffen for their support at Ericsson Telecommunications. Within each of the previously mentioned companies many interviews were conducted by research assistants. I am therefore very thankful to Ronald Boers, Mark Oskam, Carlo Jochems, and Bert Flier.

Amongst my colleagues from Erasmus University there were many that contributed in one form or another to the culmination of this project. I am very grateful to Gerardo Patriotta for the discussions on the framework of this study. In terms of a perspective on academia in general and my place in such, I owe much to Eric Gedajlovic and K.C. O'Shaughnessy. Simona Latimer-Spedale, Patrick Reinmöller, fellow AIOs Raymond van Wijk, Marjolijn Dijksterhuis, Bert Flier, Bas de Leeuw, Tom Mom, and Justin Jansen, as well as Marten Stienstra and Asmat Ikram, all made my time at Erasmus University a memorable experience. The support provided by Carolien Heintjes, Bep Klop, Birgitte Breemerkamp, Sandra Everts, Will Geurtsen, and Ingrid Oron was also

much appreciated. I am also grateful to ERIM in the person of Wilfred Mijnhardt for having taken care of the publication of this study. Last but not least, I thank the department, which was chaired by Frans van den Bosch and Henk Volberda, for its enduring support and commitment to this project.

Finally, I am very grateful to my wife Rita for having supported me throughout this trajectory. Not only did she put up with the many evenings, weekends, and vacations spent on this study, she also pushed me to go on. Moreover, during this trajectory she gave birth to our son Dan, whose arrival only made me more determined to bring this process to a closure. Being a parent myself now, I realize how much of my own parents energy in my upbringing made completion of this study possible. I thank all those who stood behind me.

Martin Wielemaker
May 17, 2003
Fredericton, New Brunswick, Canada

CHAPTER 1

Introduction:
Research on Initiatives

In this thesis we discuss how initiatives impact strategic renewal in large firms. The chapter starts by clarifying the necessity of strategic renewal. Initiatives are then identified as an important source for such renewal. We show that differing findings from previous studies make it unclear how large firms deal with, and ought to deal with, initiatives. The chapter presents the research aim and accompanying questions that guided the study. Previous research on the subject is categorized in two perspectives: the 'conditioning' view and the 'knowledge-creating' view. A co-evolutionary view is proposed that integrates the two differing views and enables an answer to the research questions. The three companies investigated are then briefly introduced as well as the methodology that was used in the empirical research. Finally, we end the chapter with an outline of the book.

STRATEGIC MANAGEMENT AND INITIATIVES

For firms, the discovery and exploitation of opportunities, constitutes an essential, if not crucial, mechanism for survival. Because these firms' competitive advantages (Porter, 1980) and idiosyncratic resources (Barney, 1986; Wernerfelt, 1984) erode over time, they must continuously be renewed (Teece, Pisano, and Shuen, 1990). Such strategic renewal starts with the discovery of opportunities. It is the pursuit of the latter by the men and women of the organization that takes them to full fruition. Their initiatives are thus a source of strategic renewal and form the object of our interest.

Although the field of strategic management did not deny the need for opportunity discovery, superior performance - particularly in large firms - was initially primarily related to a sustainable competitive advantage. The positioning school sought such advantage in a superior positioning in the market (Porter, 1980). Certain markets were considered more profitable than others. Once positioned in a lucrative market, sustaining

that advantage was a question of deterring competitors from entry[1]. The resource-based view of the firm (Barney, 1986; Penrose, 1959; Prahalad and Hamel, 1990; Rumelt, 1984; Selznick, 1957; Wernerfelt, 1984), instead, considered sustainable competitive advantage to be located in non-imitable idiosyncratic resources within the firm. As such, both views saw little need for the exploration of opportunities that might eventually yield new competitive advantages, but instead focused on sustaining existing ones.

Yet, the field of strategic management quickly realized that competitive advantage, be it in an external market or in the unique resources of a firm, was not sustainable forever (Jacobsen, 1992). The dynamic capabilities approach (Teece, Pisano, and Shuen, 1990) pointed to the necessity for firms to renew their competencies. Strategy scholars from the different schools agreed that nothing was sustainable in the long term. Rumelt stated, "the task of general management is to adjust and renew [..] resources and relationships as time, competition, and change erode their value (Rumelt, 1984:558)." A quest to reveal the source that would lead to a continuous renewal of competitive advantage was on. Not surprisingly, Porter (1991) called for research into the dynamic processes that create new competitive advantage. And with the idea prevalent amongst many (i.e. Prahalad and Hamel, 1994)[2] that firms were operating in hypercompetitive environments (D'Aveni, 1994), the need to understand these sources of strategic renewal became all the more important.

The discovery of ideas and opportunities thus lies at the heart of strategic management and is why Rumelt (1984: 558) says, "we need new ideas that can create competitive advantage over and over again." Yet, ideas by themselves are dead, stowed away on a shelf, resting to be forgotten unless someone decides to pursue them. Initiatives represent the pursuit of such ideas and opportunities within firms. They are important vehicles that enable strategic renewal (Burgelman, 1983b; Kanter, 1988). Notwithstanding that the causal relation between initiatives and strategic renewal is still an object of research, the existence of a general relation between the two is now reasonably well established (Morris and Sexton, 1996; Zahra, Nielsen, and Bogner, 1999). Not surprisingly, McGrath, MacMillan, and Venkataraman (1995: 252) conclude that 'a principle mechanism through which organizations develop new competitive advantages is through the pursuit of new initiatives." The study of initiatives, therefore, lies at the heart of strategic management and merits our attention.

[1] For which Porter offered three defense tactics (1985: 487): raising structural barriers, increasing expected retaliation, and lowering the inducement for attack.

[2] Prahalad and Hamel (1994) mention various forces that suggest the competitive environment is indeed dramatically altering: deregulation, structural changes in the industry, excess capacity in industries, mergers and acquisitions, environmental concerns, less protectionism, changing customer expectations, technological discontinuities, emerging trade blocks, and global competition.

Entrepreneurship

The management field that deals specifically with the discovery and exploitation of opportunities is that of entrepreneurship. The field's object of study is the entrepreneur who "pursues opportunities without regard to resources currently controlled (Stevenson and Jarillo, 1990)." The term 'entrepreneurship' then can refer either to (1) characteristics or traits of the entrepreneur, (2) the process or (3) the outcome of the entrepreneurial activities that the entrepreneur engages in (Stevenson and Jarillo, 1990). The first avenue - trait studies that try to answer who an entrepreneur is - has been shown to be unfruitful (Gartner, 1988). Of the other two, process and outcome, we are interested in entrepreneurship as a process, a common position in the management field (Stevenson and Jarillo, 1990)[3]. Entrepreneurship in this study is thus defined as "a process by which individuals – either on their own or inside organizations – pursue opportunities without regard to the resources they currently control (Stevenson and Jarillo, 1990: 21). These opportunities have been specified as those that create future goods and services (Shane and Venkataraman, 2000). The entrepreneur's activities are entrepreneurial not just because they involve the pursuit of opportunities, but more importantly because they also involve some element of risk (Covin and Slevin, 1991; Miller, 1983) that stems from the aforementioned lack of resource control (Kirzner, 1973). This explains why the terms 'change' and innovation,' which are often used interchangeably with the term entrepreneurship (Brazeal and Herbert, 1999), differ from the latter; they do not necessarily entail any risk taking.

The field of entrepreneurship has traditionally been divided in two: (1) the study of independent start-ups and (2) the study of entrepreneurial activity within existing firms. Whilst the first is of particular interest to economists, the latter is of particular interest for strategists and for this study, because it represents a source of competitive advantage for the incumbents. It should be noted that even though the activity occurs in firms, it can involve the crossing of organizational and industry boundaries. What matters, is that it is mainly pursued within the firm. According to Stopford and Baden-Fuller (1994) such entrepreneurial activity within firms can have wide-ranging effects: (1) the creation of a new business activity within the existing organization, (2) the complete transformation or renewal of the existing organization, and (3) the firm changing the rules of the industry. It might also result in a spin-off that grows into a separate firm (Elfring and Baven, 1996; Burgelman 1996).

Within this field, that has alternatively been labeled intrapreneurship (Pinchot, 1985), corporate venturing (Venkataraman, MacMillan, and McGrath, 1992), internal corporate venturing (Burgelman, 1983a), or corporate entrepreneurship (Guth and Ginsberg, 1990), the initiative constitutes our unit of interest. Because entrepreneurship in the management field is regarded as a process (Stevenson and Jarillo, 1990) and initiatives

[3] Economists are particularly interested in the economic impact of the outcome, i.e. the results (Stevenson and Jarillo, 1990)

are considered a specific form of entrepreneurship (Birkinshaw, 1997), it follows that an initiative is also seen as a process. An initiative has therefore been defined as "essentially an entrepreneurial process, beginning with the identification of an opportunity and culminating in the commitment of resources to that opportunity (Birkinshaw, 1997)." The initiative construct is narrower than an internal corporate venture (Burgelman, 1983a), because the latter also includes "the ongoing management of the resultant business activity (Birkinshaw, 1997: 207)." This latter activity is of less interest when one seeks to understand sources of strategic renewal. Not surprisingly, a recent strand of entrepreneurship research has centered on initiatives (Birkinshaw, 1997; Kanzanjian and Rao, 1999; McGrath, MacMillan, and Venkataraman, 1995; Zahra, Nielsen, and Bogner, 1999; Floyd and Wooldridge, 1999), seeking to answer, "how do initiatives occur and what facilitates them?"

The question of how to deal with initiatives is particularly relevant for large firms, the subject of this study. Because of their size large firms are often sluggish and in need of new initiative. Yet, owing to economies of scale that same size lets them excel at exploiting their existing competencies. Putting energy in the exploration of new initiatives would counteract that exploitative capability. Evidently, this is much less a problem for smaller firms. Thus, especially large firms face the paradox of exploitation versus exploration (March, 1991; Lewin and Volberda, 1999; Volberda and Baden-Fuller, 2003). Initiatives clearly embody this dilemma of change and stability that large firms must resolve to survive. How then should large firms deal with initiatives?

Initiatives

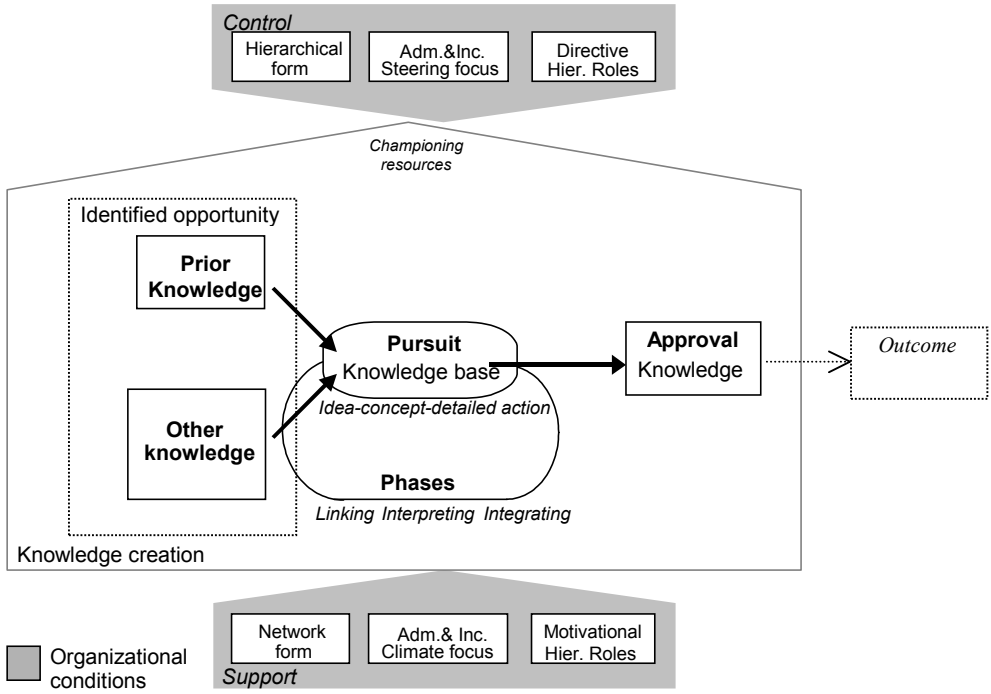
With initiatives being at the center stage of much research, both in strategic management and entrepreneurship, it is necessary to define them appropriately. As stated before, Birkinshaw defined an initiative as "essentially an entrepreneurial process, beginning with the identification of an opportunity and culminating in the commitment of resources to that opportunity (Birkinshaw, 1997)." He alternatively defines the end-point of the process as an explicit or implicit approval, or a rejection. For a definition of an initiative to be self-explanatory we need to integrate the description of entrepreneurship (Stevenson and Jarillo, 1990; Shane and Venkataraman, 2000), as previously discussed, into the definition of an initiative (Birkinshaw, 1997). This leads to a definition of an initiative as *"a process by which individuals inside organizations identify and pursue an opportunity to create future goods and services without regard to the resources they currently control, culminating in the approval of that opportunity."*

The initiative, i.e. *the process*, exists separate from the firm, i.e. it is "a discrete […] undertaking (Birkinshaw, 1997)." It has a life of its own and it can thus part or spin out from the firm and evolve into a separate firm (Elfring and Baven, 1996; Burgelman, 1996). This is not to say that the two have are not intertwined. On the contrary, there is a large interdependency between the two, because of the resources such as the people,

knowledge, and capital that they both share; this is the reason why their relationship has been described as part-whole relationship (Van de Ven, 1986). Yet, notwithstanding these dependencies, at its core the initiative is separate from the firm.

The identified *opportunity* represents a new knowledge base in the firm, namely a new combination of prior and other knowledge. This is particularly highlighted in the knowledge-creating view of initiatives, to which we shall turn later. Although ideas form the starting point for opportunities (Timmons, 1990), they are not necessarily the same. An opportunity is an idea that "has the qualities of being attractive, durable, and timely and is anchored in a product or service which creates or adds value for its buyer or end user (Timmons, 1994: 80)." In other words, an opportunity is an idea with business potential. Not all ideas therefore represent opportunities. However, because in this study we only consider ideas that are opportunities, we will use the two terms interchangeably.

Figure 1.1: The Initiative Process



This study differentiates between product (goods) and process (service) opportunities (Tushman and Nadler, 1986), because such a difference has been known to lead to different findings (Abernathy and Utterback; 1975), and has been easy to detect in

practice. Although other distinctions might have much theoretical value -such as between radical and incremental opportunities (Henderson and Clark, 1990), or between autonomous and induced opportunities (Burgelman, 1983a), or between the locus of opportunity (Birkinshaw, 1997)-, they are difficult to distinguish in practice (Lovas and Ghoshal, 2000) and were thus set aside in this investigation.

Once identified, the development and approval of this opportunity, i.e. the knowledge base, is pursued. This study characterizes the *pursuit* both as as a knowledge-creation and a resource (capital and assets) acquisition endeavor. The resources are considered necessary for the development of the knowledge base, i.e. the opportunity, because the initiators had handled 'without regard for resources under their control.' As the knowledge base develops, it moves from an idea, to a concept, to detailed action. This development occurs over time and can be characterized as moving through three phases termed linking, interpreting, and integrating phase. This study will alternatively use the terms variation, selection, and retention for these phases. Although it is acknowledged that these terms are not necessarily identical, they are considered to overlap to a large extent. The study also recognizes that initiatives do not need to proceed sequentially through these three phases, but can iterate back and forth (Van de Ven, 1992). Yet, although loops may exist, this sequential depiction serves to convey the general aggregate progression of the initiative.

The *approval* refers to some form of sufficient legitimation (Van de Ven, 1986), either in the form of resource commitment or approval of further knowledge-creation. The commitment of resources alone does not necessarily constitute the end of the process, because these may very well be obtained outside the firm. We side with Birkinshaw's (1997) standpoint that the approval marks the end of the initiative process either by an explicit or implicit approval, or by a rejection. As is standard practice in initiative research, we limit the dependent variable to something called *the outcome*. As said earlier, proving the causal relationship with strategic renewal is not the object of this study. The outcome is measured by asking the participants of an initiative what they consider the outcome of the initiative to be[4].

Being located inside an organization, the definition implies that the process is influenced by various *organizational conditions* that determine the trajectory the initiative follows (Van de Ven, 1986). These conditions are differentiated in organizational form, administrative and incentive systems, and managerial roles. The question is, "how do they influence the trajectories of initiatives?" Hence, the interest is in the causality of these elements that are also considered to impact each other (Miller, 1986). Besides

[4] A similar approach was chosen by Birkinshaw who measured three kinds of outcomes: (1) average new investment in subsidiary as a result of approval, (2) average new sales for subsidiary within two years, (3) subjective long term outcomes as stated by respondents. I do not use the first two because initiatives with high average investment and sales are not necessarily successful. The third option, asking the participants, is more appropriate because they can judge the status of the initiative when it has not yet reached the implementation stage. As opposed to Birkinshaw I measure the short-term outcome, because the outcome must relate to the initiative rather than to consecutive stages.

organizational conditions, namely those that depend on the firm, external ones (Birkinshaw, 1997), those that depend on the market, also exist. Yet, although initiatives can use the market in pursuing their course, this study does not consider such market conditions but only the organizational conditions as provided for by the firm[5]. In essence then, the focus is on how firms, particularly large ones, influence initiative trajectories.

RESEARCH AIM AND QUESTIONS

Lamentably, the entrepreneurship literature fails to provide answers on how large firms should deal with initiatives, because it shows conflicting findings, lack of definitions, and unclarity about the organizational context that facilitates initiatives (i.e. Guth and Ginsberg, 1990; Brazeal and Herbert, 1999; Shane and Venkataraman, 2000).

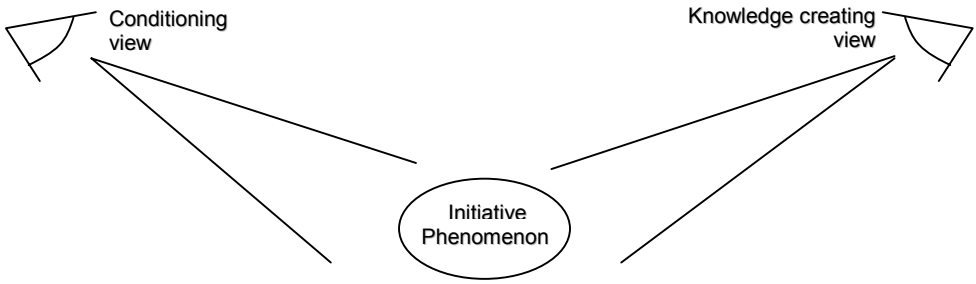
The ongoing discussion amongst strategists, as described by Volberda (1998: 112), about the roles of management levels in the renewal process (Barnard, 1938; Selznick, 1957), serves as an illustration of this fragmentation. He points out how originally the renewal process was perceived as a top-down deliberate process in which top-management took care of exploration, and front-line of exploitation (Chandler, 1962; Schumpeter, 1934; Selznick, 1957). Then a bottom-up emergent perspective, based on a more evolutionary approach, took foothold (Bartlett and Ghoshal, 1993; Bower, 1970; Burgelman, 1983a; Kanter, 1988). The idea was that in large companies top-management could not possibly oversee all opportunities. If top-management, instead, were to use the front-liners, who are in close contact with sources of information critical to innovative outcomes, they would have an immense pond to select initiatives from. This bottom-up perspective consists of two streams. In "the reactive […] bottom-up perspective (Volberda, 1998:113)" the role of top management is that of a judge or a retroactive legitimizer (Burgelman, 1983b) of lower level initiatives. In "the proactive […] bottom-up perspective (Volberda, 1998: 113)" the role of top-management also involves purpose creation and challenging the status quo (Bartlett and Ghoshal, 1993). Clearly, the different views that claim very different roles for the various levels illustrate the disagreement in the field.

This thesis posits that part of the confusion, insofar as it concerns the initiative phenomenon, is due to the existence of two perspectives on initiatives that have barely been synthesized. One such a perspective is the conditioning perspective, which takes the position that it is the organizational conditions that determine the trajectory of initiatives. It is based on most of the intrapreneurship literature (e.g. Bower, 1970; Burgelman, 1983a). It has been accused of only looking at the organizational context or conditions that drive the selection of initiatives, failing to account for their creation. The other perspective, the knowledge creating view, neglects the impact of organizational conditions on the development of initiatives. Instead, it focuses on the unfolding of the internal processes of

[5] This too is the same as was done by Birkinshaw (1997).

the initiative. It assumes that other knowledge is linked to, that ideas emerge as a result of this knowledge brokerage and that they are then developed through integrating specialist knowledge. It is based on the innovation literature (Nonaka and Takeuchi, 1995; Hargadon, 1998b). It, in turn, fails to recognize that knowledge-creation is carried out in an organizational context that must deal with knowledge-exploitation.

Figure 1.2: Two perspectives on initiatives



Both perspectives focus on different aspects of the same phenomenon, the initiative (see figure 1.2), and therefore represent one-sided views of the initiative phenomenon (Kanzanjian and Rao, 1999; Zahra, Nielsen and Bogner, 1999). What is called for is a synthesis of both, as organizational conditions not only impact the contextual development of an initiative, but also its content-wise development. Although there are recent studies that attempt to bridge the divide, they are either causal (Kanzanjian and Rao, 1999; Zahra Nielsen and Bogner, 1999), or conceptual (Crossan, Lane, and White, 1999; Floyd and Wooldridge, 1999) in nature. Studies that synthesize the conditioning and knowledge-creating perspectives are lacking. In light of the existing confusion in the field, *this study therefore aims to understand the impact that firms exert on the generation and development of initiatives by synthesizing the conditioning and knowledge creating perspectives.*

In line with this research aim, four research questions were formulated:

(1) How do initiatives emerge and develop in firms?

(2) What is the influence of the organizational conditions on the trajectory of initiatives?

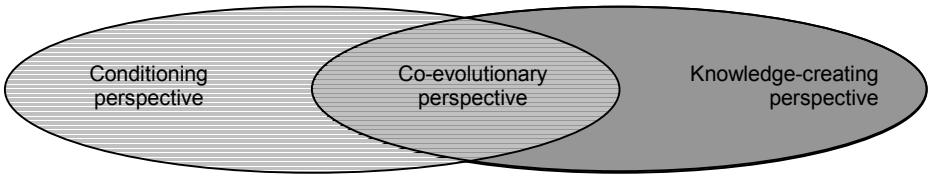
(3) What is the influence of the knowledge base on the trajectory of initiatives?

(4) Is there value in combining the two perspectives?

Contribution of the study

This study sought an answer to the above questions by using a co-evolutionary perspective. A co-evolutionary[6] approach (Kieser, 1989; Baum and Singh, 1994; Lewin and Volberda, 1999) is appropriate as it deals with issues of time, path dependency, multilevelness, and interdependency. Existing initiative studies that have been considered to be microcoevolutionary[7] in nature, such as those on intraorganizational ecology (Burgelman, 1991) or on intracorporate domains (Galunic and Eisenhardt, 1996), show difficulty in explaining the genesis of initiatives (Zahra, Nielsen, and Bogner, 1999; Floyd and Wooldridge, 1999; Shane, 2000), because they treat the firm and initiative as two separate entities, making it difficult for one to originate out of the other. Because this study looks at the co-evolution of knowledge and organizational conditions, rather than taking a bipolar view of the initiative versus the firm as the previously mentioned studies, it can explain how initiatives originate out of the firm. This approach is similar to, for example, Helfat and Raubitschek (2000) who looked at the co-evolution of knowledge, capabilities, and products. Yet whilst their study did not look at the initiative-firm relationship, this study uses a co-evolutionary perspective to shed light specifically on that relation. By doing so, this study manages to cross the divide between the conditioning and the knowledge-creating perspectives and thus reduces some fragmentation in the field (see figure 1.3).

Figure 1.3: Approaches to Initiatives



The study's contribution lies (1) in revealing the existence of two views on the initiative phenomenon, (2) in showing how the conditioning view attributes successful initiative trajectories to the direct impact of organizational conditions and how the knowledge-creating view attributes it to the initiative knowledge base, (3) in demonstrating how a co-evolutionary view synthesizes both views, and (4) in clarifying how organizational

[6] Co-evolution is defined as "the joint outcome of managerial intentionality, environment, and institutional effects (Lewin and Volberda, 1999: 526)."

[7] In this study a micro-co-evolutionary approach is used, because it takes place within the firm (McKelvey, 1997). As opposed to macro-coevolution, which would be about firms and their environments, micro-coevolution has been specified as the "coevolution of intrafirm resources, dynamic capabilities, and competencies in an intrafirm competitive context (Lewin and Volberda, 1999: 526)." Because this study investigates the dual interactions between initiatives and the firm within an organizational context it is microcoevolutionary in nature.

conditions and the knowledge base must match and co-evolve to produce successful initiative trajectories. The study offers managers guidelines on how managers, by changing the organizational conditions and knowledge settings, can steer this co-evolutionary process, thus creating successful initiative trajectories.

RESEARCH METHOD

As for the methodology followed in the investigation a multiple-case study was carried out within three firms (Leonard-Barton, 1990; Yin, 1989). The three firms were selected on the basis of the following criteria: (1) had a presence in the Netherlands for reasons of access, (2) sales revenues of over 100 million guilders, and (3) participated in a global industry. These criteria were purposely chosen to enable cross-case analysis (Yin, 1989). Nevertheless, the criteria were not narrowed down too much, e.g. different industries rather than a single industry were chosen, to avoid sacrificing generalizability too much. On the basis of these criteria we chose the following three firms: Ericsson, Van Ommeren, and KLM Cargo.

All the three firms investigated (Wielemaker, Volberda, Elfring, and Baden-Fuller, 2003; Wielemaker, Elfring, and Volberda, 2000), Ericsson, KLM, and Van Ommeren, are active in a global industry. Ericsson ETM is a subsidiary of Ericsson Sweden, active in Telecommunications. In the period of investigating Ericsson ETM, the telecommunications market in the Netherlands was being liberalized allowing entry of over more than five new operators besides the former monopolist. The entry of these new operators altered the way Ericsson operated to such extent that it even changed its organizational structure. KLM Cargo was also undergoing a transformation during our investigation from straightforward airfreight to integrated logistics. As for Van Ommeren, they had just undergone a transformation and were seeking entrepreneurial revival within their firm.

Each firm was investigated in two ways. First, the firm was investigated as a whole in order to measure the context in which the initiatives took place (Wielemaker, M.W., Elfring, T., and H.W. Volberda, 2000). This was done using Volberda's (1992, 1996, 1998) Flexibility Audit and Redesign method, which consisted of an automated survey and the use of document analysis (see appendix B). Secondly, a multiple-project study within each firm was carried out, basically for the purpose of gaining insight (Eisenhardt, 1989; Numagami, 1998; Yin, 1989), and for developing the co-evolutionary model. Such a multiple-project study consisted of between 6 and 9 initiatives per firm and was carried out in a similar fashion to Dougherty and Hardy (1996), who through interviews investigated 40 new product development projects in 15 firms, and Birkinshaw (1997), who through interviews and questionnaires investigated 39 initiatives in six firms. In the three firms of this study 24 initiatives were analyzed in total. Some of the initiatives

were suggested for investigation by top-management, others were encountered and selected along the way. The initiative process, "a sequence of events or activities that describes how [an initiative is pursued] over time (Van de Ven, 1992:170)," was analyzed in a similar manner as described by Pettigrew (1992), namely by interviewing key people that were of influence to the initiative. Because certain people were involved in more than one initiative, on average about three people per initiative were interviewed. In this way, the trajectories of renewal of these initiatives were described. In a manner similar to Pettigrew, documentary and archive data, as well as observational and ethnographic material were also used in order to achieve triangulation.

OUTLINE OF THE THESIS

Figure 1.3: Outline of the Thesis

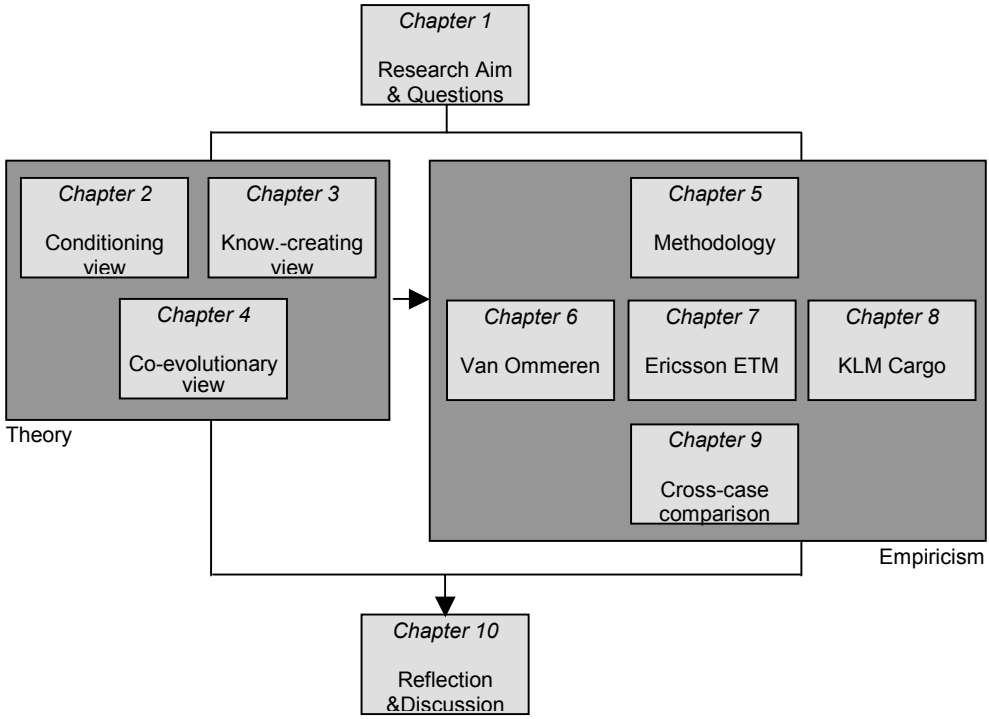


Figure 1.3 shows the outline of the study. After having described the conditioning view in chapter 2 and the knowledge-creating view in chapter 3, we integrate these two viewpoints

in chapter 4 by using a co-evolutionary perspective. Then in chapter 5 we move on to a description of the methodology used in our empirical work. In the empirical chapters 6, 7, and 8 the focus is on the initiative trajectories within a single firm, first Van Ommeren, then Ericsson, and finally KLM Cargo. In chapter 9 we cross compare the general initiative-trajectory patterns of the three firms, by using a conditioning, knowledge-creating, and co-evolutionary lens. Finally, chapter 10 discusses the main conclusions and implications of this study.

CHAPTER 2

The Conditioning View:
Theory on Context

In this chapter we discuss the 'conditioning' approach to initiatives. Firms are represented as a corporate context for the selection of initiatives into the firm. Organizational conditions - consisting of the organizational form, administrative and incentive systems, and managerial roles - are considered to influence the trajectories of initiatives. These conditions can be controlling or supportive in nature. The initiative itself moves through three phases that represent increasing levels of absorption by the firm: variation, selection, and retention. Two sub-views are discussed that depict different relations between the firm and the initiative, namely firms as constraining and as facilitating organizational environments. The first is the most prevalent and considers the firm and initiative to pursue, particularly in the initial phases, different means, namely exploitation versus exploration. Because each needs a different set of conditions this creates a conflict that can only imperfectly be resolved. The second sub-view acts as though the firm and initiatives only pursue explorative activities; this is the reason why the firm's conditions are perfectly catering to the initiative. Although this pictures an ideal situation, it limits its practical usage. The chapter therefore concludes that the conditioning view mainly considers firms and initiatives to be in conflict.

ORGANIZATIONAL CONDITIONS

One could say that in the initiative literature two streams exist: one that looks particularly at the content-wise development and one that looks particularly at the context. Most of the strategic management literature that looks at initiatives, i.e. the corporate entrepreneurship or intrapreneurship literature, (i.e. Bower, 1970; Burgelman, 1983a; Pinchott, 1985; Bartlett and Ghoshal, 1993; McGrath, 1995; Birkinshaw, 1997) tends to take a managerial perspective (Venkataraman, Macmillan, and McGrath, 1992) and therefore focuses on creating an appropriate environment for initiatives. The firm is considered to provide organizational conditions that will influence the development of the initiative. Although this conditioning view pays some attention to the content-wise development of the

initiative, it does so only sparingly and instead focuses on the context: the organizational conditions. These function as levers for manipulating initiative trajectories. Revisiting the initiative definition with a conditioning view lens it could be redefined as "a process *subject to organizational conditions* by which individuals inside organizations identify and pursue an opportunity to create future goods and services without regard to the resources they currently control, culminating in the approval of that opportunity."

The conditioning view does not completely neglect the content-wise development of the initiative, as is evident from Burgelman's (1983a) discussion of the technical and need linking activities in the initial phase. He points out that product development remains important throughput the rest of the process. Yet, just as most authors from the intrapreneurship literature (i.e. Fast, 1979), the conditioning view does not go much further than mentioning the need for interdepartmental linkages and ongoing product development. How such linkages create new knowledge and how product development processes lead to the content-wise improvement of an idea remain in large part a mystery. The *opportunity* in the above mentioned definition is therefore basically treated as a stable particle, i.e. a Ping-Pong ball, that does not transform into some other shape but only bounces back and forth between various levels. Although authors have pointed to aspects of learning (Cyert and March, 1963; Burgelman, 1983; Birkinshaw, 1997) this has served more as a side remark and has not been treated in a systematic and thorough manner (Zahra, Nielsen, and Bogner, 1999). Overall, the conditioning view tends to focus on the context at the expense of the content-wise development.

Idea content is, nevertheless, used as a means for categorizing ideas. One such a categorization classifies ideas as incremental (Quinn, 1987) or radical: "on the one hand, a step-by-step, gradual evolution; on the other hand, a breakthrough, an innovating decision. The first... is a series of adaptations … The second is an … innovating action" (Aharoni, 1966). Firms are considered to treat incremental and radical ideas differently. Decisions are more easily made on the familiar than the strange. Incremental ideas are therefore dealt with through routine decision-making, whereas radical ideas demand non-routine decision-making (Nelson and Winter, 1982; Burgelman, 1983c). However, in practice the distinction between the two types of ideas is complicated. Firstly, many authors merely state that something is radically new, but fail to specify the frame of reference (Stopford and Baden-Fuller, 1994)[8]. Secondly, there is confusion about the time reference. Are certain ideas radical with respect to the firm's existing strategy or with respect to the firms intended strategy? Thirdly, there is no sharp distinction between the two kinds of ideas. This is why other categorizations exist as well. Henderson and Clark (1990), for example, introduced an intermediate form: architectural ideas. In practice, it is hard to objectively make the distinction between radical and incremental ideas. Aharoni (1966: 197) therefore concludes, "it would be very fallacious … to carry this dichotomy … too far."

Notwithstanding some regard for the ideas themselves, the conditioning view is really about the context in which they develop. Such context of the initiative is much larger

[8] Whether this is with respect to the firm or the industry.

than the organization alone. One could also consider the environmental context outside of the firm (Ruttan and Hayami, 1983). When initiatives are studied in MNCs, for example, there is often specific consideration of the local environment of the subsidiary (Bartlett and Ghoshal, 1989). Similarly, certain regions, i.e. clusters, have been studied because they are excellent providers of resources (Saxenian, 1990). Although most of the intrapreneurial literature does take the environmental context into consideration, its main focus is, nevertheless, on the firm as the context for the initiative. Or, as Bartlett and Ghoshal (1993: 108) say "the main role of managers lies in their role as shapers of an organization's context (based on Barnard, 1938)."

These organizational conditions have been categorized in different ways. For example, Bower talked about the structural context (1970), Burgelman discussed a strategic context (1983b) and Ghoshal and Bartlett added the notion of a behavioral context (1994). The latter, by the way, has alternatively been labeled culture or climate (Tushman, Newman, and Romanelli, 1986; Nohria and Ghoshal, 1997). Next to these rather abstract categorizations of organizational conditions, authors have also used more operational categorizations such as (1) organizational form, (2) administrative and incentive systems, and (3) managerial roles.

Organizational form

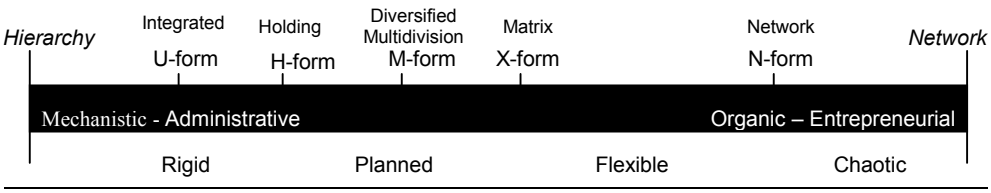
Organizational form and structure have been related to the level of innovation, and by implication to the level of initiative behavior. Burns and Stalker (1961) claim that organizational forms can be presented along a continuum ranging from a mechanistic form to an organic form (Burns and Stalker, 1961). The mechanistic form is better suited for carrying out known tasks in a stable environment and has an efficiency focus; the organic form is better for carrying out new things in a changing environment and has an innovation focus (Burns and Stalker, 1961). As Burns and Stalker (1961:122) clarify, "the two forms represent a polarity, not a dichotomy; there are… intermediate stages between the extremities." Volberda (1998), for example, provided a larger range of forms by providing four forms based on environment, management, structure, culture, and technology. These are the rigid form, the planned form, the flexible form, and the chaotic form. The rigid and to a lesser extent the planned form represent the more mechanistic forms. The chaotic and to a lesser extent the flexible form represent the more organic forms. Using Stevenson and Gumpert's (1985) terminology one could say that the mechanistic form is suited for administrative tasks, whereas the organic one is suited for entrepreneurial tasks[9]. Firms, of course, have tried to carry out both administrative and entrepreneurial tasks and have thus sought to set up forms that were both mechanistic and organic in nature, such as the hypertext (Nonaka and Takeuchi, 1995), balanced (Volberda, 1998), or ambidextrous

[9] Galbraith (1973) related organizational forms to the level of uncertainty in the environment. More uncertain environments require more decentralization and entrepreneurial behaviors and thus more organic forms.

(Tushman and O'Reilly, 1996) organizations. However, these forms find it difficult to manage the paradox within a single unit, which is why they use techniques such as temporal and spatial separation[10] (Van de Ven and Poole, 1988; Volberda, 1998) to manage change and stability. In essence then, they do not manage to resolve the paradox within a single unit at a single point in time. The distinction mechanistic-organic, even though it may know many in-between forms, is thus still very useful.

Although structure is merely one aspect of organizational form, it is the most obvious and important one meriting specific attention. Organizational structures have been distinguished as U-, M-, X-, and N-forms. Originally firms were structured functionally with a powerful executive controlling functional departments: the U-form. Out of this form the multidivisional form (M-form) evolved in order to deal with growth through diversification, with decision-making delegated to the divisions (Chandler, 1962; Williamson, 1975), but still with a powerful executive in central command. The matrix (Galbraith, 1973) or X-form (Williamson, 1975) sought to bring back the influence of the functional areas by incorporating a matrix structure. However, the matrix structure in essence remains an M-form structure, because the matrix structure is not carried through at all levels, merely the middle level. The first three forms -or two forms if we consider the X-form as a variety of the M-form- all fall within a hierarchical structure. The network structure, or N-structure (Bartlett and Ghoshal, 1989) departs from the hierarchy and is a new structure based on knowledge flows, as will be discussed in the next chapter. Placed along the mechanistic-organic polarity (see figure 2.1) the integrated U-form leans most towards the mechanistic form, the diversified M-form evidently more to the organic form, the matrix X-form even more so, and the N-form being the most organic.

Figure 2.1: Organizational Forms



Administrative and incentive systems

Through administrative and incentive systems (Block and Ornati, 1987) firms try in a direct way to steer employee behavior. Robert Simons (1994) categorizes such systems into four categories: diagnostic control systems, boundary systems, beliefs systems, and

[10] Spatial separation involves differentiating change and stability in different units. Temporal separation involves differentiating exploration and exploitation over time.

interactive control systems. These can be categorized into three categories of control systems: those aimed at intended strategy, at induced, and at autonomous strategy (Burgelman, 1983a).

To ensure effective implementation of *intended strategy*, management sets up critical performance variables that are used "to motivate, monitor, and reward achievement of specified goals" (Simons, 1994: 7). Such diagnostic control systems require performance standards, measurable outputs, and the ability to correct deviations (Simons, 1994). Standard operating procedures (Cyert and March, 1963) specify the process by which outputs are to be achieved. Such standardization is "designed to minimize individual creativity and resultant error" (Simons, 1994: 62). Diagnostic control systems leave more room for creativity, as they do not specify the process, but rather the results –the critical performance variables.

To ensure implementation of *induced strategy* (Burgelman, 1983a), boundary and beliefs systems are used to specify the kinds of opportunities that are sought after and state what is out of bounds. "The beliefs system is a positive system that motivates the search for opportunities in a certain direction; the other is a negative system that constrains the search (Simons, 1994: 33)." The beliefs system consists of the core values of the firm communicated through for example mission statements (Simons, 1994). The boundary system "delineate[s] the acceptable domain of activity for organizational participants" (Simons, 1994: 39). They therefore provide a frame within which creativity and freedom of action can occur in the organization. However, deviant behavior is not tolerated by the boundary system and results in punishment.

Autonomous strategic behavior (Burgelman, 1983a) seeks the fulfillment of other performance variables than specified by the diagnostic control system; it neglects the beliefs systems, and defies the boundary system. The previous control systems will therefore terminate such behavior, even if it were in the interest of the firm. Because management realizes that a certain level of autonomous behavior is in the interest of the firm, it tolerates it somewhat. Although Simons proposes a control system, called the interactive control system, for dealing with such activity, it would be better not to use to the word 'control system' for such because there is in reality an absence of a control system for dealing with this. Simons' definition of such a system reads: "formal information systems managers use to involve themselves regularly and personally in the decision activities of subordinates" (Simons, 1994: 95). He says: "[they] guide the experimentation and learning that are necessary for new autonomous strategic initiatives to emerge and be tested in the organization" (107). However, control is, generally speaking, not used in the way Simons uses it, and Simons contradicts himself somewhat when he states that in interactive control systems "senior managers determine where participants should focus attention". The last is typical of induced strategy rather than of autonomous behavior. Instead, for autonomous behavior to prosper the administrative and incentive systems could be characterized as providing a supportive climate, one that seeks to support rather than to control specific behavior (Bartlett and Ghoshal, 1993).

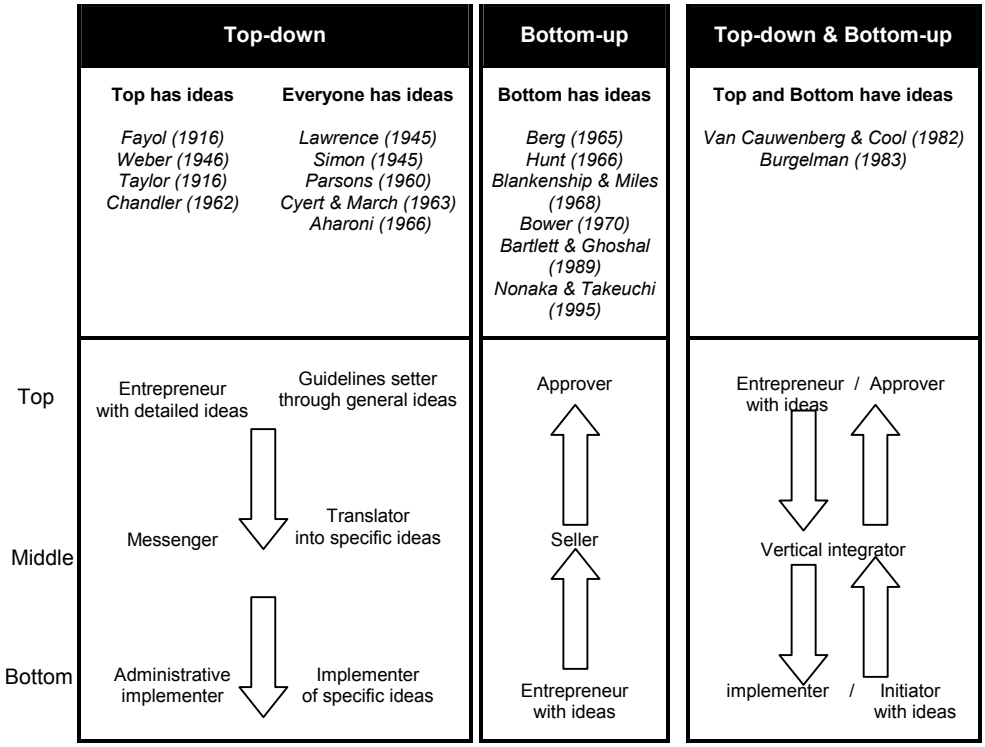
Managerial roles

In part because there is still much discretion left by the administrative and incentive systems, initiatives pass through the decision-making process in firms. This decision-making in large firms is distributed across various hierarchical levels that play certain roles in decision-making (Selznick, 1957). Originally the owner-manager was considered to take on the entrepreneurial role. The rest of the organization, the administration, could exert discretion in filling in the entrepreneur's directives, although within the limitations of standard operating procedures that functioned as general guidelines (Cyert and March, 1963). However, the administration's role was more than mere implementation. As Parsons (1960: 65) explains, "[upper levels] do not, in the nature of the case, simply tell people at the next level down 'what to do." Rather, lower levels were considered to "exercise types of competence and shoulder responsibilities that cannot be regarded as simply delegated by their superiors. This again is because the functions at each level are qualitatively different; those at the second level are not simply 'lower level order' spellings-out of 'top' level functions" (Parsons, 1960: 66). This new role of the administration in which they had more discretion resulted in them being called managers. Besides the managers, another 'species' was found to exist within the firm: the technical people (Parsons, 1960). These operated at the bottom of the hierarchy. With the recognition of this third group, a hierarchy had been born consisting of three levels: top-management (the former entrepreneur), middle management (the managers), and the bottom or front-line (those with the technical and operational expertise).

Naturally, firms can actually consist of more than three levels. Bower (1970), for example, found five formal hierarchical levels in the enterprises he studied: corporate, group, division, area, and product group. But when we look at the roles he attributes to these levels, he distinguishes only the three levels discussed previously. The extra levels he found seemed to exist primarily for reasons of span of control, rather than for additional role differentiation. The grouping of levels into the three levels top, middle, and front-line has become general practice amongst those studying initiatives (i.e. Cauwenberg and Cool, 1982, Burgelman, 1983a; Bartlett and Ghoshal, 1993). The existence of the levels is considered to stem for the different roles they perform in the firm.

Cyert and March's influential book, the Behavioral Theory of the Firm (1963), recognized this multilevel character of decision-making, but did not fully acknowledge its implications for the decision-making process. In their view decision-making was merely a multilevel coalition activity. They "avoided a discussion of what influence tiers of individuals have upon decision-making" (Carter, 1971: 413). According to Carter "the requirement that decisions pass through many organizational levels itself influence[s] the outcome" (Carter, 1971: 428). It were Vaughn Blankenship and Miles (1968) who clearly demonstrated that different levels have different roles in the decision-making process. For each level they showed differences in choice, influence, autonomy, reliance, and initiation.

Figure 2.2: Roles in the Initiative Process.



The specific roles attributed to these hierarchical levels depend very much on one's view of the direction of decision-making processes, i.e. the direction of strategy formulation and implementation. The first view of strategy making is a *top-down* one[11], in which the top sets the direction and the bottom fills it in (see figure 2.2). Chandler (1962) described the roles accordingly as the top being the entrepreneur, the middle the administration, and the bottom the implementer. However soon it was realized that "planning and creative thinking [could no longer] be made the exclusive responsibility of a chosen view within a business organization (Hunt, 1966: 89)." Hence, there was a delegation of decision-making and idea generation down the hierarchy. The lower levels can therefore "present 'needs', which constitute specifications, to the management" (Parsons, 1960: 63). Or as Hunt puts it: "the rare quality of high capacity may thus be

[11] In other words, intended and induced (Burgelman, 1983a).

concentrated where it is really needed [ed. at the top]; judgments of lesser importance can be made at lower levels." This qualitative distinction between ideas at different levels formed the basis for standard operating procedures (Cyert and March, 1963): general guidelines for decision-making at lower levels (Simon, 1945). This shift in emphasis can be presented as a shift from intended to induced strategy (Burgelman, 1983a). Yet despite the increased contribution of the lower levels, in essence the initiative process remained top-down with roles in accordance with Chandler's original pattern.

The second view of strategy making is *bottom-up*[12], quite the opposite of the previous, and describes a very different set of managerial roles. Extending the previous trend of all levels being able to make decisions, this opened up the possibility for "the decision process mov[ing] upwards" (Hunt, 1966: 86). As Hunt explains: "the upper levels in a decision-making process accept estimated findings from lower levels, not only because they must, but also because great advantage is gained in the process by using the judgment of people at levels where they have the capacity to exercise this judgment." Some even felt that was the way it should proceed: "[t]hings have to go from the bottom up, not from the top down; that's what a decentralized business is supposed to do" (Berg, 1965: 80). Vaughn, Blankenship, and Miles found that top managers indeed to a large extent relied "on their subordinates for … initiation (70 percent)… and to bring problems to their attention and to offer ideas and recommendations (1968: 114, 115)." This was articulated most clearly by Bower who claimed that "planning is bottom-up; there is no division planning staff that prepares a plan that the sub-units must then meet" (Bower, 1970, p. 44.). The explanation was that: "the information necessary to make planning decisions resides in managers at lower levels of the organization closer to the markets. If that is so, then the same lower level managers are best equipped to determine the quality of the forecasts built into an investment project request for funds" (Bower, 1970: 21). In such a bottom-up process managerial roles seem the reverse of the top-down one. Now it is the bottom that is the entrepreneur or initiator, the middle more an advisor, promoter, or gatekeeper for the bottom, and the top an approver of ideas and action (Schon, 1963). This authorization can be in advance, a judge (Bower, 1970), or after the fact, a retroactive legitimizer (Burgelman, 1983a).

The third view is really a combination of the previous, namely a c*oexistence of top-down and bottom-up processes*. Burgelman (1983b) pointed out that firms displayed both top-down strategic processes, which he coined induced, and bottom-up ones, which he called autonomous. Although they did not go as far as Burgelman, Van Cauwenberg and Cool (1982), had just before pointed out something similar, by showing that top management could both set guidelines for those below them, yet also initiate intervention themselves. Burgelman (1983a) made it very explicit that there could be both processes. This implied that levels could reflect multiple roles, depending on whether the process was top-down or bottom-up. Top managers could be both initiators (top-down) and authorizers (bottom-up), middle managers both administrators (top-down) and advisors or gatekeepers

[12] In other words, autonomous strategy.

(bottom-up), and the bottom could be both implementers (top-down) and initiators (bottom-up).

The above debate on the direction of the initiative process has put the middle manager in a peculiar spot. On the one hand the debate has gradually taken away their role of initiating ideas, whilst on the other hand it has accentuated their pivotal role as an intermediary between the top and bottom levels, with their involvement leading to better firm performance (Wooldridge and Floyd, 1990). Although the top-down view accentuated the initiating role of top management, it also accepted the notion of lower levels, such as the middle level, contributing to the initiation of ideas, albeit at a different qualitative level. A study by Vaughn Blankenship, and Miles (1968), for example, found that the middle level (41%) carried out most personal initiation of all the three levels. However, with Bower's (1970) bottom-up description a top-down versus bottom-up battle ensued as to where idea generation was initiated. Burgelman's (1983a) intended and autonomous concept merely emphasized the initiation roles of the top and bottom levels, and thus unintentionally de-emphasized the initiation capabilities of middle management. Gradually the middle was robed of its creative potential. Yet, in spite of this, the middle level also gained a pivotal role, that of vertical integrator. Linking top and bottom, middle management was considered essential for passing on and interpreting information from top to bottom or the other way round. It is in this capacity that they perform their role of vertical information broker or organizational champions for certain ventures. Bartlett and Ghoshal (1993) enlarged their role to include horizontal information brokering. Middle management was considered not just to intermediate between top and bottom, but because of its contacts was also in the position to intermediate between different areas within the firm.

Controlling versus supportive conditions

Table 2.1: Controlling versus Supportive conditions

	Controlling	Supportive
Organizational form	**Mechanistic** hierarchy	**Organic** network
Administrative & Incentive systems	**Steer behavior** diagnostic control, boundary and beliefs systems	**Stimulate behavior** discipline, stretch, trust and support
Managerial Roles	**Top-down**	**Bottom-up**

The aforementioned organizational conditions (organizational form, administrative and incentive systems, and managerial roles) can in theory independently from each other exert their influence as supportive or controlling in nature (Ghoshal and Bartlett, 1994). A mechanistic form is controlling in nature; an organic form is supportive. Administrative and incentive systems that try to steer behavior through diagnostic control, boundary and beliefs systems are controlling in nature; those that try and stimulate intrapreneurial behavior through an entrepreneurial climate are supportive in nature. Managerial roles that reflect a top-down decision-making process are controlling in nature; those that reflect bottom-up process are supportive in nature. Theoretically, firms can thus possess organizational conditions that are mixed in nature, i.e. a controlling form, with supportive systems, but controlling roles.

PHASES OF SELECTION

Besides considering the organizational conditions, the conditioning view also takes into account the phases of development of the initiative itself. Notwithstanding that these phases can be related to the content-wise development of initiatives, they are much more a description of the extent to which the environment, in this case the corporate context, has accepted the initiative. In other words, each phase describes a level of initiative-absorption by the firm[13]. This is most evident in the intra-organizational ecology view of initiatives (Campbell, 1969; Burgelman, 1991, Galunic and Eisenhardt, 1996), which based on population ecology (Hannan and Freeman, 1977) describes three phases: (1) variation, (2) selection, and (3) retention (Campbell, 1969).

Although other descriptions of the phases have been proposed (i.e. Dutton, 1988), as well as various exceptions to the rational representation of the process, in essence most descriptions of the initiative process are very much in line with the above-described intra-organizational view. For example, Burgelman (1983a) initially used two phases: definition and impetus. Aharoni (1966) talked about initiation and decision phases. Yet, their discussions of the phases are very much in line with the three-phase intra-organizational ecology model, suggesting a large overlap. The process also does not need to proceed as rationally as one might infer from the three-phase model. There does not have to be a weighing of alternatives at all; a proposal could be judged on its own merits (Aharoni, 1966). Moreover, as stated in the opening chapter, it is generally recognized that initiatives do not necessarily need to proceed sequentially through these three phases, but can iterate back and forth (Van de Ven, 1992). In addition, there is sometimes no clear point-in-time where 'the' decision is made. Rather decision-making can be viewed as a process, consisting of many sub-decisions. Nevertheless, notwithstanding all these amendments and

[13] Note that the initiative is as such a separate and distinct entity.

remarks, the three phases remain distinctive and useful in describing the different processes involved.

Variation

The first phase of the initiative process – variation - is that where opportunities are recognized and acted on, this is the reason why it has also been termed the identification (Mintzberg et al, 1976) or definition phase (Burgelman, 1983a). From the point of view of the firm, the initial phase is characterized by the creation of variety within the firm, i.e. as many different initiatives as possible. The presence of a variety of initiatives will ensure that amongst the initiatives are those with the appropriate set of genes to survive in the corporate and environmental context. The focus in the conditioning view is thus not so much on the creative process within a single initiative, but rather on the emergence of a pool of initiatives from which certain ones will survive, i.e. the notion of letting "a thousand flowers bloom (Kanter, 1988)."

Given the usefulness of a pool of initiatives, the intrapreneurship literature has sought to answer questions that would provide clues on how to stimulate the initiation and pursuit of initiatives. One such a question was whether initiatives were problem or opportunity driven. Cyert and March (1963) stressed problemistic search as the driver. Although they acknowledged the existence of opportunity-driven behavior, which they called slack innovation, they downplayed its importance: "slack innovation will tend to be difficult to justify in the short run and remotely related to any major organizational problem" (1963: 189). Yet, many authors (a/o. Aharoni, 1966; Carter, 1971; Mintzberg et al, 1976) felt that Cyert and March underestimated and underrepresented the role of opportunity-driven behavior and that such behavior could be very irrational. Aharoni (1966) offers the example of a firm choosing to invest in a certain country for no other reason than that the investor's wife originated there. He remarks: "A decision-making process does not begin with the definition of a 'given' problem. It begins with the recognition that an issue exists and awaits definition (1966: 53)." Yet the debate subdued with the recognition that both problems and opportunities can drive initiatives. Mintzberg et al. (1976), for example, placed the two stimuli, problem and opportunity, along a continuum indicating that the two are extremes, but that a mixture of both can stimulate initiatives as well.

> "At one extreme are opportunity decisions, those initiated on a purely voluntary basis, to improve an already secure situation, such as the introduction of a new product to enlarge an already secure market share. At the other extreme are crisis decisions, where organizations respond to immediate pressures. Here a severe situation demands immediate action, for instance, seeking a merger to stave off bankruptcy. Thus, opportunity and crisis decisions may be considered to form two ends of the continuum." (Mintzberg et al., 1976: 251).

Another question was whether certain people were more entrepreneurial than others? The intention was to obtain clues on which people to select into the organization.

Indeed it was thought that entrepreneurship "can be treated as a psychological predisposition of individuals to take a chance in the hope of gain, and in particular, to commit effort and resources to speculative activity (Penrose, 1959: 33)." This remark by Penrose underlines a common thought about entrepreneurs that certain people are more prone to display entrepreneurial behavior than others (Brockhaus and Horowitz, 1986; Naffzinger, 1995). The findings, nevertheless, remain inconclusive (Aldrich and Zimmer, 1986; Amit, Glosten, and Muller, 1993). Hence, even though personality characteristics are considered important, they do not form part of accepted entrepreneurial theory yet.

Another question centered on the motivation of initiators. Why do they pursue ideas, display personal initiative (Frese, Kring, Soose and Zempel, 1996), take charge (Morrison and Phelps, 1999), or express voice (Hirschmann, 1970; Withey and Cooper, 1989)? The intention here was to obtain clues on how the organization could influence that motivation (Scott and Bruce, 1994; Frese et al, 1996; Morrison and Phelps, 1999). Various factors have been found: top management openness, self-efficacy, felt- responsibility, and expert power. Morisson and Phelps (1999) found that top management openness, "the degree to which top management is believed to encourage and support suggestions and change initiatives from below (406)," was an important factor in employee's decision to take action. They also found self-efficacy, "an employee's estimate of his or her capacity to perform (Gist and Mitchell, 1992)" to be important in the decision to take initiative. Moreover, felt-responsibility, "an individual's belief that he or she is personally obligated to bring about constructive change (407)," was also found to be an important factor for taking charge (Frese et al, 1996; Morisson and Phelps, 1999). And last but not least, "employees with a high level of expert power should feel confident that they can bring about change more successfully (Morisson and Phelps, 1999: 407)." This stream of research is still ongoing and refining itself. Apart from top management openness, i.e. providing an innovative culture, the firm can also impact the self-efficacy, felt-responsibility, and expert power of employees by increasing their level of autonomy. Frese et al (1996) have shown that such autonomy relates to higher levels of initiative.

Selection

In the selection phase the initiative is selected into the firm. In order to be selected in, the intrapreneurship literature tends to view initiatives as competing with each other as well as with other priorities in the firm. For example, as Aharoni (1966) explains "an organization's executives might not explore a profitable opportunity for investment because they were too busy with other affairs at the time the opportunity presented itself. The same executives would have vigorously invested this opportunity at other, less hectic times." Or as he puts it differently:

> "In a world of uncertainty the decision to invest is also a commitment: the organization commits its funds and management resources to a certain line of action. But there is always the possibility that in the near future a better opportunity will present itself, and the organization

> will turn it down because it has already committed resources…Commitments constitute an evolving set of constraints" (Aharoni, 1966: 138).

Selection can occur through a mixture of 'invisible hand' as well as "visible hand" mechanisms (Chandler, 1977). On the one hand, initiatives are legitimized through natural selection by the market: the 'invisible hand' mechanism. On the other hand, initiatives are proactively pursued by executives: the 'visible hand' mechanism. As Aharoni (1966; 270-271) says: "Certainly, some leaders d[o] give the organization a new direction without any overt stimulus from the environment. Leadership is left with some choice, and great leaders have been able to change the path of their organizations." In most cases, selection occurs through a mixture of both mechanisms. As such, the firm itself is considered an internal selection market (Burgelman, 1983b; McGrath, 1995) within which there is a struggle to convince those with the discretionary power to exert choice or leadership (Selznick, 1957). As Venkataraman et al (1992:502) explain, "in a sense the market is simulated within a firm whenever each venture initiative competes with other initiatives within the firm for a fixed or varying pool of resources."

This notion of executive choice went against the behavioral theory. The latter claimed group consensus, together with standard operating procedures, would resolve selection issues (Cyert and March, 1963). This notion of a group consensus came under criticism from those studying investment decisions. "Cyert and March imply that all active members of the coalition have similar power. By doing so they implicitly deny the possibility of any innovation, leadership or coercive power and depict the organization as a coalition of mediocre people (Aharoni, 1966: 169)." Or as Carter (1971, 421) explains, "the final expectations of a coalition seemed to be the result of sequential bargaining at various levels in the organization rather than the result of any group consensus."

The existence of choice (Child, 1972) in the selection process therefore opened the door to politics and power play at various tiers in the hierarchy. It occurs at various levels in the organization because "as more and more decisions of consequence are made at lower levels of the organization through interdepartmental groups, problems of leadership arise (Galbraith, 1973: 18)." If all initiatives cannot be carried out, someone has to choose. Consequently, those with the power to exert choice will then do so. Research in decision-making has shown that such choice stems not solely from objective principles, but also from judgments that are entirely personal (Carter and Williams, 1958) and that it is open to political influence. As Aharoni (1966: 215) states: "True, no American businessman worth his salt would admit to being influenced by prejudice, by social pressures, or by his wife. Decision making in complex organizations is a very long social process, not solely an intellectual exercise."

Because the initiative selection process is open to influencing those with the power to exert choices, the initiative tries to bargain and power play its way through. This is difficult as "many proposals [are] rejected because the proposers lack the ability to persuade top management that the project [is] worthy of consideration (Aharoni, 1966: 88)." Initiators therefore bring powerful players on board that have the authority and power

to influence the necessary decision-makers. Success in influencing is therefore dependent, as Bower explains, on "the willingness of a general manager at the division president's level, or one level below, to commit himself to sponsor a project in the counsel of division officers and before the division general manager" (1970, p. 68). These individuals, called champions, are considered essential to the selection process (Schon, 1963; Maidique, 1980; Galbraith 1982; Kanter, 1982; Burgelman, 1983a; Van de Ven, 1986; Venkataraman, MacMillan, and McGrath, 1992).

Retention

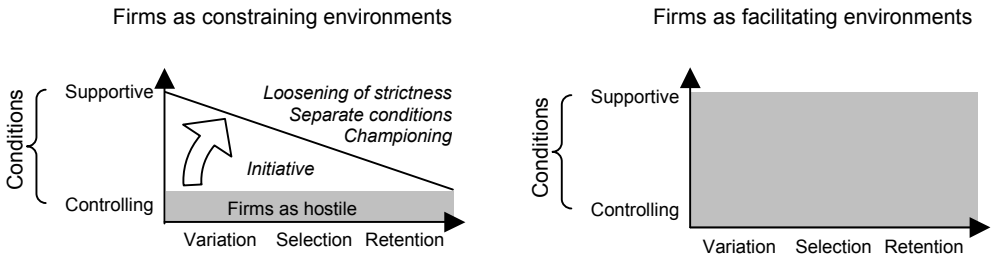
The selection phase is not the end of the initiative process as approval often occurs in increments and is often dependent on the extent to which a project has proven its worth. Aharoni explains that "in some cases [official approval] is granted after all contracts have been signed (1966: 123)." Moreover, as Venkataraman et al (1992:512) point out, "for successful retention of ventures within the firm, some collective social acceptability is critical." As such, initiatives often still need to be implemented to gain further legitimacy and approval in order to be retained in the firm and not spin-off or die out. The major concern in this phase, as pointed out by Burgelman (1983b), often concerns the difficulty of integrating the initiative into the fabric of the firm. This phase is what Kanter (1982) calls 'moving into action,' which she claims consists of handling interference or opposition, maintaining momentum and continuity, implementing secondary redesign and changes, and communicating externally to the various stakeholders in the project.

CONDITIONING VIEW

Although the organizational conditions - form, systems, and roles - are in theory independent, most authors in the conditioning view do not really treat them as such, but consider them to be interdependent. In line with part whole (Van de Ven, 1986) and systems thinking (Senge, 1994) there is a strong tendency to align the three conditions to ensure that they all fit each other. Bartlett and Ghoshal clearly reflect this tendency to align, which they express as 'a clear set of commonalities (1993: 24), in their discussion of the strategy-structure-systems doctrine, or their own structure-processes-roles version. Because of this alignment, the three types of organizational conditions consequently become either all supportive or all controlling in nature.

This leads to two views of firms, namely one in which the firm functions as (1) a constraining environment or as (2) a facilitating environment (Bouchikhi, 1993). Although most authors agree that (3) initiatives can change or influence the environment, it is something that is generally taken for granted and therefore given limited consideration.

Figure 2.3: The conditioning view



Firms as constraining environments

In the constraining view, all conditions are considered controlling in nature. The reason they stay controlling during all the three phases is because they have not been set up for initiatives in particular, but for the firm as a whole. Because the firm as a whole is not going through any particular phases there is no reason to change the conditions over time. In fact the firm is though to be in a constant exploitative mode, this is the reason why all organizational conditions are controlling, i.e. they consist of a mechanistic form, administrative and incentive systems that try to steer behavior, and managerial roles that are top-down in nature. These characteristics are considered appropriate for exploitative activities (March, 1991; Lewin et al, 1997; Ghoshal and Bartlett, 1994).

In the constraining view the initiatives and the firm are considered to be at odds (Block, 1982; Kanter, 1985; Sykes and Block, 1989) because they pursue different means. The initiative needs a set of organizational conditions that are different from that provided by the firm. The firm tries to implement intended behavior and control what's going on, whereas the initiative seeks freedom to act (Sathe, 1985). The firm seeks implementation, the initiative creativity. The firm, through its organizational conditions enforces existing practices (Cyert and March, 1963; Hlavacek and Thompson, 1973; Nelson and Winter 1982). Initiatives are dealt with through these existing organizational conditions that remain the same throughout the development of the initiative, instead of through new ones for specific phases (McGrath, 1995). The firm's reward system is known for not rewarding, sometimes even punishing (Quelch, Farris and Olver, 1987) extra role behavior. Initiatives are met with resistance because it "impinges on the status quo" (Hanan, 1969:44), or because they create problems for managers, requiring leadership or the neglect of administrative issues (Burgelman, 1983c). All in all, "the [firm] has come to appear to many innovators as a hostile environment to change" (Hanan, 1969:44) and to creativity (Burgelman, 1983c; Dougherty, 1990; Meyer, 1982). As such, the firm through its controlling organizational conditions is regarded as a constraining environment for initiatives.

Whether this conflict between initiatives and the firm is undesirable remains inconclusive. There are those who say that conflict leads to higher effectiveness of the firm (Burns and Stalker, 1961) and that it ensures an appropriate balance between innovation and implementation. This is why Schon (1963: 82) states that the firm "must be ambivalent about radical technical innovation. It must both seek it out and resist it." Burgelman (1983c) even fears that encouraging entrepreneurship could lead to misguided opportunism. Notwithstanding these positive notions about conflict, the overall feeling is that the firm smothers initiatives before they have had the chance to prove their worth. According to Venkataraman, MacMillan and McGrath (1992) the critical question is therefore "how to ensure the survival of an idea and venture within the hostile firm until a market test can provide the true criteria for retention or divestment."

To ensure survival of initiatives in this constraining environment three basic venues have been put forward: (1) loosen the strictness of the controlling conditions by making them more supportive, (2) set up separate conditions for initiatives, (3) battle and change the controlling conditions through the use of champions. These tactics allow for the conditions to vary over the three phases. As it is known that idea generation, i.e. the variation phase, is particularly aided by supportive conditions (Bartlett and Ghoshal, 1993), we see that such supportive conditions are particularly sought after in the initial phases (see figure 2.3). Although these tactics do not require that all conditions – form, systems, and roles – be configured equally, i.e. one could have supportive roles in a controlling structure, we do see that they try to achieve alignment between all these conditions (Burgelman, 1983a).

Loosening strictness of controlling conditions

Firms can decrease their constraining influence on initiatives by loosening the controlling nature of the organizational conditions. However, because these organizational conditions have been set up to steer the general activities of the firm, rather than only initiatives, there is a limit to the extent to which they can be adapted to cater to initiatives.

The organizational form can be made less controlling by moving from the functional and divisional forms to the more organic matrix form. In order to facilitate initiative behavior the firm also can display a larger tolerance for informal organization. Schon goes as far as to say that "the buffering function of the official screening offices virtually forces such a network into existence" (1963: 84). However, according to Galbraith the matrix form was purposely set up exactly to formalize these informal processes: "These informal processes are necessary as well as inevitable, but their use can be substantially improved by designing them into the formal organization. At the very least organizations can be designed so as not to prevent these processes from arising spontaneously (1973: 47)." Nevertheless, because the firm's main purpose remains the implementation of ongoing non-initiative activities, the form in essence remains hierarchical and thus constraining in nature.

The administrative and incentive systems can be made less controlling by allowing for more slack in the organization (a/o Cyert and March, 1963; Galbraith, 1973; Kanter, 1983). The presence of slack (Cyert and March, 1963) reduces the exposure of initiatives to the controlling administrative and incentive systems and in effect creates more autonomy for the venture. This has led to its institutionalization by some firms in the form of distributed slack (Cyert and March, 1963). Distributed slack consists of letting lower levels keep a share of their profit, of deliberately providing broad and vague job descriptions, of providing less stringent target measures, of formalizing slack time in employee jobs etc. Although the availability of slack can be detrimental because of the lack of discipline (Nohria and Gulati, 1996), the use of slack remains an essential facilitator for initiatives as is nicely explained by a former president of IBM:

> "But how much do we want to know? How much can we even ask without dulling initiative, without killing imagination? Let me give you an example. The disk memory unit, the heart of today's random access computer, is not the logical outcome of a decision made by IBM management. It was developed in one of our laboratories as a bootleg project. It was developed over the stern warning from management that the project had to be dropped because of budget difficulties. A handful of men ignored the warning. They broke the rules. They risked their jobs to work on a project they believed in. Could this have been done if the company's control system had been more precise? I doubt it. Luckily for us, our control was imperfect and a great development was the result… There is bound to be businesses that destroy themselves through excessive control' (Watson, 1962: 23).

As for the managerial roles, firms can signal and tolerate more openness to bottom-up processes and couple this with greater decentralization. This will allow managers to take on more supportive roles on behalf of the initiative. The decentralization grants them more discretion in decision-making to perform these supportive roles. It also reduces the necessity of decision-making moving up the echelons (Galbraith, 1973). Yet, in essence the core roles of the managers remain focused at implementing ongoing non-initiative activities of the firm. As such, their steering top-down roles are their first priority and overshadow any initiative roles, reducing the latter to second priority.

The loosening of the controlling conditions only works to facilitate initiatives to a limited extent, because the firm's main task is still to implement efficiently its ongoing activities rather than to cater solely to initiatives. Although the organizational form can be loosened to a matrix form, in essence it remains a hierarchy set up for implementation activities. Similarly, although the controlling nature of the administrative and incentive systems can be loosened through the tolerance for slack, in essence they remain in place. And last but not least, although there is an openness to bottom-up processes and attached roles, first priority remains top-down implementation of general firm activities. Hence, softening the controlling nature of the organizational conditions will only work to a certain extent, because the conditions at their core remain controlling. The firm therefore remains constraining to initiative behavior.

Separate conditions for initiatives

Instead of trying to adjust the organizational conditions to the needs of initiatives, firms and initiatives have also set up separate forms, separate administrative and incentive systems, and separate managerial roles specifically for initiatives. Drucker (1974: 799) explains: "The search for innovation needs to be organized separate and outside of the ongoing managerial business. Innovative organizations realize that one cannot simultaneously create the new and take care of what one already has." A similar logic was already used to ensure appropriate conditions for different departments within a firm. Hall (1962), for example, found that research and development departments were more organic in nature, whereas the production departments were organized more mechanistically.

The organizational form of the firm is often of a hierarchical nature, whereas the initiative is often in need of a more team-like structure to promote innovation, speed, and flexibility. Not surprisingly, firms have set up special initiative structures that are distinct from the organizational one, a technique called spatial separation (Baden-Fuller and Volberda, 2001; Volberda, 1998), such as teams[14], skunk and garage works (Kanter, 1988), innovation cells, and new venture divisions (Burgelman, 1983a). Not only does this create a more appropriate structure, it also allows initiatives to bypass the controlling organizational conditions. The venture, within its boundaries, it is not bothered by a conflict with the firm, and can thus blossom. Burgelman (1983a) took this a step further by suggesting that certain ventures are deliberately hidden from the corporate context in order to first prove themselves worthwhile before trying to gain approval.

Yet, although these separate structures have been show to aid in the development of initiatives, the set-up of these separate structures, their integration into the firm, and their continuity is problematic (MacMillan, 1985; Burgelman, 1983a). Much of the literature acts as though these structures are set up almost automatically. But as Kanter (1988) pointed out, someone first needs to authorize the set up of such a structure, meaning that the initiative is still subject to organizational conditions at the outset[15]. As for their integration back into the firm, this will need to occur sooner or later, subjecting the venture to – inappropriate - organizational conditions once again. This integration process has been shown to be quite problematic (Burgelman, 1983a). Although separate ventures are thus perhaps well suited for the development of an idea, they do not eliminate the firm-initiative

[14] There are basically three ways for forming such a team according to Hanan (1969): an intracorporate team, intercorporate team, and supracorporate team. An intracorporate team consists of a unit set up within the firm. It is known by such names as a skunkwork, garage work, team, or venture team. The intercorporate team consists of members from the company and of members from one or more other firms. The supracorporate team "operates in semi-autonomous independence from its corporate sponsor" (Hanan, 1969: 48) and "reports only to their sponsor's president or to one of his general managers."

[15] A related issue is which level would be appropriate for deciding on the set up of the separate structure. Speaking about divisional versus corporate interests Berg says (1965: 89): "to place [this decision] lower in the organization is seen by higher levels as resulting in inefficiency and waste, either because the goals at lower levels are different or because the lower levels cannot see the 'big picture' and the better opportunities for the corporation to spend money elsewhere. At the same time, moving [this decision] to higher levels is seen by the lower levels as resulting in inefficiency and waste because the higher levels cannot know enough about our problems".

conflict and the resulting bargaining process. The availability of high levels of autonomy and resources in these separate ventures is also known to actually cause their failure (Garud and Van de Ven, 1992) because there was not enough of a challenge to perform. Moreover, when the firm enters a resource scarcity situation, these separate ventures, representing allocated slack, are the first to disappear owing to their visibility (Sykes and Block, 1989).

Firms have, often on an ad-hoc basis, within the organization created separate decision-making bodies for initiatives in the form of screening, steering, or review committees and boards, because the administrative and incentive systems of the organization are often not fine-tuned to the needs of initiatives. These screening committees are supposed to apply a separate set of administrative and incentive systems to the initiative. However, they are often perceived "as a wall, rather than as a screen" (Schon, 1963: 79). If separate structures were set up for the initiative, then that is sometimes accompanied by a unique set of administrative and incentive systems that are initiative specific. Although one might assume that the initiative benefits from such a unique set of administrative and incentive systems, Block and Ornati (1987) found that incentive systems set up for ventures did not improve performance. Chesbrough (2000) explains that venture incentives cannot be too much out of line with the rest of the firm in order to avoid feelings of unfairness. Moreover, as the initiative will be integrated back into the firm, sooner or later, it can only temporarily avoid being subject to the administrative and incentive systems of the firm.

Firms have also created venues for extra-role behavior that benefit initiatives, because the every-day roles of people in the firm are not always appropriate for initiatives. One such a venue is through temporal separation (Poole and Van de Ven, 1989; and Volberda, 1998), in which certain roles are allowed during a certain time period. Another is through spatial separation (Poole and Van de Ven, 1989; Volberda, 1998), in which the separate venture enables a different set of managerial roles than within the firm. Yet, in both cases these initiative roles must be re-integrated with the organizational roles, as soon as the initiative is integrated back into the firm.

Separate initiative conditions can thus benefit initiatives because they bypass the controlling organizational conditions for a certain time. However, this is only a temporary solution, as the initiative eventually needs to realign itself with the firm at which point the conflict with the organization's controlling conditions is back in the picture again.

Use of champions

A third method for creating appropriate conditions is by having powerful players battle their way through. Firms accept it as inevitable that their main priority is to provide controlling organizational conditions in order to carry out their everyday non-initiative activities and that this causes a conflict between initiatives and the firm. Given the possibility of bargaining in the decision-making process, the solution is sought in powerful players that can maneuver the idea through these controlling conditions." These

individuals, called champions, are necessary to ensure appropriate conditions and are primarily focused at acquiring resources (Bower, 1970; Pettigrew, 1973; Pfeffer and Salancik, 1978; Burgelman, 1983a; Day, 1994), obtaining organizational support, and bending routines (Schon, 1963; Maidique, 1980; Galbraith 1982; Kanter, 1982; Nelson and Winter 1982; Burgelman, 1983a; Van de Ven 1986; Venkataraman, MacMillan, and McGrath, 1992). The firm accepts this power struggle (Emerson, 1962; Thompson, 1967) as a form of natural selection for initiatives. As Schon explains:

> "Given the underground resistance to change described earlier, the new idea either finds a champion or dies. Essentially, the champion must be a man willing to put himself on the line for an idea of doubtful success. He is willing to fail. For a number of them the price of failure is professional suicide, and a few become martyrs of the championed ideas" (1963: 84).

There are two types of champions: the product and the organizational champion. The product champion, mostly middle management, is concerned with promoting the merits of a technological solution (Galbraith, 1982; Hlavacek, 1974) and is alternatively called the idea generator, initiator, venture manager, or sponsor (Von Hippel, 1977; Galbraith, 1982; Burgelman, 1983a). The organizational champion, mostly top management, provides legitimacy and is alternatively called orchestrator (Galbraith, 1982) or (again) sponsor (Von Hippel, 1977). However, this distinction seems overdone as Galbraith contends that organizational champions "orchestrate… by funding innovating activities and creating incentives for middle managers to sponsor innovating ideas" (1982: 11). In other words, both levels have a role to play in the political game, with the one level merely having more power than the other.

Apart from manipulating the organizational conditions, champions are also able to deal with the resistance to change[16] that new initiatives may encounter (Schon 1963: Hannan and Freeman 1977; Van de Ven 1986). Venkataraman, MacMillan, and McGrath (1992) mention various reasons for such resistance. The idea threatens the existing power and resource distribution. It can make knowledge and skills of powerful members obsolete. It may require large investments in, for example, training personnel. Levinthal and March (1993) also point out that managers with past successes often have political power, even in situations when it is no longer successful. Many of these managers are caught in 'competence traps' (Levitt and March, 1988). "Such individuals are often reluctant to abandon the way in which they perceive the features of the company and its business environment" (Venkataraman, MacMillan and McGrath, 1992). Truly powerful champions are thus necessary for crumbling fierce resistance.

Under the constraining view, firms can only provide imperfect solutions for initiatives, because the organizations main purpose is exploitation, which requires controlling

[16] Overcoming such resistance can in part be done by gaining legitimacy. This is more open to coalition activity (Cyert and March, 1963) as "horizontal systems complemented the vertical chain of authority as a means of building legitimacy and momentum for the initiative" (Birkinshaw, 1997).

conditions[17]. Initiatives, at least initially, focus on exploration, which requires supportive organizational conditions. Because of this conflict of purpose, the two cannot function perfectly under one system. Loosening the controlling nature of the organizational conditions only helps initiative behavior to a limited extent, because in essence the conditions remain controlling. Similarly, the creation of separate initiative conditions forms no perfect solution either as such merely temporarily circumvents the organizational ones; initiatives must still be brought back into the organizational system. Conflicts, fought with the aid of powerful individuals, champions, are thus inevitable and necessary to manipulate the corporate context in favor of the initiative.

Yet, underlying the constraining view is the notion that initiatives will eventually become part of the ongoing activities of the firm for which the controlling conditions are set up. Initiatives are assumed to make the shift from exploration to exploitation, from variation to retention, from invention to implementation. In the latter instance, the controlling conditions of the firm will turn out to be helpful for the initiative. Therefore, the organizational form of the initiative must eventually switch from a team or network back to a hierarchical form, the administrative and incentive systems must switch from stimulating to steering behavior, and the managerial roles must switch from bottom-up back to top-down ones, something Volberda calls a temporal oscillating mode (1998). Hence, initiatives require supportive conditions in the initial phase, but they require controlling conditions in the implementation phase.

Firms as facilitating environments

Very recently, a facilitating view of the corporate environment has been put forward (Bartlett and Ghoshal, 1993). Whilst in the constraining view, organizational conditions in essence remained controlling (even though they were somewhat loosened to be more supportive), in the facilitating view all the firm's conditions – form, systems, and roles - are supportive of initiative behavior. The organizational form is an N-form allowing for the setup of many flexible interorganizational linkages, the administrative and incentive systems provide a stimulating climate, and the managerial roles are bottom-up, providing support for initiatives. These characteristics are considered appropriate for explorative activities (March, 1991; Lewin et al, 1997; Ghoshal and Bartlett, 1994), such as idea generation. The firm's purpose then is to serve the initiative. There is thus no conflict between the firm and the initiative.

The facilitating view is the first attempt within the conditioning view to align organizational conditions with the knowledge development needs of the initiative. Knowledge sharing is facilitated by a very non-hierarchical N-form with the ability to easily form new organizational linkages that serve as knowledge linkages. Middle

[17] Ghoshal and Bartlett (1994:103) summarize this sub-view as tending to " focus more on control than support (Peters, 1992) and, accordingly, there is little reference to support as an element of context in the work of these authors [of this sub-view]."

management's role is to function as a horizontal broker, bringing together various experts throughout the firm. The administrative and incentive system is built around the concepts of discipline, stretch, trust and support (Ghoshal and Bartlett, 1994).

Yet, the facilitating view is problematic because it merely focuses on exploration, disregarding exploitation (Burgelman, 1983a; March, 1991; Volberda, 1998)[18]. First, it fails to acknowledge that firms may serve another purpose than merely to support initiatives. Firms must also carry out exploitative activities, which require controlling conditions, rather than the supportive ones they are providing according to the facilitating view. Second, it fails to realize that initiatives themselves move through various phases and will eventually shift from an explorative to an exploitative mode, requiring a shift from supportive to controlling conditions. Because no such need for a change over the phases is perceived, the conditions remain the same over the three phases, namely supportive (see figure 2.3). In essence, the facilitating view depicts a desirable state for the explorative phase of initiatives, in which they are facilitated by a 'perfect' supportive corporate environment. That these initiatives will need to be implemented and form part of an organization that can exploit them is left aside.

Multidirectional impact between Initiatives and their organizational environments

The initiative-firm relationship is of a multidirectional causality, an essential element of micro-coevolutionary processes (Lewin and Volberda, 1999) that we shall discuss later in more detail. Hence, although both previously discussed views - firms as constraining and facilitating environments – considered the impact of organizational conditions on initiatives, it is widely understood that initiatives may also impact firms and their organizational conditions. This was evident in the championing process, in which initiatives try to change certain organizational conditions of the firm. Burgelman (1983a) specifically points out this multidirectionality. He showed how ventures were induced by the firm's strategic and structural context, whilst at the same time autonomous initiatives can change the structural and strategic context. Similarly, whilst domains determine much of the venture activity, successful ventures can result in new intracorporate domains (Galunic and Eisenhardt, 1996). This multidirectionality can move beyond the microlevel into the macro level, which Stopford and Baden-Fuller (1994) clarify when they show how initiatives can also change the rules of the industry to such an extent that they directly impact the corporate environment. That initiatives may impact firms and their conditions is thus widely recognized in the conditioning view, even though it is perhaps implicit.

[18] March (1991: 71) says, "systems that engage in exploration to the exclusion of exploitation are likely to find that they suffer the costs of experimentation without gaining much of its benefits." Burgelman (1983a) and Volberda (1998) talk about strategic neglect by managers resulting in a chaotic situation that hinders implementation of the venture.

The conditioning view leads us to various propositions. Within the firm, the organizational conditions – form, systems, and roles – will tend to align themselves in order to be effective (Senge, 1994; Bartlett and Ghoshal, 1993) and are, generally speaking, thus either all supportive or controlling in nature. Supportive conditions are considered appropriate for explorative activities, whilst controlling conditions are appropriate for exploitative activities, or as Polanyi (1966: 83) explains: "the structure of authority exercised over a society of explorers is different from that to which a dogmatic society submits." Initiatives are an activity within the firm that evolve through the phases variation, selection, and retention, and as they do so they move from an explorative to an exploitative mode (Burgelman, 1983a). In other words, during the variation phase they are in an explorative mode, in the selection phase they are in a mixed mode of exploration and exploitation, and in the retention phase they are in an exploitative mode. Because controlling organizational conditions are appropriate for exploitation, which occurs in the retention phase of an initiative, it follows that:

Proposition 1a: Firms that provide controlling, rather than supportive, organizational conditions in the retention phase of initiatives show better implementation of initiatives.

Similarly, because supportive organizational conditions are appropriate for exploration, which occurs in the variation phase, it follows that:

Proposition 1b: Firms that provide supportive, rather than controlling, organizational conditions in the variation phase of initiatives show better generation of initiatives.

Initiatives need to move from the variation to the retention phase in order to complete a successful trajectory. The firm's organizational conditions impact the initiative along the way. As explained above, in the initial variation phase of the initiative, the initiative requires the firm to provide supportive conditions, whilst in the final retention phase of the initiative, the initiative requires the firm to provide controlling conditions. This need for the firm to provide different conditions to the initiative during different phases seems at odd with the previously discussed views of firms as constraining and facilitating contexts which tend to assume that the firm's conditions stay the same over time. However, certainly within the constraining view, the options available to counter the controlling conditions, such as championing and the set up of separate venture, make it clear that a different set of conditions can be applied to initiatives, and thus by extension different sets for different phases. Hence, it is very well possible for firms to provide conditions that differ across the various phases. In such a case, with the initiative moving from exploration in the initial to exploitation in the final phase, we would expect that firms that manage to provide initiatives with supportive conditions in the variation phase, a mixture of

supportive an controlling ones in the selection phase, and controlling ones in the retention phase would display successful trajectories.

> *Proposition 1c: Firms that provide supportive organizational conditions in the variation phase of initiatives and controlling ones in the retention phase of initiatives show better overall generation and implementation of initiatives.*

The latter proposition clarifies the need for organizational conditions to evolve over time. The challenge for firms in the conditioning view is not that the entire set of conditions of the firm must change over time, but rather that there is an evolution in the type that operates on and applies to the initiative in each particular phase.

CONCLUSION

The conditioning view focuses on the corporate context of initiatives rather than their content-wise development. The organizational conditions that impact initiatives are its object of study. These are the organizational form, the administrative and incentive systems, and the managerial roles. The conditions provided by the firm are often not the ones the initiative needs, because both operate in a different mode. The firm seeks to exploit, whilst the initiative initially seeks to explore. The firm therefore represents a constraining environment whose controlling conditions can only moderately be made supportive for the initiative. To get initiatives through this system powerful individuals, called champions, are required that manipulate the firm's decision-making process to the benefit of the initiative.

During its life span, the initiative is considered to move through three phases that represent different levels of increasing absorption by the firm: variation, selection, and retention. In the initial phase the initiative is in an explorative mode, whilst the firm in order to carry out its ongoing activities is in an exploitative mode. In the final phase, retention, the initiative is to be implemented in the firm. In that phase, both the firm and the initiative are in an exploitative mode. Conflict then is particularly present in the initial phases, when the initiative and the firm require different sets of conditions: the firm requires controlling conditions to exploit, whereas the initiative requires supportive conditions to explore.

There are two sub-views within the conditioning view. One considers the firm to provide a facilitating environment by providing supportive conditions. This sub-view's value lies in pointing out the conditions that are needed to enable explorative activity. Yet, it fails to recognize that firms exist not just to serve initiatives, but also to carry out other ongoing tasks that require controlling conditions. Secondly, it fails to realize that initiatives

themselves move through various phases and must eventually be implemented requiring a switch from supportive to controlling conditions. Overall, it fails to recognize that initiatives must fit in the larger balance of exploitation versus exploration (March, 1991) and cannot be treated in isolation. Without this balance there is a danger for too much exploration that can lead to strategic neglect (Volberda, 1998) and chaos (Weick, 1979). Hence, although this sub-view has contributed to the conditioning view, the latter is still mainly framed in terms of the other sub-view, namely of firms as constraining environments.

This most common sub-view considers firms to constitute constraining environments for initiatives. Certainly in the variation phase, firms and initiatives pursue different means, exploitation versus exploration, and they therefore require different conditions, namely controlling versus supportive ones. Because it is impossible to satisfy the two with a single set of conditions, firms can loosen the strictness of the conditions, create separate ones for initiatives (spatial separation), or allow powerful champions to battle through these conditions when conflict arises. The constraining sub-view also recognizes that initiatives move through different phases and will shift from an invention to an implementation focus (temporal separation). Hence, whilst the initiative initially requires supportive conditions, i.e. a facilitating environment, during its final implementation phase it will require controlling conditions, i.e. a constraining environment.

Overall, the conditioning view focuses on the context-wise development of initiatives. The organizational conditions function as levers for influencing the trajectories of initiatives. Because of the inherent conflict of purpose between initiatives and the firm the conditions cannot satisfy both parties and will always be imperfect. The approach is certainly not without its limits. Because it takes the firm as a starting point, it only describes what the firm provides instead of what the initiative requires. Moreover, it takes the generation of ideas for granted. Context rather than content is the focus of the approach. Also, the hierarchy is considered a given, whereas this need not be the case, as the facilitating sub-view had clarified. And last but not least, the initiative and the firm are considered enemies in battle, whilst they can also be considered to help each other as the discussion on multidirectionality had pointed out. Notwithstanding this, the firm realizes it must provide supportive conditions in the initial variation phase, and controlling ones in the retention phase, where the initiative is implemented. Although the content-wise development has been alluded to, in particular by the facilitating sub-view, the conditioning view in essence only considers the context. In the next chapter we will therefore discuss the knowledge creating view, which looks at the content-wise development of initiatives.

CHAPTER 3

The Knowledge-Creating View:
Theory on Content

As opposed to the previous chapter, in which the firm took center stage, the knowledge-creation approach takes the initiative as a starting point and investigates how the firm can facilitate its initiation and development. The initiative process is seen as emanating from recombinations of disconnected knowledge domains. The firm's knowledge base, which can vary in terms of its breadth and depth, serves as a platform from which the initiative creates its own knowledge base. This knowledge creation process occurs in three phases, linking, interpretation, and integrating, during which the initiative members couple themselves tighter to each other in order to integrate the specialist knowledge into detailed action. This causes the initiative to set up its own organizational form, administrative and incentive systems, and roles. Yet, the initiative occurs within the firm and therefore needs to synchronize itself with the organization context. The chapter ends with a discussion of how the firm can facilitate the knowledge creating process.

INITIATIVES AS KNOWLEDGE RECOMBINATIONS

Although there is no literature that specifically treats initiatives as knowledge-creating entities, such a perspective is drawn by the knowledge, learning, and creativity literatures.

The knowledge literature, which sought to explain the existence of firms (Grant and Baden-Fuller, 1995; Grant, 1991, 1996a,b; Spender, 1996), comes closest to having identified initiatives as knowledge creating entities. This is evident from Spender's (1996: 47) description of firms as "enduring alliances between independent knowledge-creating entities, be they individuals, teams or organizations." Focused on the dynamic development of knowledge it looks at issues such as innovation (i.e. Zahra, Nielsen, and Bogner, 1999), knowledge brokering (i.e. Hargadon, 1998a), knowledge transfer (i.e. Nonaka, 1991), and knowledge integration (i.e. Grant, 1996b). It regards new knowledge as a recombination of previous knowledge. There is some discussion whether the new knowledge should be called new (Nonaka and Takeuchi, 1995) or a reconfiguration (Henderson and Clark, 1990) and whether the previous knowledge is applied in a different

context (Hargadon, 1998b) or merely recombined (Hedlund, 1994; Grant, 1996a,b; Kogut and Zander, 1992). Notwithstanding, its main point is that new ideas depend on assimilating knowledge outside the domain of the idea generator.

The creativity[19] literature, in turn, has specifically concentrated on the initial phases of the initiative process (Woodman, Sawyer, and Griffin, 1993), analyzing the creative processes that cause sense making and the recombination of knowledge (i.e. Amabile, 1988, 1996; Woodman, Sawyer and Griffin, 1993; Ford, 1996; Drazin, Glynn and Kanzanjian, 1999). It looks at the ways in which previously unrelated knowledge becomes related to some existing knowledge and sparks the generation of new ideas. Koestler (1964) termed this the 'bisociative' process; something De Bono (1970) termed 'lateral thinking.' The creativity literature has proposed many techniques to stimulate this, such as brainstorming (Osborn, 1963), synectics (Gordon, 1961), and brainwriting 6-3-5[20]. Its main contribution is that a new way of 'seeing' or 'interpreting' is required in order to see how new and previous knowledge can be recombined.

The learning literature has sought to explain how the creation of knowledge at the individual and group levels leads to organizational learning (Levitt and March, 1988; Huber, 1991) as well as how this occurs in various phases (i.e. Drazin et al, 1999; Crossan, Lane, and White, 1999). There has been quite some debate whether knowledge is essentially individual (Nonaka and Takeuchi, 1995; Grant, 1996a,b)[21] or organizational (i.e. Kogut and Zander, 1992; Levitt and March, 1988; Huber, 1991; Gherardi, 1999).[22] Various authors have protested at this distinction. Tsoukas, for example, says, "individual knowledge is possible precisely because of the social practices within which individuals engage – the two are mutually defined (1996:14)". Similarly, Kogut and Zander (1992: 383) state, "Knowledge is held by individuals, but is also expressed in regularities by which members cooperate in a social community." The learning literature's main point then, is that knowledge creation is a process that moves through various phases and from the individual to the group and organizational levels (Crossan, Lane, and White, 1999).

[19] Creativity has been defined in various ways, but according to Amabile (1996) definitions can be grouped as (1) based on personality traits, (2) on characteristics of the creative process, and (3) as product definitions. Amabile concludes that with most research being measurement-driven product-definitions would seem most suitable, as the other two types have no measurable end product. However, if we take a product-based definition such as creativity being "the production of novel and useful ideas by an individual or small group of individuals working together" (Amabile, 1988: 126), there really is no difference with innovation. The personality trait definitions have the same problem: characteristics of creative people seem identical to those of innovative people. Only in the process definition do we see a clear distinction between innovation, the creation of something new, and creativity, a certain way of achieving that something new.

[20] The name Brainwriting 6-3-5 comes from having six people continuously writing three ideas within five minutes.

[21] Grant criticizes the literature on organizational knowledge, because "by defining rules, procedures, conventions, and norms as [organizational] knowledge [it] fails to direct attention to the mechanisms through which this 'organizational knowledge' is created through the interactions of individuals, and offers little guidance as to how managers can influence these processes (Grant, 1996b: 113)."

[22] They point to organizational memory, more specifically in codified form, as organizational knowledge that is not individual knowledge anymore: those individuals might have already left the firm.

Taken together these literatures depict a very different view of initiatives than the context-focused conditioning view, discussed in the previous chapter. Instead, they focus on the content-wise development of the initiative, treating the initiative as a knowledge-creating entity. Revisiting the initiative definition with a knowledge-creating view lens it could be redefined as "a process by which individuals inside organizations identify and pursue an opportunity, *i.e. a new knowledge base*, to create future goods and services without regard to the resources they currently control, culminating in the approval of that opportunity."

Broad and deep knowledge

Various classifications of knowledge exist, but two common ones are (1) tacit versus explicit and (2) broad versus deep knowledge.

The first common distinction is between tacit and explicit knowledge (Polanyi, 1962). Explicit knowledge enables the easy transfer of knowledge, whereas tacit knowledge represents a useful source of often-untapped knowledge that is not easily transferable. This resembles distinctions such as "knowing how and knowing about, [..], between subjective vs. objective knowledge, [..], personal vs. prepositional knowledge, and procedural vs. declarative knowledge (Grant, 1996b: 111). Nonaka and Takeuchi (1995) therefore proposed that one could create new knowledge by transforming tacit to explicit knowledge, a process they called externalization. Through conversion, i.e. explicating, tacit knowledge becomes transferable and the dilemma is solved.

This view of knowledge creation has been critiqued for oversimplification. Nonaka and Takeuchi (1995) themselves also described three other conversions: socialization (tacit-tacit), combination (explicit-explicit), and internalization (explicit-tacit). Also, Alavi and Leidner (2001: 111) regard "the assumption that tacit knowledge is more valuable than explicit knowledge" as problematic because it "is tantamount to equating an inability to articulate with its worth." Moreover, new knowledge and ideas are often a mixture of both tacit and explicit knowledge at the same time. In fact Tsoukas (1996: 14) points out that Polanyi's (1975) tacit-explicit categorization has been misinterpreted by many strategists:

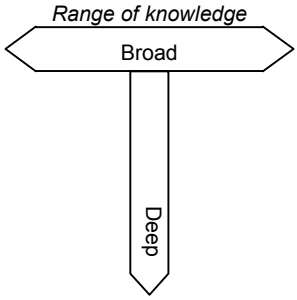
> "They should not be viewed as two separate types of knowledge. Contrary to what Nonaka and Takeuchi argue (1995:62-62) tacit knowledge can indeed be linguistically expressed if we focus our attention to it (Polanyi, 1975: 39-41; Moss, 1995: 62-62). And vice versa: explicit knowledge is always grounded on a tacit knowledge component (Polanyi, 1975: 41). [..] To split tacit from explicit knowledge is to miss the point – the two are inseparably related." (Tsoukas, 1996: 14)

Notwithstanding the criticisms of the tacit-explicit distinction, there is still much inherent logic to the externalization argument. Certainly, it is not always easy to expliticize tacit knowledge by merely focusing on it as Tsoukas suggests, and therefore personal interaction remains necessary for its transfer. Nonaka and Takeuchi sum it up by saying, "creating new knowledge is also not simply a matter of learning from others or acquiring knowledge from the outside. Knowledge has to be built on its own, frequently requiring

intensive and laborious interaction among members of the organization. (1995: 10)." Although the distinction is not without its limitations, it does clarify that much knowledge is neither codified nor easy to access and that knowledge creation therefore often requires social interaction.

The second distinction is between deep and broad knowledge[23] (Iansiti, 1993; Leonard-Barton, 1995). Deep knowledge refers to deep functional knowledge (Iansiti, 1993; Leonard-Barton, 1995), and is alternatively labeled specialized (Demsetz, 1991), specialist (Grant, 1996b), or complex knowledge (Hansen, 1999). Broad knowledge refers to a knowledge base that is so wide-ranging that it manages to explore interfaces between different specialist areas (Iansiti, 1993; Leonard-Barton, 1995) and resembles to some extent the labels common (Demsetz, 1991), integrative (Grant, 1996b), or simple knowledge (Hansen, 1999). Yet Leonard-Barton's broad knowledge differs in an important way from Demsetz's common knowledge (1991): the first refers to the capacity to comprise different specialist areas whereas the second refers more to the capacity to understand one another, i.e. a common language. Obviously, some level of common understanding is required in order for broad knowledge to bring together specialist knowledge areas.

Figure 3.1: Broad versus Deep knowledge (based on Leonard-Barton, 1995)



Leonard-Barton relates broad and deep knowledge to a T-shape. The cross in the T-shape represents broad knowledge. The vertical line of the T-shape, in turn, represents deep specialist knowledge. The broader the knowledge base, the more it can bring together disconnected knowledge areas. The broader the knowledge the more it enables distant search (Cyert and March, 1963), which is a search for different knowledge that has a higher chance to lead to more innovative ideas. The deeper the knowledge the more it can

[23] Actually Iansiti and Leonard-Barton label them alternatively skills and knowledge. Since skills are one of the forms in which knowledge manifests itself (Hedlund, 1994), I have used the term knowledge for reasons of consistency in terminology. Both she and Iansiti also use the T-shape to refer to the presence of both kinds of knowledge within a single individual. In this case we use it for the firm.

refine knowledge within a specialist area. One can therefore claim that the generation of ideas requires broad knowledge, whereas their detailing requires deep knowledge (see figure 3.1). As such both types of knowledge are required for the creation of new knowledge.

PHASES OF KNOWLEDGE DEVELOPMENT

The knowledge-creating process has been depicted as consisting of various phases. A well-known representation is the previously discussed transformation process from tacit to explicit knowledge (Nonaka and Takeuchi, 1995), which has been critiqued as being overly simplistic (Tsoukas, 1996). Another representation is that of the information[24] processing view (Miller, 1972; Simon, 1973; Galbraith, 1973) of organizations as extracting, processing, and acting on information (Huber and Daft, 1987). In similar terms, Argyris and Schön discuss the learning process as consisting of acquiring, processing, storing, and applying (1978) knowledge. Both the information processing and learning representations have been criticized for being too stimulus-response oriented (Levitt and March, 1988; Huber, 1991; Weick, 1991) and for viewing humans as information processors instead of information creators (Nonaka and Takeuchi, 1995).

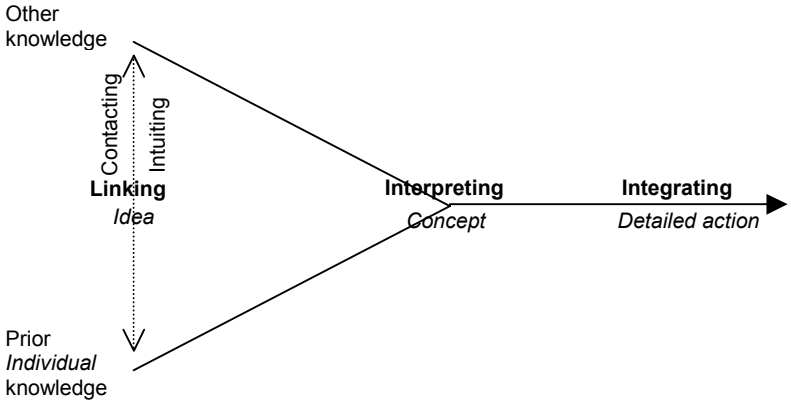
Yet recently, these have been adapted to reflect more proactive representations of knowledge-creation involving sense making (Drazin et.al., 1999). Such a recent model by Crossan, Lane, and White (1999) depicts the knowledge-creating process as consisting of intuiting, interpreting, integrating, and institutionalizing. With respect to the initiative process, the institutionalizing process comes after the approval of the initiative as it describes the transfer of already created knowledge to the rest of the organization. It is therefore laid aside in this thesis. Regarding the intuiting phase, this has also been termed the linking phase (Clark and Fujimoto, 1991; Hedlund, 1994) because one first needs to link to other knowledge in order for intuiting to occur. We therefore describe the knowledge-creating view of initiatives as consisting of the three phases: (1) linking – which includes intuiting -, (2) interpreting, and (3) integrating (see figure 3.2). As stated in the opening chapter, it is generally recognized that initiatives do not necessarily need to proceed sequentially through these three phases, but can iterate back and forth (Van de Ven, 1992). Yet, although loops may exist, this sequential depiction serves to convey the general aggregate progression of the initiative.

Each phase also describes the involvement of players at different organizational levels. In the linking phase it is basically an individual who, often through social contacts, comes in to contact with other knowledge and intuits an opportunity or idea. In the next phase, a group of people become involved in interpreting the entire concept. In the

[24] Because knowledge is built on information (Machlup, 1983).

integration phase the different knowledge areas are integrated into detailed action at the firm level.

Figure 3.2: Knowledge-creating process (based on Crossan, Lane, and White, 1999)



Prior knowledge

Before one can even engage in a knowledge-creating endeavor, a certain amount of prior knowledge must be available to build on. Entrepreneurial discoveries are considered to stem from recombinations between prior knowledge and some other outside knowledge (Shane, 2000; Cohen and Levinthal, 1990). This prior knowledge is both a prerequisite and a liability (Moorman and Miner, 1997) for knowledge creation. This existing knowledge and experience is stored in the individuals (Simon, 1955), the group (cf. Axelrod, 1976; Prahalad and Bettis, 1986; Barr. Stimpert, and Huff, 1992), and the organization (cf. Walsh and Ungson, 1991). The knowledge creation that occurs in initiatives is therefore dependent on the knowledge base of the initiative itself, but also on the knowledge base of the firm.

The presence of a prior knowledge base has been shown to have positive effects on knowledge creation. Naturally one needs "domain relevant skills, which include factual knowledge, technical skills, and special talents in the domain in question" for the generation of an idea (Amabile, 1988). Similarly Weick (1993) has pointed to the recombination of prior knowledge -he talks of routines- to produce new ideas. Cohen and Levinthal (1990) found that prior knowledge increases a firm's capacity to absorb new information.

Yet, although the prior knowledge of the initiative and the firm in which it is embedded allow the recognition of certain opportunities, it inhibits the recognition of others (Venkataraman, 1997; Shane, 2000). Because prior knowledge forms the basis for

new knowledge, there is a high probability of path dependency and as Kogut and Zander explain, "firms [and individuals] learn in areas closely related to their existing experience (1992:392)." Such single-loop learning (Argyris and Schön, 1978) may be inappropriate (Walsh and Ungson, 1991) resulting in a deadly competence trap (Levitt and March, 1988; Levinthal and March, 1993), or core rigidity (Leonard-Barton, 1992; Barnett et al, 1994).

In line with the discussions on common language[25], one could thus say that prior knowledge simultaneously allows for and limits the creation of future knowledge. If we take into account the broadness of the prior knowledge, then we can conclude that the broader the prior knowledge base, the larger the scope of the future knowledge direction.

Linking

The first phase of the knowledge-creating process, linking, starts with getting into contact with other knowledge and intuiting the existence of an opportunity. Because other knowledge is required for knowledge recombination, one has to link up or get into contact with this new knowledge (Clark and Fujimoto, 1991; Hedlund, 1994). One way is by acquiring it in codified form, such as through the reading of specialist magazines or the use of databases. However, the latter have been critiqued heavily for their inability to stimulate idea generation. Hargadon explains: "they choke the process of analogic thinking [because] these systems are designed to help you find what you're looking for, as long as you know what you're looking for (1998b, 221)." And as Tsoukas explains: "nobody knows in advance what that knowledge is or need be. Firms […] cannot know what they need to know (1996: 22)."

Another way to stimulate idea generation is by contacting other knowledge domains (Clark and Fujimoto, 1991; Hedlund, 1994) through varying personal contacts (cf. Nonaka and Takeuchi, 1995), because much untapped knowledge is tacit and personal, and "not yet codified or codifiable for transfer to others" (Kanter, 1988: 171). Some claim (Tushman and Nadler, 1986) that the importance of face-to-face meetings in acquiring knowledge stands without question. Because new ideas are often interdisciplinary in nature (Kanter, 1988) their generation requires crossing boundaries between different knowledge domains. Social interaction that spans such boundaries is available to firms in many different forms. Dyer and Singh point to alliance partners as "the most important source of new ideas and information (1998: 665)." Matusik and Hill (1998) suggest firms should use contingent work for upgrading their knowledge base. But apart from these somewhat formal arrangements, much value has particularly been attributed to social networks.

[25] Prior knowledge has often been equated to common knowledge, because the second cannot exist without the first. Yet, only if the prior knowledge is strongly dispersed throughout the organization and stored in the organizational memory can we talk of common knowledge. In that case, many organizational members will think alike, causing homogeneity. In all other cases, prior knowledge can exists without it being common knowledge, causing heterogeneity. Cohen and Levinthal (1990) note, "while common knowledge [i.e. homogeneity] improves communication, commonality should not be carried so far that diversity across individuals [heterogeneity] is substantially diminished (134)."

Social networks are considered an important mechanism for achieving social interaction that spans across different knowledge domains (Kanter, 1988; Hargadon, 1998a). For the field of biotechnology, for example, Liebeskind et al (1996) found social networks to be very important. Hargadon explains the value of such networks as (1998a) "firms [..] are capable of routinely innovating because they exploit their network position spanning multiple domains to recognize and transfer knowledge from where it is known to where it is not." Firms try to facilitate the use of such social networks by nourishing mediators that manage such contacts, called brokers (Hargadon, 1998a), stars (Tushman, 1979), or gatekeepers (Allen, 1977; Tushman and Scanlan, 1981; Katz and Tushman, 1983). This knowledge-brokering role has particularly been attributed to middle managers (Bartlett and Ghoshal, 1993; Nonaka and Takeuchi, 1995; Grant, 1996b).

Contact with other knowledge is in itself not enough for the generation of a new idea: Intuition is also required. Intuiting is "the recognition of a pattern and/or possibilities inherent in a personal stream of experience (Crossan, Lane, and White, 1999: 525)." In order for knowledge to crystallize into valuable ideas it sometimes requires being shaken around, which can purposely be stimulated or can occur by chance, called "unexpected occurrences" by (Drucker, 1985: 68). What happens is that some other knowledge -for example an event, some information, or new knowledge- sheds a different light on the existing knowledge and out roles an insight. The capacity to make this happen is called creativity and is essential for innovative solutions (Baden-Fuller and Stopford, 1994).

Although contacting other knowledge is often a social activity, intuiting an opportunity is often an individual activity. Hence, when Leonard-Barton and Straus (1997: 112) say that "in order to create new ideas and products, [..] managers [should] actively manage the process of bringing together a variety of people who think and act in potentially conflicting ways," this should be read as providing the appropriate context for an individual to generate ideas. Idea generation is personal "in the sense of involving the personality of him who holds it, and also in the sense of being, as a rule, solitary (Polanyi, 1966: 25)." Crossan, Lane, and White (1999: 525) explain: "It is a uniquely individual process. It may happen within a group or organizational context, but the recognition of a pattern or possibility comes from within an individual." Hence, in order for these individuals to recognize opportunities they must be provided with a context that provides new ways of 'seeing.'

Interpretation

The next phase, "Interpreting has to do with refining and developing intuitive insights (Crossan, Lane, and White, 1999: 525)." Although the fragments of an idea are essentially already in one's mind, the pieces still need to fit together. As Polanyi says, "[t]he act of discovery […] starts with the solitary intimations […] of bits and pieces here and there which seem to offer clues to something hidden. They look like fragments of a yet incoherent whole (1966: 24)." To see how the bits and pieces fit together to become that

coherent whole, one needs an interpretative scheme, something Kanter calls 'kaleidoscopic thinking' (1986). Now creativity, which was probably also applied for gaining the insight in the first place, plays an even greater role in refining and explaining the concept. Metaphors, analogies, similes, associations, wishful thinking, estranging the familiar, and trying the counterintuitive are all techniques used to accomplish this (Nonaka, 1991).

The conceptual utilization of knowledge, i.e. experimentation and personal interaction, has been found Moorman (1995) to aid this interpretation process. Initiators (Venkataraman, Van de Ven, Buckeye and Hudson, 1990) need to experiment to quickly figure out what works and what does not, as initiatives are a combinative process of interrelated advances and setbacks. So-called intelligent failures (Sitkin, 1992) can increase knowledge useful for other ideas. Lynn, Morone, and Paulson extended this to the notion that ideas might be pursued with the explicit recognition that they are likely to fail (1997). McGrath therefore proposes that firms should "evaluate the collective contribution of entrepreneurial initiatives to wealth creation than to assess each initiative on its own (1999: 14)."

It is quite hard to explain and refine the insight without the contribution of various other people. Crossan, Lane, and White explain this by saying (1999: 525), "the proverbial person on a deserted island could have an intuitive insight and begin making sense of it through an internal conversation (i.e. talking to one's self), but the interpretive process is likely to be much richer and more robust if the conversations and interactions are with others." The interpretation phase is, therefore, essentially very much a group level activity and the reason why it has also been labeled sense making or issue selling (Woodman, Sawyer, and Griffin, 1993; Drazin, Glynn, and Kanzanjian, 1999; Daft and Weick, 1984). And thus as this sense-making process evolves, a group of people with an understanding of the idea starts to accumulate around it and pursue its implementation.

Integration

The integrating phase is aimed at detailing and implementing the concept, in other words securing "coherent, collective action (Crossan, Lane, and White, 1999: 528)." People with specialist knowledge are brought into close contact, for example in teams, so that by integrating their specialisms they can detail the concept into an explicit plan. According to Nonaka and Takeuchi (1995) they can achieve this without any actual transfer of knowledge occurring. In this regard, Grant (1996b: 377) offers the example of cardiovascular surgery, which is based on the integration – not transfer - of "the specialist knowledge of surgeons, anesthetist, radiologist, operating-room nurses and several types of technicians."

In the interpretation phase, the knowledge-creating process moves from the group to the firm level. The specialist knowledge that is needed is provided for by the firm, at least to a large extent, and is the reason why Demsetz (1991:171) describes firms as "repositories of specialized knowledge." According to Grant (1996b) firms must be

involved in integrating specialist knowledge because they deal with the application of specialist knowledge. The initiative must not only put to use the existing specialist knowledge available in the firm, it must also embed its own newly developed knowledge within this hierarchy of specialisms (Grant, 1996b). This involves formalizing the rules and procedures, and establishing the routines of the workgroup (Crossan, Lane, and White, 1999) so that it matches those of the rest of the organization.

Social Networks

In the previous discussion of the knowledge-creation phases, social networks stood out as a prime driver of knowledge-creation; this is the reason why they merit further discussion. They are considered extremely important for acquiring other knowledge (Hargadon, 1998a; Floyd and Wooldridge, 1999), because they provide access to other knowledge domains and because they are based on trust which is considered to facilitate knowledge sharing (Granovetter, 1985). Social networks contain knowledge that the future idea generator recombines with his own knowledge, leading to the birth of a new idea. Sometimes the new knowledge can "be an idea that exists in one domain, but becomes an innovation when it is introduced into a domain that had no previous knowledge of it" (Hargadon, 1998a: 19). Social networks can however also serve to interpret one's own knowledge differently, as Kanter (1988: 175) explains, "contact with those who see the world differently is a logical prerequisite to seeing it differently ourselves."

Because people in the same social network tend to think and posses similar knowledge, knowledge generation is enhanced by knowledge flows between somewhat disconnected networks. People normally operate in a dominant social network of people with whom they often deal. By mapping these similar relationships – called structural equivalence (Burt, 1992) - social network researchers show the presence of slightly disconnected social networks.

Ties between such disconnected social networks enable the flow of knowledge between them. Floyd and Wooldridge (1999) explain that one reason these contacts are important is because they can significantly affect an individuals belief system and "promote a mindset that deviates in important respects from the dominant culture and that perceives a different set of opportunities than most other organization members (Glade, 1967)." Granovetter (1973), therefore points to 'weak ties', i.e. loosely coupled (Weick, 1982) relations, the non-dominant social network people have, i.e. acquaintances, as important sources for knowledge flow. In a similar vein, according to DiMaggio (1992) and Burt (1992) it is the bridging of structural holes between social networks that constitutes the key to new ideas[26].

[26] For this reason, McEvily and Zaheer note that firms should ensure that their advice networks are non-redundant, meaning that their "advisors are complete strangers to each other", because 'redundant ties are likely to produce information that is largely superfluous and unoriginal (1999: 1138)."

Although weak ties are considered beneficial for the generation of knowledge, the actual integration and recombination of specialist knowledge Grant (1996b) benefits from strong ties (Floyd and Wooldridge, 1999; Hansen, 1999). Hansen explains, "weak ties may lead to search benefits in a social network but they may also cause problems in transferring complex forms of knowledge (1999:83)." Strong ties, i.e. tightly-coupled (Weick, 1982) relations, are necessary for the actual transfer of knowledge across boundaries (Clark and Fujimoto, 1991; Eisenhardt and Tabrizi, 1995; Szulanski, 1996) because such a transfer is considered difficult (Hansen, 1999). The project team members have "the opportunity to try, err, and seek instruction and feedback from the strongly tied source (Hansen, 1999)."

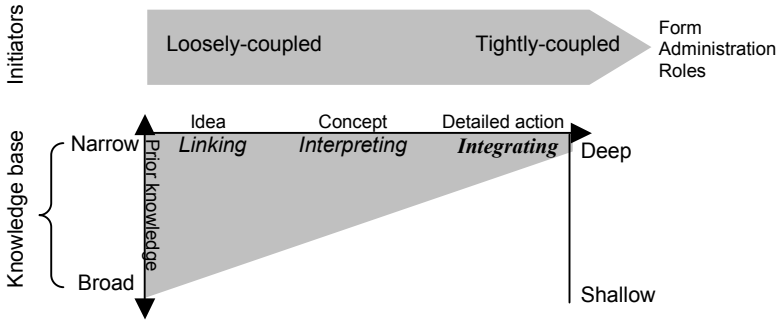
Conclusion

The previous literature on creativity, knowledge management, and social networks, provides a view of initiatives as attempts to recombine knowledge. The creativity literature clarifies, similar to social constructionists, that such recombination is often a new way of interpreting existing knowledge. Other knowledge is regarded as another perspective, another mode for interpreting, not just as a necessary ingredient. Knowledge management accentuates the use of other knowledge as a necessary ingredient. Often the other knowledge merely needs to be transferred to become a valuable idea. Both literatures point to the need to contact other knowledge, whether as an ingredient or as a perspective, and to the need for personal interaction in doing so because most valuable knowledge is tacit and difficult to transfer. This is where social network theory is valuable, as it considers knowledge to be tied to social networks. By reaching out to other social networks, through bridging weak ties or structural holes, other knowledge can be contacted. This will lead to knowledge flow and result in recombinations that generate new ideas. For the entire process to take place firms should allow for pockets of stimulating subcultures to ensure enough personal initiative to drive the knowledge recombination process.

THE KNOWLEDGE CREATING VIEW

The knowledge-creating view assumes that the initiative develops a knowledge base of its own during its life span as it moves from idea, to concept, to detailed action (see figure 3.3). As the initiators construct the initiative's knowledge base, they move from being loosely coupled - across various boundaries - to being tightly coupled to each other. This expresses itself in the formation and formalization of the initiative's own organizational form, administration, and roles.

Figure 3.3: The knowledge-creating view



Knowledge base

With prior knowledge as a platform, other knowledge is linked to, interpreted, and integrated. The initiative's knowledge base starts with the identification of an opportunity (Pinchott, 1985; Nonaka, 1994; Birkinshaw, 1997), often referred to as an idea. This can be the result of a problem driven search (Cyert and March, 1963), of a crisis (Mintzberg, Raisinghani, and Theoret, 1976), of unexpected occurrences (Drucker, 1985), or of opportunistic and personal factors (Aharoni, 1966). Although ideas can come in many forms, such as radical, architectural, and incremental (Quinn, 1987; Henderson and Clark, 1990), or as autonomous and induced (Burgelman, 1983a), or as internal, local, or global market initiatives (Birkinshaw, 1997), in this study we limit this to products (goods) and processes (services) for reasons of practicality. Processes are generally much more embedded within the firm and therefore to be subject to very different organizational conditions than products. The kind of knowledge that is embodied in the initiative clearly changes from the initial to the final phases. The initiative knowledge base, after having transformed the prior knowledge to an insight, continues transforming into a concept and finally detailed action. The difference over time in the knowledge base can best be described as a shift from broad to deep knowledge.

Broad knowledge cuts across boundaries, because it connects different specialist knowledge areas, even though it might be at a superficial level. It is exactly this characteristic that enables the emergence of insights and ideas in the initial phase. The emergence of an initiative knowledge base is dependent on the firm's knowledge base, because the initiative's own knowledge base does not exist at the outset. It still needs to emerge in the initial linking phase. If the firm's knowledge base is broad rather than narrow it will benefit the initiative in two ways. First, it offers a much larger range of prior knowledge areas as a platform for the initiative to draw upon. Second, the firm's broad knowledge base, by extension, can be expected to have a much more diverse range of

knowledge ties, outside of its own existing knowledge base. Broader knowledge bases thus offer larger ranges of possible knowledge recombinations. What matters then is the knowledge base that the initiative can build on. This can be from the firm, but can also lie outside of the firm. This leads us to:

Proposition 2a: Initiatives that can build on broad, rather than deep, knowledge bases in their linking phase show better generation.

Firms can also possess deep knowledge, i.e. areas of specialist knowledge. For the development of initiatives, which occurs in the final integration stage, it is already clear what specialist areas are to be combined. The broad knowledge that was used to establish the usefulness of the combinations is no longer needed now. Instead the knowledge of the different combinations must be integrated, requiring specialist knowledge at a very detailed level. Deep functional, rather than common knowledge is of the essence in order to carry out the detailing that is necessary in this final integration phase. This leads us to:

Proposition 2b: Initiatives that can build on deep, rather than broad, knowledge areas in their integration phase show better implementation.

Although deep and narrow are obviously not the same, in this study we will equate a deep knowledge base with a narrow one. This is because at the phase in the knowledge creation process at which deep knowledge must be integrated, it is clear which knowledge areas this concerns. At that point, new or other knowledge areas outside of the specialisms that are to be integrated have already been considered. The knowledge width has thus become narrow.

Based on the above and in line with the argument that initiatives need to transform their ties from weak ones in the initial phase to strong ones in the final phase (Hansen, 1999), it follows that initiatives need to move from broad knowledge in the initial linking phase to deep knowledge in the final phase. Much of the product development literature expresses this rational as a move from divergent to convergent thinking. Wheelwright and Clark express this same rationale in their funnel model (1992). The logic is that as the idea, i.e. the knowledge base, develops, decisions and commitments will be made that limit the area in which future solutions, i.e. knowledge areas, can be found. Notwithstanding that new knowledge can be acquired during the initiative's development, the aggregate and overall pattern is one of a convergence from a broad range of knowledge areas to a narrow one. Hence, successful initiatives display a transformation from broad to deep knowledge. This leads to:

Proposition 2c: Initiatives that build on broad knowledge in the linking phase and deep knowledge in the integrating phase show better overall generation and implementation of initiatives.

Initiative form

As the initiative knowledge base moves from broad to deep knowledge, the initiative form must move from loose to tight coupling. The loose coupling of the various initiative members in the initial linking phase is necessary to access broad knowledge, i.e. to allow for the flexible formation of knowledge links between disconnected areas. As it becomes clear what deep knowledge areas are required, so too is it becoming clear which members must work closer together in order to manage the integration of the specialist knowledge areas. To enable this closer cooperation, they must be coupled tighter and tighter. An increasing level of structural formalization accompanies this move from loose to tight coupling of the initiative members. In the initial linking phase there is no initiative form yet (Kanter, 1988) because the initiative requires broad knowledge, which it can access from the firm and or from social networks. During the next interpretation and integration phases, as it becomes clear what specialisms are necessary, the initiative members from those areas must be brought into closer contact and we see the shift to a team and eventually a hierarchical unit (Grant, 1996b) form.

The team form (c.f. Galbraith, 1973; Grant, 1996b), alternatively called task forces (Nonaka and Takeuchi, 1995), temporary projects (Hedlund, 1994), or skunk works (Pinchot, 1985), represents a new combination of specialist knowledge areas. The existing hierarchy cannot handle such a combination of specialisms for the simple reason that it has not previously grouped them together. The specialisms are thus not tightly coupled but dispersed throughout the hierarchy. The team form brings these specialist areas together in a more tightly coupled setting allowing further interpretation and integration. As Grant (1996b: 118) explains "the essence of team based organization is the recognition that coordination is best achieved through direct involvement of individual specialists." Some level of understanding of which specialist knowledge areas must fit together should thus already exist for a team to be formed; otherwise no rational would exist for the coupling of members representing certain knowledge specialisms. A team is therefore not an appropriate mechanism for generating an initial insight or idea, and is why it is not suitable for the linking phase (Kanter, 1988).

Further and more formal coupling in a hierarchical structure is required, once the concept has been refined and it is clear how the deep knowledge areas fit together, to integrate and implement the concept into detailed action (Crossan, Lane, and White, 1999). In order to tightly couple these different areas of specialist knowledge (Clark and Fujimoto, 1991; Eisenhardt and Tabrizi, 1995; Szulanski, 1996), a transformation of the team into a permanent unit within the hierarchy or a restructuring of the existing hierarchy is necessary (Van den Bosch, Volberda, and de Boer, 1999)[27]. This is the culmination what in Clark and Wheelwright's terminology (1992) would be described as a transformation

[27] They posited that the functional structure as opposed tot the divisional and matrix form, has "a high potential for efficiency, but a low potential for both scope and flexibility of knowledge absorption (Van den Bosch, Volberda, De Boer, 1999: 555)." This is adequate for "stable and homogenous environments (555)," which the initiative has come into by the time it enters the retention phase.

from a functional, to a lightweight, to a heavyweight, to a tiger team. In this regard, Hedlund describes, for example, how "Ericsson [..] reorganized to allow for more integration in technology [..] between its radio systems and digital telecommunications exchange systems. (1994: 83). Grant (1996b), when talking about the application of knowledge, therefore discusses the appropriateness of hierarchical forms for integrating specialist knowledge. The hierarchical structure binds the former team members together in a much tighter coupled and more formalized setting than was the case when they were coupled in a team form. This rational leads to:

Assumption 2d: Initiatives move from an informal structure in the linking phase to a formal hierarchical structure in the integration phase.

Initiative administration

The move from the linking to integrating phase is also accompanied by the increasing use of formal procedures and routines (Crossan, Lane, and White, 1999). This is to ensure effective behaviors for interpreting and integrating the various knowledge specialisms into detailed action. Because the linking phase lacks any initiative form, there is, of course, also very little need for any initiative administration. After all, this phase is more about chance encounters and opportunistic behavior than about planned activities. As such, an administration only starts to form once certain relations and coupling have started, i.e. in the interpretation phase. The tighter the coupling becomes, the more commitments are embodied in an administrative system that is necessary to control effective behaviors. The more the initiative is coupled into the hierarchy, particularly in the integrating phase, the more the administrative system will need to be brought in line with that of the rest of the hierarchy. This leads to:

Assumption 2e: Initiatives move from the absence of any administration in the linking phase to the use of its own administration in the integration phase.

Initiative roles

From a knowledge-creating point of view the linking, interpreting, and integrating phases also require certain roles, namely that of knowledge specialists, brokers, creators, and managers. According to Grant (1996b) the basis of new knowledge lies in specialist knowledge, and firms as well as initiatives depend on the availability of people who have this specialist knowledge: the specialists. Because these specialists are often disconnected, brokers are necessary to bridge the divide and connect them. If connected, an act of insight is required by someone who creates the idea. Once an idea has been born, a manager, i.e. a

project leader, is necessary to manage the ongoing development of the initiative. The existence of specialist and creator roles is often taken for granted by the knowledge creation literature. Instead, most of the attention goes to the connection of different knowledge areas through brokering (i.e. Bartlett and Ghoshal, 1993).

Brokers can aid in bridging the gaps or disconnections between knowledge networks, which are often embodied in different social networks. Burt (1999) describes these brokers as those "who are not people at the top of things so much as people at the edge of things (1)." Based on the relation of the broker to the specialists that engage in the knowledge flow, Gould and Fernandez (1989) have suggested the following broker roles: (1) coordinator: the broker belongs to the same group as the specialists, (2) itinerant broker: the specialists belong to the same group while the broker is an outsider, (3) gatekeeper: granting access to outsiders, (4) representative: establishes contact with an outsider on behalf of an insider, and (5) liaison: the broker and specialists all belong to different groups. There are different opinions about the appropriateness of these roles for knowledge creation. Kanter (1988) feels that only the coordinator role is appropriate because it is the specialists that will use the knowledge and they should therefore be the ones who should go out and scan for it. However, McEvily and Zaheer provide support for itinerant roles because brokers, as they say, need not form part of the firm, they can lie within the advice network of the firm (1999). Notwithstanding these differences about the appropriateness of specific broker roles, the importance of brokers in the knowledge creation process is now well accepted. Some firms have even institutionalized them[28]. Hargadon and Sutton (1997), for example, describe the use of rapid response teams at McKinsey, "which promise[…] to link –within 24 hours- any consultant facing a problem to others who might have useful knowledge (161)."

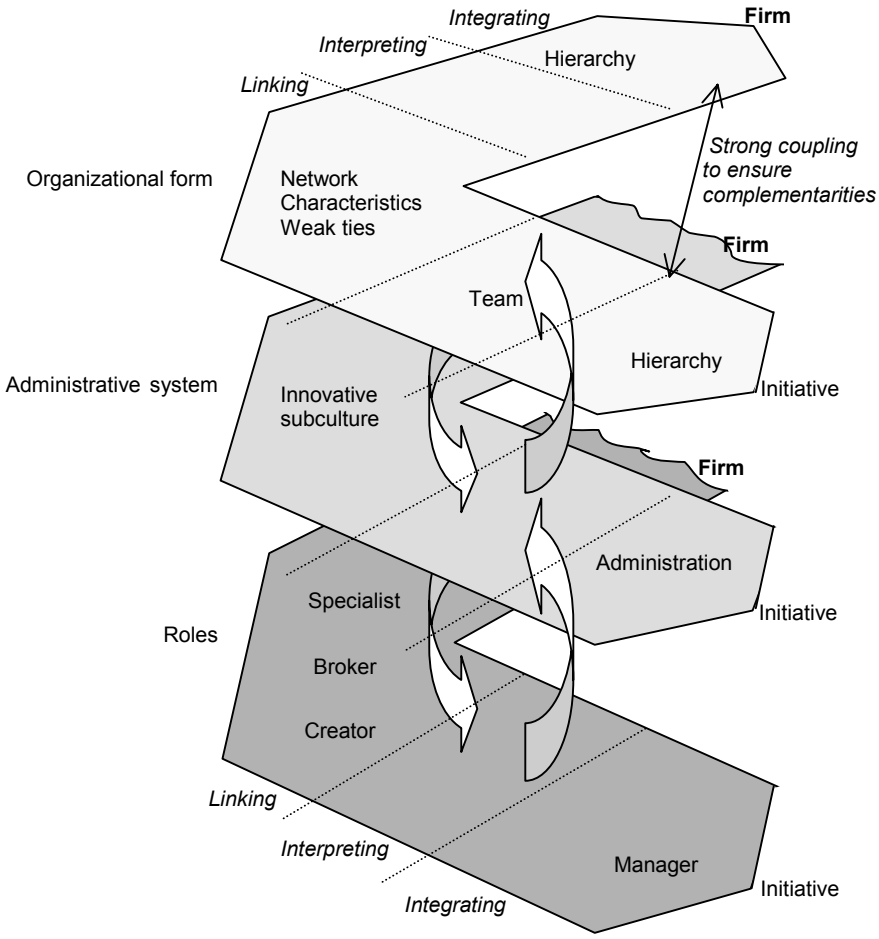
The Firm and knowledge-creation

Because the existing prior knowledge base of the firm forms the basis from which the initiative launches itself there is less of a distinction between the firm and the initiative in the knowledge-creating view than was the case with the conditioning view. The initiative is not seen as being absorbed into the firm, as was the case in the conditioning view, but as developing itself out of the firm's knowledge base. Initially no initiative knowledge base exists; all that exists is that of the firm. Therefore, in the initial phases there is a strong overlap between the firm and the initiative. Yet as the initiative develops its own knowledge base, while simultaneously setting up its own form, administration, and roles, it becomes a distinct entity from the firm, thus reducing the amount of overlap with the firm. However, in the final integration phase new coupling with the firm becomes necessary because of the complementary knowledge (Chesbrough, 2000) provided by the firm, such

[28] Companies can purposely choose to embed themselves in a specific regional [social] network, such as Silicon Valley (Saxenian, 1990), to ensure more contact with relevant knowledge networks. Some researchers (Lorenzoni and Liparini,1999) therefore consider the ties to social networks to be a distinctive organizational capability.

as marketing knowledge, which is necessary to implement the desired detailed action. The initiative, even though it is now a distinct entity, i.e. a unit, therefore becomes strongly intertwined with the hierarchy of the firm again (see figure 3.4).

Figure 3.4: The Firm and Knowledge-Creation



The type of organizational form of the firm that is most conducive to the knowledge creating activity of the initiative differs between the initial and final phases. Idea generation in the initial phase, where disconnected areas of knowledge are linked, is aided by the presence of network characteristics in the firm, such as the cutting through hierarchical levels and the crossing of boundaries. Organizational forms that encompass

such network characteristics (Kanter and Eccles, 1992) are known as network or N-forms (Miles and Snow, 1992), adhocracies (Mintzberg, 1983), the holographic organization (Burrell & Morgan, 1979), the hypertext organization (Nonaka and Takeuchi, 1995), and the heterarchy (Hedlund, 1986). In such forms the dominant logic is not "a top-down or bottom-up one, [but] rather [..] one of horizontal coordination (Hedlund, 1994: 84)." Firm boundaries are less relevant to network forms as the intention is to cut across them, and therefore inter-firm relations, such as joint ventures, consortium membership, and know-how exchanges, are also attributed great relevance (Quinn, 1985; Hamel, 1991; Grant and Baden-Fuller, 1995). In the final integration phase, where the rollout of detailed action is to occur, hierarchical characteristics are necessary to ensure tying in the complementary knowledge of the firm to the initiative's knowledge base. As Grant (1996b) has explained, such is best integrated through the use of the firm's hierarchy.

The type of administrative and incentive systems most conducive to knowledge creation in the initiative also differ between the first and final phases. In the initial linking phase, where the initiative has no administration of its own yet, the presence of an innovative subculture or climate (Myerson and Martin, 1987) is considered beneficial. Ghoshal and Bartlett consider this climate to be the reason why individuals, in some organizations but not in others, routinely do so much more for the good of the organization [...] than their personal economic or political rewards [..] justify (Ghoshal and Bartlett, 1994:91)." This culture builds confidence, self-efficacy and bestows greater responsibility on its members: elements that were shown to relate to higher rates of innovation. In the final integration phase, where the initiative now has its own administration, it becomes crucial to ensure that the administrative and incentive systems of the initiative are not too much out of line with the firm. This is necessary because the two must now closely cooperate in order to implement the desired action, and any perception of unfairness in different administrative and incentive systems would jeopardize that. The kind of system required in this phase is one in which behavior must be controlled to ensure tight coupling of the initiative knowledge base and the firm's complementary assets.

Because the initiative starts out from the firm's knowledge base, the knowledge-creating roles occur within the firm's hierarchy and are therefore invariably differentiated by hierarchical level. The specialist and knowledge creating roles are attributed to the bottom layer in the hierarchy (Grant, 1996b; Bartlett and Ghoshal, 1994). The brokering role is attributed to the middle managers (Bartlett and Ghoshal, 1994; Nonaka and Takeuchi, 1995; Grant, 1996b; Hedlund, 1994) because they are at the heart of the horizontal information flows (Bartlett and Ghoshal, 1994; Nonaka and Takeuchi, 1995; Floyd and Wooldridge, 1996, 1999). They are to be expected to have more overview and relevant contacts than the specialist front-liners, and as opposed to top management they are better in touch with the issues. Top management lacks a knowledge creating role, and is therefore attributed the role of creating an appropriate context for knowledge creation (Bartlett and Ghoshal, 1994). Once the initiative has become distinct from the firm, the roles are less strongly tied to the hierarchy and only two roles remain: the specialist and

manager roles. The broker role is less relevant because the reconfiguration of knowledge areas has already occurred. What matters now is that a manager, project leader, ensures the integration of the specialist knowledge areas into detailed action.

CONCLUSION

The knowledge approach considers initiatives as knowledge creating particles that grow from the knowledge base of the firm into distinct entities. It investigates how ideas are born, developed, and rolled out. It suggests this occurs by moving from broad to deep knowledge in three phases: linking, interpreting, and integrating. During this process the initiative, using the knowledge base of the firm as a platform, sets up a knowledge base of its own. Whilst doing so, it moves from loose to tight coupling which causes the set-up of its own organizational form, administrative and incentive systems, and roles. The role of the firm is then to provide a sufficiently broad and deep knowledge base from which the initiative can launch itself in the linking phase, as well as the complementarities that are needed to rollout the desired action in the integration phase.

The approach also has some disadvantages. First the approach is path dependent, as initiatives evolve –through recombination- in part out of the existing knowledge of the firm. This suggests that radical innovations are better off with a conditioning approach in which power combats the path dependent forces. Secondly, the approach focuses much attention on personal interaction, but when it comes to the coordination of complex tasks such is often not feasible as "articulation, systematization, written information, impersonal control, become necessary (Hedlund, 1994: 81). A hierarchical form seems better suited for coordinating such complex tasks. Furthermore, the firm's culture may not be strong enough to prevent the firm from turning into chaos, when everyone is engaged in creative activities. The autonomous nature of the knowledge approach seems to call for more control.

The knowledge approach seems particularly suited for understanding the content-wise creation of new knowledge through recombinations. It explains how firms can provide a broad and deep enough knowledge base for initiatives to emerge from. However, firms have other tasks than merely to aid initiatives; they must also exploit and manage their existing activities. Yet for handling this tension the knowledge approach offers little help, because it only deals with initiatives rather than takes the role of the firm into account. The conditioning view is also not very helpful because it neglects the content-wise development of the initiative. Hence, what is needed is an approach that takes both the context- and content-wise development into consideration. This forms the topic of the next chapter.

CHAPTER 4

Synthesizing Knowledge-Creating and Conditioning:
A Co-evolutionary Framework for Initiatives

The previous two chapters on the conditioning and knowledge-creating view showed that initiatives need to develop themselves both content and context-wise. The disregard of the conditioning view for the knowledge development of initiatives is inappropriate as organizational conditions impact the latter. So too, is the disregard of the knowledge-creating view for the organizational embeddedness of initiatives because they operate in an environment that is also catering to other firm activities resulting in tensions. This chapter proposes a framework of initiatives that integrates both perspectives by recognizing that organizational conditions and knowledge creation must co-evolve for successful trajectories of change.

CROSSING THE DIVIDE

Although both the conditioning and knowledge creating view analyze the same phenomenon - the initiative - they differ significantly in their focus. The knowledge-creating view focuses on how the initiative is developed content-wise, whereas the conditioning view explains how it develops context-wise. The knowledge-creating view deals more with the initial stages, where ideas are generated, whereas the conditioning view deals more with the final stages of the initiative, where they are implemented in the firm. They are therefore not just different perspectives (Allison, 1969); they also compliment each other, suggesting a synthesis.

Various authors, from both views, have made attempts to cross the divide. Within the conditioning view, such attempts remain fairly limited with the notable exception of Bartlett and Ghoshal (1993: 32) who proposed organizational conditions that are "premised on knowledge and expertise rather than capital or scale." They suggest that through decentralization middle managers become freed from their regular administrative activities allowing them to "create and support [...] horizontal linkages (Bartlett and Ghoshal,

1993:32)." Although other authors within the conditioning view had also pointed to horizontal linkages and network forms they had done so from a flexibility rather than a knowledge point of view (Miles and Snow, 1986). Yet, when Bartlett and Ghoshal (1993) point to knowledge, they do so in a static and not in a process manner. The organizational conditions are not related to the different stages of knowledge development and they fail to explain how these conditions relate to other, more exploitative, activities of the firm.

Within the knowledge creating view we also see attempts to cross the divide, with recent research focusing on how knowledge or ideas tie in with the organization. Some offer a causal perspective in which knowledge-creation results in new firm capabilities (Zahra, Nielsen, and Bogner, 1999; Floyd and Wooldridge, 1999). Others use a sense-making or issue selling perspective (Woodman, Sawyer, and Griffin, 1993; Glynn, 1996; Crossan, Lane, and White, 1999; Drazin, Glynn, and Kanzanjian, 1999) to explain how individual knowledge gradually becomes embedded in the organization. Although these contributions relate knowledge-creation to corporate entrepreneurship, and thus to initiatives, they do not explain how the knowledge-creating process is influenced by organizational conditions. Kanzanjian and Rao (1999) form a notable exception with their investigation of the influence of top management characteristics on the creation of capabilities. Nevertheless, the usefulness of their study for understanding initiatives is limited. Firstly, it does not analyze initiatives but capabilities. Secondly, it is set up as a statistical analysis of cross-sectional data at two points in time rather than as a process study. How the organizational conditions they researched impacted the generation of knowledge over time remains unraveled. Hence, notwithstanding previous attempts to cross the divide a synthesis of the conditioning and knowledge-creating perspectives is still required.

A study that has somewhat crossed the divide is that of Van den Bosch, Volberda, and De Boer (1999). Whilst Cohen and Levinthal (1990) had previously pointed out that prior knowledge improved the absorptive capacity of firms, Van den Bosch et al (1999) showed how prior knowledge also impacts the organizational form. As such they have made a clear link between knowledge and the organizational condition of organizational form. However, they fail to account for the longitudinal nature of the knowledge creation process by focusing on the static concept of absorptive capacity (Cohen and Levinthal, 1990). Moreover, they do not address how the organizational condition, i.e. the form, in turn influences the knowledge base formation. Therefore, notwithstanding previous contributions, studies that synthesize knowledge creation with organizational conditions are still needed.

Three aspects aid the formation of such a synthesis between the conditioning and knowledge-creating view. Firstly, although each view stresses either the context or content, they do not strictly confine themselves to one of the two. The conditioning view, for example, has noted that separation benefits idea development but hinders its implementing (Burgelman, 1983b). The knowledge-creating view, for example, finds that network forms aid knowledge sharing. Moreover, the two views stress sequential segments of the

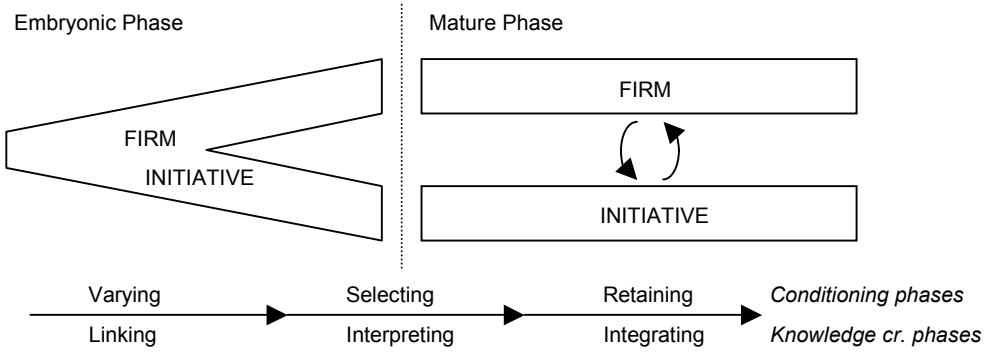
initiative process; knowledge-creating focuses on the idea generation segment and conditioning on the selection-retention segment, suggesting that both views represent consecutive phases. And thirdly, both discuss the same initiative phenomenon and therefore analyze similar elements such as the people involved.

Co-evolutionary lens

How then can the organizational conditions be related to the knowledge creation process of initiatives (Kanzanjian and Rao, 1999; Zahra, Nielsen and Bogner, 1999; Floyd and Wooldridge, 1999)? Co-evolutionary studies (Kieser, 1989; Baum and Singh, 1994; Lewin and Volberda, 1999) would be particularly appropriate for answering this question as they deal with issues (Lewin and Volberda, 1999) of time, path dependency, multilevelness, and interdependency (Pfeffer and Salancik, 1978). In this study co-evolution, defined as "the joint outcome of managerial intentionality, environment, and institutional effects (Lewin and Volberda, 1999: 526)," is actually micro-coevolutionary because it considers the "coevolution of intrafirm resources, dynamic capabilities, and competencies in an intrafirm competitive context (Lewin and Volberda, 1999: 526)." Such micro-coevolutionary studies, as they take place within the firm (McKelvey, 1997), should be able to explain much about the genesis and development of initiatives within firms.

Although micro-coevolutionary studies on initiatives already exist within the field of intrapreneurship, such as those on intraorganizational ecology (Burgelman, 1991) or on shifting intraorganizational domains (Galunic and Eisenhardt, 1996), they show difficulty in explaining the genesis of initiatives (Zahra, Nielsen, and Bogner, 1999; Floyd and Wooldridge, 1999; Shane, 2000). They focus on the co-evolution of the firm and the initiative once the initiative is already in existence; how the initiative came into existence is barely explained. In other words, they treat the mature initiative phase but not the embryonic initiative phase (see figure 4.1).

Figure 4.1: Initiative phases



In the mature initiative phase a co-evolutionary view indeed enables an explanation of the relationship between the initiative and the firm (Burgelman, 1983a; Galunic and Eisenhardt, 1996). In the embryonic initiative phase no initiative yet exists that is distinct and separate from the firm, this is the reason why one cannot speak of co-evolution but only of evolution, namely of the initiative out of the firm. A selection of the firm and the initiative as the two elements that co-evolve, make it by definition impossible to explain how one evolves out of the other: both elements must already be in existence in order to co-evolve. We suggest that this is why existing micro-coevolutionary views in the field of intrapreneurship have problems explaining the birth of initiatives. When the initiative's origins - at least partly - lay within the firm such a selection of elements makes explaining the genesis of initiatives difficult.

In this chapter, we therefore propose a micro-coevolutionary model of initiative formation with a different set of elements, namely one in which knowledge and conditions co-evolve. The model explains how the initiative builds its own distinct knowledge base based on that of the firm. As such it maintains the firm and initiative as two levels of analysis, but no longer regards them as necessarily separate and distinct. Instead, they are initially viewed as inseparable, like Ying and Yang. By focusing on the co-evolution of knowledge and conditions rather than of the firm and initiatives, as many previous studies have done, we show how the evolution of an initiative gradually involves the separation of that initiative from the firm[29]. Such a model allows for a more balanced description of the evolution of initiatives across both the embryonic and mature initiative phase.

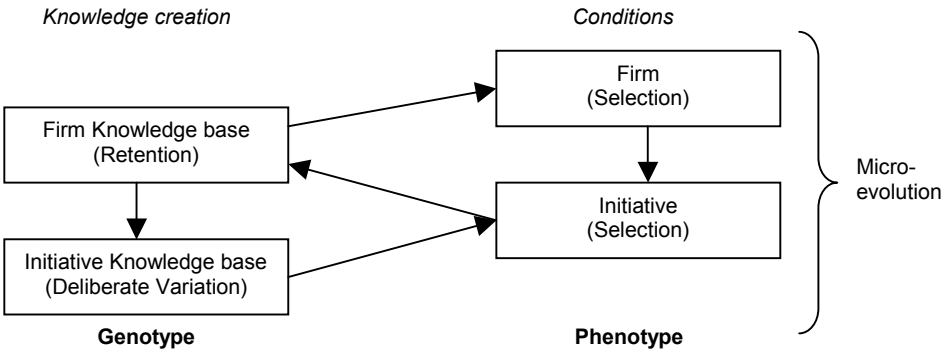
The model builds on the work of others who have also tried to move away from the bipolar initiative versus firm view. Zahra, Nielsen, and Bogner (1999), for example, regard intrapreneurship as a learning process culminating in new knowledge and competence. Floyd and Wooldridge (1999) have depicted the intrapreneurship process as a capability development process in which an idea evolves into an initiative, which leads to a new capability. Helfat and Raubitschek (2000) depict it as a co-evolution of knowledge, capabilities, and products. These studies all seek to move beyond the firm-initiative bipolarity. Our model follows their lead by looking at the co-evolution of knowledge and conditions, yet differs from these studies by maintaining a focus on the firm-initiative relationship.

In this way, by looking at the interaction between knowledge creation and conditioning, this study is very much in line with Baum and Singh's (1994) conception of a genotype versus phenotype interaction in the sense that knowledge creation represents the genotype, expressing itself as an initiative with a set of conditions, the phenotype. Based on Volberda and Lewin's (2003) co-evolutionary engine of 'managed selection,' we can depict this as a co-evolutionary variation-vicarious selection-retention process (see

[29] Later on the firm can, of course, select the initiative back into the firm. In that case the gradual separation is changed to an embedding in the firm again.

figure 4.2). In essence, at the genotype level variation in knowledge is created, not blindly but deliberately because prior knowledge guides the generation of ideas. These knowledge variations express themselves phenotypically in initiatives with certain sets of conditions. The initiatives have already undergone all sorts of pressures and are thus not subject to purely competitive selection, but rather selection that Lewin and Volberda (2003) term vicarious. In other words, selective pressures have already molded and weeded out initiatives before they arrive at a formal selection stage. The initiative's knowledge base is then retained through integration in the firm's knowledge base. This adapted firm knowledge base (the genotype) expresses itself in the changed phenotype of the firm and its set of conditions. There are many interactions within this setting. Firm's knowledge bases (genotype) obviously influence the formation of initiative knowledge bases (genotype); the firm's conditions (phenotype) influence the selection of initiatives (phenotype) with their own set of conditions. It is with this co-evolutionary rational in mind that the framework is proposed in the section that follows.

Figure 4.2: Knowledge base and conditions as geno-phenotype interaction



Based on Volberda and Lewin (2003)

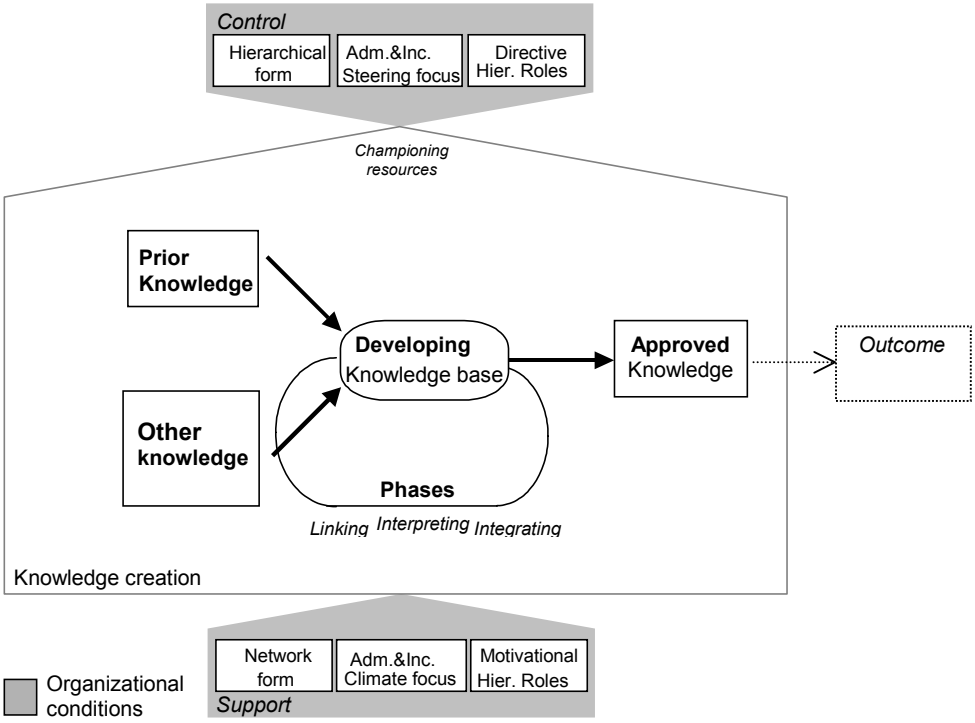
A CO-EVOLUTIONARY FRAMEWORK OF KNOWLEDGE CREATION

In order to explain initiative formation, this chapter proposes, in a manner similar to Helfat and Raubitschek (2000), a co-evolutionary model that is comprised of two elements, knowledge and organizational conditions (see figure 4.3), that co-evolve over time, i.e. over the three phases. The two elements are present both in the initiative and in the firm, as the initiative uses the knowledge base and conditions of the firm but also sets up its own. Hence, rather than contrasting content versus context or initiative versus the firm, this

model looks at the interdependency between knowledge-creation and organizational conditions. The outcome, in terms of the initiative's success in achieving its intention, is regarded as "a secondary issue (Birkinshaw, 1997: 209)." In this way the importance of consecutive stages such as further diffusion in the market, is acknowledged but regarded as less crucial with respect to the initiative.

The model assumes the elements to be "multi-dimensional constellations of conceptually distinct characteristics that commonly occur together (Meyer, Tsui, and Hinings, 1993: 1175). Revisiting the initiative definition with a co-evolutionary lens it could be redefined as "a process by individuals inside organizations *in which organizational conditions and the identification and pursuit of an opportunity, i.e. a knowledge base, co-evolve* to create future goods and services, without regard to the resources currently controlled, culminating in the approval of that opportunity."

Figure 4.3: An Integrative Framework of Initiatives



The phases

Because at its core the initiative is a knowledge-creating process, the model bases its process dimension on the knowledge-creating phases: linking, interpreting, and integrating. Although these are representative of the knowledge-creating view, they are strongly related to the phases of the conditioning view: variation, selection, and retention. Although in theory the two descriptions of the phases could very well differ, we assume them to overlap to such an extent that it suffices to use one to label the phases. This is also based on our assumption, as discussed in chapter one, that the two views are looking at the same phenomenon, the initiative, although be it from a different angle. The phases of the conditioning view are more indicative of the initiative-firm relation, rather than of the development of the initiative. Because this population-ecology view of the firm is at its core dependent on this content-wise development of the initiative, it makes sense to use the knowledge-creating phases as the basis for the timeline in a co-evolutionary model. Therefore variation is equaled to the linking phase, selection to the interpretation phase, and retention to the integrating phase.

The three phases combine the characteristics of the previously discussed views. Whilst the conditioning view regarded the search for resources and the knowledge-creating view the search for knowledge as the driver for the process, the co-evolutionary view regards both as drivers. This is because resources (capital and assets) are required to enable the setup of the appropriate conditions for knowledge creation. The linking stage is the stage in which the basic insight is formed, through linkage of prior knowledge with other relevant knowledge domains (Clark and Fujimoto, 1991; Hedlund, 1994). During the interpreting stage sense is made of the newly formed knowledge (Crossan, Lane, and White, 1999) both at the initiative and firm level. It is in this stage that it often becomes clear what new conditions are necessary for the further development of the initiative and which require certain resources. This phase often involves a process of issue selling (Aharoni, 1966) and sometimes political manipulation (Burgelman, 1983b) in order to convince others. In the integrating phase specialist knowledge is integrated into detailed action (Demsetz, 1991; Kogut and Zander, 1992; Grant, 1996b) often in a tightly coupled setting.

Knowledge base

Knowledge is present both in the firm and the initiative. The firm represents a repository of specialist knowledge (Demsetz, 1991), which is integrated in the hierarchy (Grant, 1996b). Prior knowledge is available both in the initiative and the firm. Other knowledge that is linked to and combined with this prior knowledge can lie inside or outside the firm. The initiative represents a recombination of this specialist knowledge, albeit perhaps with the addition of some outside specialist knowledge. The broader the range of specialist knowledge areas in the firm, the larger the range within the firm and ties to other specialist

knowledge outside of the firm that is available to the initiative for recombinations. The more the firm contains deep knowledge, the more the initiative can rely on the firm for its availability. As such, the kind of knowledge that is available to the initiative is contingent on that which is present in the firm.

Because initiatives build on the prior knowledge of firms, variations in the knowledge base are not blind (Campbell, 1994) but to a certain extent deliberate (Volberda and Lewin, 2003). The stimuli for such 'deliberate' variation of the knowledge base can then be located internally, i.e. ideas within the firm, at the firm level, i.e. corporate strategy, or within the environment, i.e. clients[30]. Once emerged in the form of an idea, the knowledge base will develop itself further and further, moving from the idea into a concept and into detailed action. The kind of change in the knowledge base, i.e. whether it concerns an organizational/process versus product/service innovation, can be expected to make a large difference in the progress of the initiative, because such a difference has been known to lead to different findings (Abernathy and Utterback; 1975; Kimberly and Evaniski, 1981). In particular, because organizational or process innovations deal with altering internal configurations of the firm, which is why they have been termed administrative innovations, tend to require top-down change patterns (Daft, 1978)[31].

Because an initiative is an ongoing process that does not stop at any particular point, it is of course not easy to pinpoint an exact end. According to the conditioning view the end is marked by the granting of resources (Birkinshaw, 1997). According to the knowledge-creating view the end is marked by a sufficient level of knowledge that is developed (meaning that the idea knows no major uncertainties anymore). Because formal approval is not always necessary - particularly when resources are acquired from outside the firm causing the firm to legitimize retroactively (Burgelman, 1983b) – we define the end in terms an explicit or implicit approval, or a rejection of a developed knowledge base.

Organizational conditions

Organizational conditions are also present both in the firm and the initiative. That the firm possesses organizational conditions comes at no surprise. Even without the existence of initiatives, an organizational form, an administrative and incentive system, and hierarchical roles are necessary to manage ongoing activities. Initiatives, however, can also build a set of their own organizational conditions during their life span. Particularly during the integration of specialist knowledge areas when initiative members must be tightly coupled, a set of conditions is needed that is distinct from the firm. The initiative can thus set up its own form, administration, and roles. Notwithstanding that the initiative can set up its own organizational conditions, it is often still largely dependent on the firm and will therefore to differing degrees remain under the influence of the organizational conditions of the firm.

[30] Note that the absence of blind variation does not imply the existence of strategic intent.
[31] Daft (1978) actually talks of administrative changes, being organizational or process innovations, versus technological changes, being product or service changes.

Organizational form

The organizational form changes from loose to tight coupling, namely from a network form with weak ties in the linking phase to one of strong ties in the integration phase, for reasons of knowledge sharing and resource acquisition.

During the linking phase the initiative seeks new knowledge outside of its own domain (Clark and Fujimoto, 1991). People having similar relationships –structural equivalence (Burt, 1982) – tend to think similarly and one can expect that they will also have shared any relevant knowledge. Therefore, not the dominant social network but disconnected social networks, one of weak ties (Granovetter, 1973), form a source of new knowledge and thinking. People who provide such weak ties, called brokers (Burt, 1982; DiMaggio, 1992, Gould and Fernandez, 1989), as well as social settings that facilitate the formation of weak ties (Hargadon, 1998b) are therefore considered crucial in this linking stage.

In the interpreting phase the initiative switches from seeking other knowledge to developing an understanding of how the various knowledge areas fit together. This interpretation process requires a more intimate sharing of knowledge for which stronger ties are more appropriate (Granovetter, 1973). Because the new idea was gained through weak ties, the entrepreneur will most probably need to cultivate certain relevant weak ties into stronger ones. Moreover, the initiative must also acquire resources for which it needs to manipulate decision-making. Central actors (Floyd and Wooldridge, 1999), called champions, become crucial for manipulating the decision-making process (Burgelman, 1983a). These actors must be influenced, if not co-opted, requiring the cultivation of strong ties.

Specialist knowledge is to be integrated in the integration phase for which the use of tightly coupled structures, such as teams or hierarchies[32], has been deemed most appropriate (Grant, 1996b). Through the linkage and coupling behavior of the previous two phases, it has become clear who the members of the structure are to be; in most cases these are selected from the strong ties that contributed to the concept. As such, an initiative structure is the culmination of the increasingly growing stronger ties. The initiative continues to demand vast amounts of resources in order to carry out the detailing of the knowledge base. This increases the pressure on the strong ties to guard the resource consumption of the initiative, often through the installment of a steering committee.

Administrative and incentive systems

Administrative and incentive mechanisms range between those that steer the direction (Burgelman, 1983b; Simons, 1994) and those that create an appropriate climate or culture (Pettigrew, 1979; Ouchi, 1981; Schein, 1985; Quinn, 1987; Bartlett and Ghoshal, 1993). Those that steer the direction are based on strategic intent (Prahalad and Doz, 1987),

[32] Teams are necessary if the hierarchy does not allow for the configuration of specialist knowledge areas in a tightly coupled setting.

whereas those based on culture are more based on creating a stimulating environment for knowledge generation and sharing (Bartlett and Ghoshal, 1993). As the initiative moves from loose coupling to tight coupling, it increases the steering nature and control of the administrative system.

In the linking stage the administrative and incentive mechanisms have only an indirect effect on the generation of ideas. Firstly, because idea generators are in general intrinsically motivated (Amabile, 1988). Moreover, idea generation is difficult to steer because of its chance and opportunistic nature (Drucker, 1985). The search for other knowledge is also a distant search and occurs through weak ties, thus lying outside the reach of the administrative system. Firms therefore try to guide idea generation in an indirect manner by nurturing an innovative climate or culture (Pettigrew, 1979; Ouchi, 1981; Schein, 1985; Quinn, 1985; Ghoshal and Bartlett, 1994). Many authors suggest that such a climate should be accompanied by "a clear vision for providing direction to knowledge creation activities (Hedlund, 1994)," alternatively called 'strategic intent' (Prahalad and Doz, 1987; Lovas and Ghoshal, 2000) or 'beliefs system' (Simons, 1994). However, the use of a vision, intent, or belief system has been questioned (Burgelman, 1983b) because of the difficulty in steering initiatives.

During the interpreting phase the administrative and incentive mechanisms function at a stronger level and in a more direct manner. This is because the initiative needs to ensure the coupling of the different specialist knowledge areas and because of the higher demands on the firm in terms of resources. As the initiative moves into the firm for knowledge and resources it is confronted by control systems (Simons, 1994) that are not particularly facilitating because they are intended for general activities of the firm. The 'beliefs system' has now changed into a 'boundary system' (Simons, 1994) with according selection criteria. Because firms realize the constraining nature of their selection procedures they have also set up incentive structures, such as the giving of options to initiators, in order to motivate entrepreneurs.

In the integrating phase the administrative and incentive mechanisms are even more steering in nature as the initiative becomes tightly coupled internally as well as with the rest of the firm in order to implement detailed action. In fact the initiative needs to be integrated with the hierarchy of the firm and therefore its administrative system must be in line with the rest of the firm. Moreover, the detailed action puts stronger requirements in terms of complementarities and resources on the administrative system. In this final phase the administrative system is primarily steering in nature as the initiative converts itself from an explorative to an exploitative activity.

Roles

Managerial roles follow the above shifts with roles shifting from motivational (Bartlett and Ghoshal, 1993) to directional ones (Burgelman, 1983b). Motivational roles consist of top management as motivators (Bartlett and Ghoshal, 1993), middle managers as knowledge brokers (Hargadon, 1998b; Floyd and Wooldridge, 1999), and front-liners as knowledge

specialists and creators (Grant, 1996a). Directional roles assume that top management functions as the director, middle management as controllers, and front-liners as implementers. In this directional depiction bottom-up initiatives require champion roles to battle their way up (Schon, 1963; Maidique, 1980; Burgelman, 1983a), with front-liners as product champions (Schon, 1963) and middle management as organizational champions (Schon, 1963). In accordance with Burgelman (1983a), roles change over the stages of an initiative. However, as opposed to Burgelman, we suggest that roles should not only focus on the resource allocation process but also be attuned to the knowledge-creating needs of the idea. Whereas Bartlett and Ghoshal (1993) recognized this latter aspect they failed to relate roles to the phases as Burgelman (1983a) had done. For each phase we therefore offer a set of roles that take the knowledge and resource needs of an initiative into account.

During the knowledge linking phase the front-line, because of its specialist knowledge, is considered to be the idea generator (Nonaka and Takeuchi, 1995). In accordance with an innovative climate, top management's role is that of a motivator stimulating variation. The crucial horizontal broker role (Gould and Fernandez, 1989; Hargadon, 1998a,b) is reserved for middle management (Bartlett and Ghoshal, 1993; Floyd and Wooldridge, 1999). The question is whether all middle managers in general perform such a brokerage role or whether this is tied to certain individuals. Owing to their daily tasks, one would expect certain people within strategic business development units or R&D departments to function as knowledge brokers as is suggested by Hargadon's studies (Hargadon, 1998a,b) and studies pointing to product champions (Burgelman, 1983a). They cut across boundaries, both organizational and intrafirm ones, to a larger extent than middle managers that are tied to the hierarchy. Moreover, the fact that middle managers are often resource allocators (in the later stages) causes conflicts of interests with a brokerage role.

During the interpreting phase tighter coupling of the knowledge areas is necessary requiring a project manager, also termed product champion (Schon, 1963), whilst the need for resources requires an organizational champion. The latter are often middle managers who perform the role of initiative sellers in the sense that they need to influence top management for the necessary resources. Because the necessary resources are allocated in accordance with the formal strategy, initiatives are either repositioned to correspond with the strategy or the strategy is reinterpreted to fit the initiative. Within this bargaining and manipulation process, top management performs the role of selector.

In the integrating phase the roles shift again, because the initiative has to a certain extent been selected and now focuses on becoming detailed. Front-line, which consists of specialists meeting and putting together the bits and pieces, have become implementers. The middle manager has become a controller, ensuring that the team gets the task done. Top management has taken on the director role, by delegating the control task to middle management. Every time during the integrating stage that more resources are needed, the set of roles reverts back to that of the interpreting stage. In that sense the middle layer is subject to the largest role change: from horizontal broker, to champion, to controller.

Co-evolution

The suggested co-evolutionary framework assumes that knowledge and organizational conditions are interdependent and should therefore not be treated separately. When one desires to use broad knowledge in order to link to a diverse range of disconnected specialist knowledge areas, it is essential that the organizational conditions are supportive, namely that they provide network characteristics, an innovative climate, and motivational roles. These conditions enable loose coupling and therefore the flexible access to a broad range of knowledge. When one wants to integrate specific areas of specialist knowledge, controlling conditions are necessary. In that situation there is no need to access a broad range of knowledge, as it is clear which specialist areas are relevant. What matters, is that within the narrow range of specialist knowledge areas the deep knowledge is integrated in a detailed manner. This calls for tight coupling both within the initiative as well as with the rest of the firm. Such requires controlling conditions, namely a hierarchical form, administrative and incentive systems with a strong steering focus, and directive roles. In summary, broad knowledge needs to be aligned with supportive conditions, whilst narrow knowledge needs to be aligned with controlling conditions.

Not only must the knowledge and conditions match each other, they must also co-evolve with each other over time, i.e. over the linking, interpreting, and integrating phases. Any change in the knowledge base must be paralleled with a change in the conditions; otherwise a mismatch between the knowledge and conditions would be the result[33]. Assume, for example, that the knowledge base changes in focus from broad to narrow knowledge, i.e. to integrating specific specialist knowledge areas. If the organizational conditions remained supportive instead of changing to the matching controlling set, there would be too little tight coupling to ensure effective and detailed integration. Similarly, if there is a necessity to switch from narrow to broad knowledge, in order to access a wide range of disconnected specialist areas, it is necessary that the conditions change from controlling to supportive. If not, then controlling conditions would inhibit the loose coupling necessary to access the wide range of knowledge. This leads to:

Proposition 3a: Co-evolution of conditions and knowledge across the linking, interpreting, and integrating phases is necessary for successful initiative trajectories.

Over time the initiative can shift its knowledge focus from broad to narrow or vice versa, and similarly from supportive to controlling conditions and vice versa. Naturally there can also be no change in these elements at all. We can depict these possibilities in a graph by plotting an area spanned by knowledge on the one side, ranging from narrow (low) to broad (high), conditions on the other side, ranging from controlling

[33] For this to be truly evolutionary there must be, in biological terms, a change in the population of conditions and knowledge bases, i.e in that of the firm. Otherwise, it is merely a single mutation rather than an evolution.

(low) to supportive (high), over the life span of the initiative (see figure 4.4). If we assume the trajectories to be linear we arrive at the four possibilities depicted in figure 4.4. Naturally, in reality much more complex trajectories are possible, but for the purpose of this discussion we will use this typology.

The area spanned by the conditions and knowledge base over time can be small and large. If it is large, then for most of the time, the knowledge base was broad and the conditions were supportive, which is excellent for generating new knowledge combinations. The more an initiative can access broad knowledge under supportive conditions the more innovative it will be. In figure 4.4, one can thus expect the fourth quadrant to be the most innovative, in terms of its level of inventiveness.[34] The first and second quadrant can be expected to be somewhat less innovative, and the third quadrant to be the least innovative of all. In summary, the larger the area spanned by the conditions and knowledge base over time, the more innovative the initiative. This leads us to:

Proposition 3b: The more supportive the organizational conditions and the broader the knowledge base in the linking, interpreting, and integrating phase the more innovative the initiative.

Although the initiative's innovativeness is facilitated by broad knowledge and supportive conditions, its effective implementation requires narrow and controlling conditions. Hence, for a successful implementation of the initiative there must be a convergence from broad to deep knowledge and supportive to controlling conditions. The higher the convergence the narrower the knowledge base and more controlling the conditions are over time. Such tighter coupling facilitates effective and detailed integrating of knowledge, and is thus better for the implementation of the initiative. In figure 4.4 the third quadrant is best suited for implementation because it has the highest convergence, namely from the start of the initiative. The second quadrant also manages to achieve implementation, but less easily than the previous because it takes more time to converge. The first and fourth quadrants fail to achieve convergence, and will thus find it difficult to get their initiatives implemented. This leads us to:

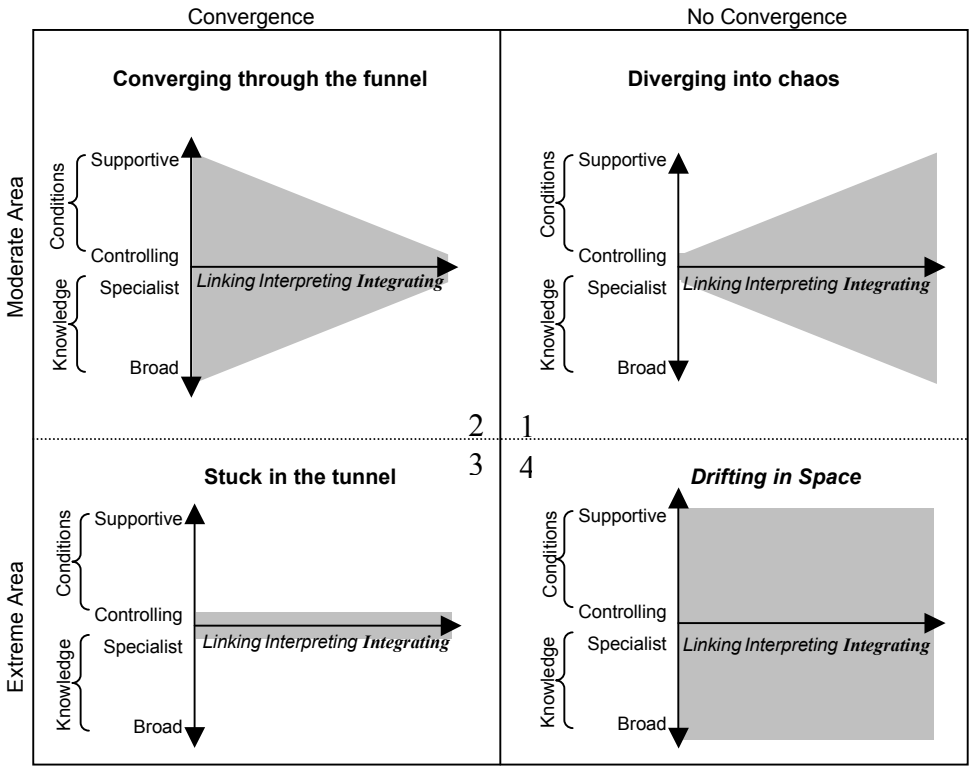
Proposition 3c: The more controlling the organizational conditions and the deeper the knowledge base in the linking, interpreting, and integrating phase the better the implementation of the initiative.

The need for a large area to be spanned and the need for convergence are conflicting. Much convergence is perhaps good for implementation; it is not good for the generating innovative ideas. Broad knowledge and supportive conditions (equivalent to a large area in graph 4.4) are perhaps good for generating innovative ideas; they come at a

[34] Recall form Chapter 2 that although innovation, i.e. innovativeness, can also include the notion of implementation, in this study we restrict its meaning to invention, i.e. inventiveness, only.

cost to implementation. Hence, an appropriate level of dampening of the co-evolutionary pattern is necessary. This dampening effect can either be a natural offspring of the process, such as through self-control, or that management has imposed, i.e. managerial control (McKelvey, 2002).

Figure 4.4: Co-evolutionary Trajectories of Initiatives



The four possibilities depicted in graph 4.4 show different degrees of such dampening: (a) no dampening, (b) natural dampening, (c) managerial dampening, (d) and extreme dampening. Of course the graph depicts strong simplifications of processes that are much more complex in nature. One could, for example, well imagine that the processes do not evolve in a linear fashion, as is shown in the graphs. Also, the lengths of the phases are most probably not exactly equal over time. Yet, notwithstanding that the processes are more complex than depicted, the simplification allows for a clarification of the basic patterns that underlie the obviously more complex reality. It shows that although co-

evolution is necessary, it is not a sufficient condition; the dampening must be adequate as well.

There is no dampening effect when there is divergence, as is the case in quadrant 1. The knowledge spirals into broader and broader knowledge, whilst the conditions become more and more supportive (Volberda, 1996; Brown and Eisenhardt, 1998). This situation, which we term 'diverging into chaos,' is not desirable because convergence is necessary in order to ensure implementation of the initiative. Such would require the presence of a dampening effect.

Natural dampening effects occur when divergence patterns reach their limits. When the knowledge base is already broad and the conditions already supportive, as is the case in quadrant 4, then there is a natural dampening effect because the divergent pattern has reached its limit; it is difficult to find broader knowledge or more supportive conditions available. This situation, which we term 'drifting in space,' represents a maximization of proposition 3b, i.e. a situation of very good innovation. It is not desirable because it lacks the convergence necessary for achieving implementation.

Managerial dampening occurs when convergence takes place without it reaching the extreme situations in which natural dampening occurs as described above. This situation represents the ideal type trajectory with a move from broad to narrow knowledge and supportive to controlling conditions, as is the case in quadrant 2. The area shown in the graph reflects the funnel model of Wheelwright and Clark (1992); this is the reason why we label it 'converging through the funnel.' The reason why this is an ideal type trajectory is because it underscores the need for broad and supportive conditions in the initial linking phase in order to arrive at innovative ideas, whereas the narrow knowledge and supportive conditions are necessary in the integration phase in order to achieve implementation of the initiative. This situation offers a balance between innovation and implementation and is thus the most suitable to achieve a throughput of reasonably innovative ideas.

Extreme dampening occurs when the managerial or natural dampening is so strong that the convergent pattern has reached its limit. In other words, during the entire life span of the initiative the knowledge base is narrow and the conditions controlling, as is the case in quadrant 3. This situation represents a maximization of proposition 3c and is thus very good for implementation because of the high rate of convergence. However, because of the lack of broad knowledge and supportive conditions it is not beneficial to the generation of innovative ideas. This is why we label it 'stuck in the tunnel.'

In the above descriptions, it is assumed that the knowledge base and conditions of the initiative are in line with those of the firm. When they are not, i.e. in the case of a mismatch, the initiative must create the appropriate knowledge base and conditions for itself, independent of the firm. For example, A firm could provide a broad knowledge base with supportive conditions, but be incapable of providing a narrow knowledge base setting with controlling conditions, i.e. a tightly coupled setting where a limited range of specialist knowledge areas are to be integrated. In this example, the initiative must create that setting for itself by separating itself from the firm allowing for a narrow knowledge base and

controlling conditions. Nevertheless, such situations of separation will remain problematic as the initiative remains strongly dependent on the firm - were it not alone for the complementarities - and therefore remains subject to the knowledge base and conditions of the firm.

Timing multiple initiatives

Firms consist of multiple initiatives whose life spans partially overlap. Because initiatives' knowledge creation activity moves from exploration to exploitation, whilst their organizational conditions move from supportive to controlling, the aggregation of initiatives can lead to a balance or imbalance in firm conditions (Volberda, and Baden-Fuller, 2003). If at the same time most of the initiatives are in an explorative mode then the overall conditions operating on them will be supportive. Similarly, if at the same time most of the initiatives are in an exploitative mode then the overall conditions operating on them will be controlling. This represents an imbalanced form of renewal for the firm. On the other hand, if at the same moment in time, multiple initiatives in the firm are in different stages of their life cycle, they will have levels of exploration versus exploitation and thus be subject to different levels of supportive versus controlling conditions. At the aggregate it may well be that they level out against each other causing a balanced form of renewal. Initiatives therefore, not only change the conditions of the firm after being selected in, as soon as they emerge they determine at their aggregate level the balance and imbalance of conditions relating to all the multiple ongoing initiatives.

CONCLUSION

The integrative framework ties in the conditioning view with the knowledge creating view, by pointing out how the two interact over time. The co-evolutionary view clarifies that organizational conditions and the knowledge base are interdependent and that they can reinforce each other in a divergent or convergent direction. By changing the organizational conditions and the organizational knowledge settings management can steer this direction. The challenge is to dosage this so-called dampening effect in such a way that idea generation converts to implementation in smooth and timely manner resulting in successful initiative trajectories. In the following chapters, these thoughts are empirically tested in firms that deal with such initiatives within their everyday activities. But first we turn to a discussion in chapter 5 of the methodology applied for the data selection, collection, and analysis.

CHAPTER 5

Research Methodology:
A Process Study on Initiatives

The previous chapters have explained our research aim and questions, they have presented existing views on initiatives from a conditioning and knowledge creating perspective, and they have proposed an integrative framework that serves as a lens for looking at our data. But before we can actually investigate the data, academic standards require that we discuss the methodology used for gathering and analyzing this data. This chapter therefore starts out with explaining how we used theory for looking at our data. In the next section it explains the research design, which was based on a process study. The chapter then explains the case selection, the data collection, description and analysis, and validity.

THEORY AS A TOOL FOR DATA COLLECTION AND ANALYSIS

This study is rooted in Eisenhardt's interpretative methodology (1989), in which theory and data are allowed to interact. As is evident from the mere existence of the previous theoretical chapters, this study is not one based on grounded theory (Glaser and Strauss, 1967; Burgelman, 1983a), which proposes that researchers drop all tools. The study is based on prior studies and uses a framework to look at the data, but is yet exploratory in nature. The theory is used to offer an interpretative lens for looking at the data, although we remain open for new insights revealed by the data. As such, the previous chapter ends with a framework that focuses attention to certain aspects in the data collection and analysis in order to avoid being overwhelmed by the shear quantity of information. This serves as the a priori specification of constructs that Eisenhardt discusses (1989). Based on the theory we carried out a selection of cases, called theoretical sampling (Eisenhardt, 1989). The theory chapters, specifically the previous one, have thus served to specify the propositions and elements that function as a tool for going into and looking at the data. As such it is both deductive and inductive in nature.

LARGER RESEARCH SETTING

This study formed part of the larger research program of the Erasmus Strategic Renewal Center at Erasmus University Rotterdam in the Netherlands. The center consists of various researchers that are interested in strategic renewal in general, yet each with their specific area of interest. The research activities of the center have resulted in various publications in different journals such as in Long Range Planning (i.e. Volberda, Baden-Fuller, and van den Bosch, 2001), Organization Science (i.e. Dijksterhuis, van den Bosch, and Volberda, 1999), and International Studies of Management and Organization (i.e. Wielemaker, Elfring, and Volberda, 2001). It was on the basis of this center's research program for context measurements of organizations (see appendix B), through the use of Volberda's Flexibility Audit and Redesign method as well as previous research into internal trajectories of change (Volberda, 1992, 1996, 1998), that this study on initiatives was launched. More specifically, context measurements by the center (Wielemaker, M.W., Elfring, T., and H.W. Volberda, 2000) of the three firms investigated in this study were used in order to determine to a large extent the organizational conditions of the firms (see appendix B). It is with this research in the background that the process study described below was conducted.

PROCESS STUDY

Notwithstanding its subjective limitations (Numagami, 1998), a qualitative longitudinal case study was chosen as a research design for investigating initiatives because the study sought to answer how questions, because we had no control over events, and because it concerned dynamic and contemporary events (Yin, 1989). Or as Pettigrew would explain: "the simple answer is, because the longitudinal comparative case method best suits the research topic […], the contextualist mode of analysis […], and the broad research objectives (1990: 271)." The case study used a process study (Chakravarthy and Doz, 1992) format similar to that of Burgelman (1983a) in his internal corporate venture study, which equals Van de Ven's (1992) third type of process design: a "sequence of events or activities that describes how things change over time (170)."

The process study was contextualist (Pettigrew, 1990) for three reasons. Firstly, because it took both "vertical and horizontal levels of analysis and the interconnections between those levels through time" (1990: 269) into account. The vertical levels equaled those of Burgelman: the front-line, the middle layer, and top management. Additionally, it also included the level of the firm in general, i.e. its conditions. The horizontal levels included the different units, departments, and other firms that were involved in the initiatives. Secondly, the study was contextualist because the initiatives' trajectory was traced through time. The initiative's evolution was analyzed from its conception until its

current status. Thirdly, because we looked for patterns in the interaction between context, the organizational conditions, and action, the initiative. Moreover, we tried to see how this interaction differed over the various stages of the initiative. These stages served for describing relations; however, they were not considered discrete or chronological but interactive and muddled (Quinn, 1980).

CASE SELECTION

We selected multiple cases (Eisenhardt, 1989; Pettigrew, 1990) because we were not so much interested in a single initiative but in the general pattern of a multitude of initiatives, allowing a comparative analysis as well as an equifinality check. The use of a multiple case study has been criticized because: (Dyer and Wilkins, 1991) " the focus on building and testing general constructs in multiple settings can harm the visibility of the interrelations within the context of a particular setting while the aim of any management researcher need to be to get as close as possible to the world of managers and to interpret this world and its problems from the inside. A single case study can give much more attention to the unique and typical characteristics of the particular social scene." However, a single case study falls short in highlighting theoretical constructs (Eisenhardt, 1989). Thus there is a tradeoff between the deep understanding of a particular social setting and comparative insights. Within this tradeoff we have opted for the latter, because we want to detect patterns revealed by the various initiatives and compare them with respect to different organizational conditions. Such use of multiple cases (Yin, 1989: 52) "is often considered more compelling, and the overall study is therefore regarded as more robust." According to Eisenhardt (1989) this is because multiple cases permit replication and extension.

The case study was of an embedded nature. Specifically, rather than selecting initiatives in a single firm, various firms were selected in order to differentiate between the impact of different types of facilitating conditions on initiatives. In each firm approximately six to nine initiatives were investigated. This allowed for comparison of initiative trajectories across firms that represented different sets of facilitating conditions. Three firms were chosen on the basis of theoretical sampling (Glaser and Strauss, 1967; Eisenhardt, 1989). 'As Pettigrew (1990) noted, given the limited number of cases which can usually be studied, it makes sense to choose cases such as […] polar types in which the process of interest is ´transparently observable.´ Thus we chose firms that possess different sets of organizational conditions. As an approximation for these different sets of organizational conditions Volberda's (1996, 1998) typology of forms (rigid, planned, flexible, and chaotic) was used. We did not select a firm representing the rigid form, as that was uninteresting from an initiative viewpoint. We chose to select firms in different industries to further ensure differentiation of facilitating conditions. Other selection criteria

used were that they had to be large firms that (1) had a presence in the Netherlands for reasons of access, (2) sales revenues of over 100 million guilders, and (3) participated in a global industry (similar to Birkinshaw, 1997). In this way, in what could be called planned opportunism (Pettigrew, 1990), we selected three firms. KLM Cargo was selected because it categorized as a form in-between the flexible and chaotic. Ericsson was selected as a form because it categorized as lying in-between the planned and flexible, but leaning toward the flexible form. Van Ommeren was selected because it also categorized as lying in-between the planned and flexible, but in this case leaning toward the planned form. We knew the organizational form for each firm from a previous study (Volberda, 1998; Wielemaker, Elfring, and Volberda, 2000).

Table 5.1: Research design

Flex. Profile as indicator of different organiz. conditions	**Van Ommeren** Planned	**Ericsson** Flexible	**KLM Cargo** Chaotic	***Total*** *3 sets of conditions*
Initiatives	Tallin Latin America Tank Container Cooperation Eastman Splitter	Internet Internet Billing Telfort Cable Dect Unax SDH EDI Unisource Strat Distr. Term. Glass box	NVOCC Jumpstart SCU BU Logistics E-Status Cargo Info. System Tracking & Tracing System Profit Man. Product Portfolio Express	
# embedded cases	6 initiatives	10 initiatives	9 initiatives	*25 initiatives*

In each firm initiatives were then selected in manner similar to Birkinshaw's (1997) selection method. Firstly, senior management suggested about six initiatives that they considered particularly interesting from their viewpoint. Secondly, in order to offset the selection bias of the top managers somewhat, in each firm a smaller set of about three initiatives was analyzed that had been serendipitously encountered during our investigation, which in each firm lasted approximately six months. As for the kind of initiatives that were selected the criterion was that the participants in the initiative needed to consider the initiative to be an opportunity to create future goods and services for the firm that might potentially impact the firm's strategy. Similar to Ancona and Caldwell (1992) these initiatives were at various stages of development: some had just started, while others were already completed. In this way we arrived at around 9 initiatives per company leading to a total of 25 initiatives (see table 5.1).

DATA COLLECTION

Table 5.2: Data collection

Firm	Research team	Job title	Duration	Initiatives discussed
Van Ommeren	A	Member Board of Directors	2, 5 hrs	Tank-Containers
		Member Board of Directors	1,5 hrs	Tallin
		Member Board of Directors	1,15 hrs	Splitter
		Director Marketing and Business Development Europe	1,5 hrs	Cooperation Eastman
		Business Development Manager	1,5 hrs	Latin America
		Business Development consultant	1,5 hrs	
		Director Inland Tankshipping	1,5 hrs	
		Commercial Director Location E.	1,25 hrs	
		Director VOTT-Location V.	1,5	
		Director VOTT-Location B.	1 hr	
		Director VOTT-Location E.	3 hrs	
		Controller	1 hrs	
		Controller	1,15 hrs	
13 interviews				
Ericsson	B	Strategic Business Developer	1 hr	Internet
		Internal consultant	1 hr	Internet Billing
		Product Manager Unit B	1 hr	Telfort
		Product Manager Unit B	1,5 hrs	Cable Dect
		Head of R & D	2 hrs	Unax
		Strategic Business Developer	1,5	SDH
		Strategic Business Developer	1	EDI
		Business developer	1,15	Unisource
		Business developer	1,5	Strat Distr. Term.
		Manager ESCC	1,5	Glass box
		R&D employee	1	
		Unit B employee	2	
		Telfort project manager	3	
		Mobile manager	1,5	
		SDH Unit manager	1	
		Mobile unit employee	1,5	
		Unit A employee	1	
		Division manager of A	1,5	
		Division manager of B	1	
		ESCC manager	1,5	
20 interviews				
KLM Cargo	C	CSC Business Unit manager	1,5	NVOCC
		Customer Services	1	Jumpstart SCU
		Factory manager	2	BU Logistics
		SCU Business Unit manager	1,5	E-Status
		IT Business unit manager	1	Cargo Info. System
		Personnel	1,5	Tracking & Tracing
		Mail Business Unit manager	1,45	System Profit Man.
		Cargo Development	1	Product Portfolio
		Business Planning	1,5	Express
		Quality	1	
		IT Business unit	1,5	
		Ex. Vice President	1	
		Customer Service	2	
		Shipment control manager	1,5	
		Information manager in Operations	1,5	
		Personnel manager	1	
		Managemet team member	1	
		Operations manager	1,5	
		Corporate Development & Foreign Relations	1,5	
		KLM Business systems	1	
20 interviews				

Total 53 interviews

Note that many more interviews were conducted for a previous research into the flexibility of the organization (Wielemaker et. al., 2000)

Data on the initiatives was collected by interviewing the key actors involved, who thus functioned as key informants (Campbell, 1955; Huber and Power, 1985; Kumar, Stern, and Anderson, 1983; Phillips, 1981; Seidler, 1974). Because in all instances there were various people involved in an initiative these were always multiple key informants (John and Reve, 1982; Phillips, 1981; Seidler, 1974). Although there are known liabilities when using key informants (Huber and Power; 1985), we found that the liabilities involved in using key informants were offset by their thorough understanding of the initiative. Moreover, the key informants were always the key players, thus covering the important viewpoints. In using multiple key informants Kumar, Stern, and Anderson (1993) discuss two specific problems, although in their case this concerned interorganizational research: (1) a selection problem, and (2) a perceptual agreement problem. In this study there was no selection problem because it was quite evident who were the key actors involved in each initiative. The perceptual agreement problem was solved by the consensual approach (Eisenhardt and Bourgeois, 1988). Whenever disagreement between informants was discovered they would be confronted with it and consensus would be reached.

Data was collected from the key informants through semi-structured interviews that contained both general and more specific questions and were used as an interview guide (See Appendix A) similar to what Dutton and Dukerich (1991) and Eisenhardt and Bourgeois (1988) have done, and as has been suggested by Yin (1989). The initial questions focused, as Pettigrew suggested (1987), on the content (what was the initiative about) and context of the initiative (why did it come about). From there on the questions focused on the process (how did it take place). Mostly a single question, "describe how the project developed during the course of time," was enough to trigger the main process story. This in turn lead to questions of clarification or to questions on interesting aspects that had arisen. The semi-structured interview was mainly used as a back up to ensure that a broad range of topics was covered. In this way we developed initiative story-timelines, very similar to the tactic used by Eisenhardt and Bourgeois (1988: 742) in which “decision stories” were developed by combining the accounts of each executive into a time line beginning with decision initiation. Similar to Ancona and Caldwell (1992: 645) "some accounts were retrospective, and some were about current activities." Sometimes notes were taken and in all cases the interviews were taped and then transcribed in English. Table 5.2 shows the interviews carried out in order to obtain a timeline of each initiative. The key informants ranged from front-liners to CEOs. In general the interviews lasted between one to two hours. As suggested by Pettigrew (1990) for the data collection we, for the larger part[35], used a different research team for each firm; thus there were three research teams in total who each collected data on initiatives in a single firm. As explained by Eisenhardt (1989: 538) "the rationale behind this tactic is that investigators who have not met the informants and have not become immersed in case details may bring a very different and possibly more objective eye to the evidence."

[35] Some researchers were involved in more than one firm. However, the larger part of the research team was only involved in a single firm, thus maintaining the underlying logic of keeping the teams separate.

Company reports, strategic plans, copies of transparencies, letters and memo's, and in-company newsletters complemented the interviews. Similar to Pettigrew (1990), we also collected observational and ethnographic material, consisting of planned site visits for meeting staff and facilities, informal chance meetings and conversations, participation in formal meetings, sessions, and workshops.

DATA DESCRIPTION AND ANALYSIS

The qualitative data was analyzed and visualized through tables and diagrams, which is in line with the recommendations of Miles and Huberman (1984). Quotes were used to provide examples of the issues at stake (Eisenhardt, 1989; Dutton and Dukerich, 1991). Because such quotes represent the opinion of a single interviewee, we sought quotes that were exemplary and representative of the issue and we tried to provide quantitative support in terms of the amount or percentage of people or initiatives that displayed the same opinion or behavior (Dutton and Dukerich, 1991; Sandberg, 2000). The analysis was undertaken by the three heads of the research teams and differences were resolved through discussion.

The analysis in this study is not distinct and separate from the collection and description. As Eisenhardt (1989:538) points out, "a striking feature of research to build theory from case studies is the frequent overlap of data analysis with data collection." While we were interviewing the key informants, we were simultaneously analyzing their remarks, thus mixing collection with analysis. However, this is considered appropriate in order to allow for adjustments during the investigation (Eisenhardt, 1989). Similarly, the analysis, or interpretation, is also mixed with the description (Patriotta, 1999). The amount of data is so large that it is difficult if not impossible to describe it, unless one has a lens for interpreting or analyzing it. The framework and research question function as a lens, or as a priori defined constructs (Eisenhardt, 1989), for focusing our attention during data collection, description, and analysis. Notwithstanding this focus in attention, there is still the peril of "death by data asphyxiation (Pettigrew, 1990)." In order to show how we reduced the data and arrived at a set of propositions we follow a number of steps similar to what Eisenhardt (1989) and Dutton and Dukerich (1991) suggested.

Step 1: Analyzing a single initiative

Initially the analysis focused on understanding each initiative separately. The reason for this is to reduce the amount of data to that which concerns a single initiative, something Eisenhardt called a "within-case analysis," thus familiarizing the researcher and reader with the patterns of a single case, before looking at patterns across cases. The transcripts pertaining to a single initiative were read several times to grasp what the interviewees were

saying. Then a case description was made and the general trajectory plotted into a process diagram similar to that used by Burgelman for describing his internal corporate ventures (1983a). These case histories were then sent to the key informer of each initiative to verify that the case description was a fair representation.

Step 2: Comparing initiatives in a single firm

The initiatives of a single firm were then compared with each other to detect general patterns; something Eisenhardt (1989) called a cross-case search for patterns. First, the initiatives were analyzed by comparing the process diagrams and summaries of the separate initiatives and grouping them into similar categories. Then the initiatives were plotted in a table, in accordance with the general categories just found, and cross-compared for various dimensions that stemmed from the proposed framework. As a final check the transcripts of each initiative were read again to check more thoroughly for the different aspects plotted in the table, and to see whether any important information regarding the facilitating conditions was overlooked. This step was fed back to the firms by means of a report and a separate presentation to each of the firms involved.

Step 3: Comparing initiatives across firms

After having compared within a firm, a single table was then put together from the three separate firm tables. This table was then used to detect patterns across the firms. Again we focused on comparing the same dimensions as were mentioned in step 2, namely the elements that stem from the proposed framework. In this step we particularly focused on major pattern differences between the firms, and whether these could be explained by and attributed to the different sets of organizational conditions. For this latter purpose, we sometimes revisited the individual case studies. During a workshop this cross comparison was discussed with the participating firms in which the overall project results were presented.

Step 4: Answering the research questions and verifying the propositions

On the basis of the above we sought to answer the research questions and to see if the propositions were plausible. In accordance with Bacherach's discussion of the relationship between constructs and propositions (1989), and Eisenhardt's discussion of "measuring constructs and verifying relationships (1989: 543)," we firstly focused on each construct, by presenting evidence for the construct from all cases. This evidence was also presented in a table according to the suggestions of Miles and Huberman (1984). Secondly, we focused on the relationship between certain of these constructs, specifically between the

'internal' elements of the initiative and the 'external' organizational conditions. In this way, by iterating back and forward between theory and data, in the manner described by Eisenhardt (1989), we answered the research questions and verified the plausibility of the propositions.

The use of a priori specified constructs as a guiding tool for analysis

As described in the above steps, certain dimensions were focused on to guide the data analysis. Essentially they functioned as the lens that was described in the beginning of this section. As Eisenhardt (1989: 536) mentioned, such "a priori specification of constructs can also help to shape the initial design of theory building research." These dimensions arose from the framework presented in chapter four. They were the idea, the people involved, knowledge and resources, the conditions (form, administration, and roles), the phases, and the outcome (see table 5.3).

Table 5.3: The Key Constructs as a Guidance Tool

Element	Focus	Categorizations	Measurement method
Idea	Type of	Product vs. process	Interv. data; opinion researchers
	Innovativene	No, limited, new, radically new knowledge	"
	Strategy driven	Yes vs. No	"
	Preceding	Yes vs. No	"
People	Key players	*Purely descriptive*	"
	Function	*Purely descriptive*	"
	Hierarchical	Top, middle, bottom	"
Knowledge	Type of relevant	Broad vs. narrow	"
	Source of knowledge	Firm vs. outside	"
Resource	Location of	*Purely descriptive*	"
	Acquireme	Problematic vs. Not problematic	"
	Return	Yes vs. No	"
Form	*Organizational*		
	Form	Rigid, Planned, Flexible, and Chaotic	Farsys
	Structure	U, M, X, and N form	Interv. data; opinion researchers
	Initiative		
	Social network	*Purely descriptive*	"
	Form	No, informal, formal team, and new unit	"
Admin.	*Organization*		
	Managerial	Steering vs. Motivating	"
	Initiative		
	Procedure	None vs available	"
	Control	Management vs. self-control	"
Roles	*Organization &*		
	Roles	Prod. & org. champ., Selector, Motivator etc	"
Phase	Phase	Linking, Interpreting, and Integrating phase	Interv. data; opinion researchers
	Implementation	Problematic, smooth but slow, smooth and	Interv. data; opinion researchers
Approval	Formal	Explicit, Implicit, or Rejection	"
	Established knowledge	None vs. increase in firm's knowledge	"
Outcome	Successfulness	Successful, mixed, unsuccessful, ongoing	Opinion of initiators

Source: based on Patriotta (1991) Table2

For the idea we specifically checked whether the idea was a product or a process (Tushman and Nadler, 1986). Even though ideas were not categorized as incremental or radical (Henderson and Clark, 1990) because such a clear distinction is difficult (Lovas and Ghoshal, 2000), we did categorize them according to their level of inventiveness as perceived by the researchers. Trials with asking the participants, i.e. the initiators to carry out this judgement themselves proved inadequate: most thought their idea was radical. Although such high regard for ones own initiatives is perhaps a necessity for initiators, it was obviously flawed for research purposes. As a less subjective method for judging the innovativeness of the initiatives we leaned on the opinion of the researchers. Notwithstanding its subjective limitations, this enabled us to categorize initiatives in comparison with each other as having no, limited, new, or radically new knowledge. We also checked whether the idea was related to the strategy, or by something else such as a client, and whether the idea predated the team.

As for the people involved we tracked who all the key players were, what their function was, what hierarchical level they had (in terms of the bottom, middle, and top levels), and naturally what role they played in the context- and content-wise development of the initiative. We also verified for evidence of knowledge and resource seeking behavior through the development of an initiative. In particular we categorized the knowledge base that the initiative was drawing on as broad (generalist) versus deep (functionalist) and verified if it came from within or outside of the firm. As for the resources we checked whether initiatives had problems acquiring resources and where these resources that they needed were located. Moreover, we also checked whether there was any clear obligation of a return favor involved, as mentioned by the initiators themselves.

With respect to the conditions, the organizational form was verified in two ways. Firstly, the form of the firm itself. This was described in terms of the Farsys measurement (appendix B) as planned, flexible, or chaotic, and in terms of its structure as a functional, divisional, matrix or network form. The initiative's form was also analyzed. Firstly, in terms of its social network. Whilst with the 'people' we concentrated on questions such as "who is involved" and "what is their role", in this case we looked at the kind of relation amongst these people. In order to do so we abstained from actual measures of network constraint, size, density, and hierarchy (Burt, 2000). Rather, we used indirect measures to approximate the kinds of contacts. We followed Ancona and Caldwell (1992), for example, in assuming that contacts in one division are different from those in another division in a company. Such use of indirect measures has been considered valid by for example Burt (2000: Appendix 10/11) who says: "There has even been productive work at the radical extreme of measuring social capital without any network data." Secondly, we categorized the initiative's formal form as having no, an informal, team or unit form. As for the administration we also differentiated between that of the firm and that of the initiative. The firm's administrative and incentive system was classified as being steering or motivationally oriented. The presence of administration in the initiative was analyzed by

looking at the presence of procedures and whether management controlled the initiative or if there was a form of self-control. As for the roles that related to the initiative we tried to analyze whether they fit roles already present in the literature - such as that of the entrepreneur, the implementer, selector (Burgelman, 1983a), or motivator (Bartlett and Ghoshal, 1993) -, or whether they represented new roles. We also analyzed all relevant roles to the initiative and then in hindsight determined whether they were related in particular to the organization, initiative, or both.

All these previous aspects were checked for changes across the linking, interpreting, and integrating phases. The propositions talked about better idea generation and implementation. Idea generation could in theory be measured by both the amount of ideas generated and the level of innovativeness (actually only inventiveness). However, we did not seek to discover all initiatives present in firms, aside from the fact that it would be impossible to do so. Hence, the measure used as an indicator for "better idea generation" was the level of innovativeness of the initiatives with respect to each other as judged by the researchers. This is a feature of the idea itself and has been treated at that level. As for "better implementation" one way would have been to measure the percentage of approved initiatives. However, the number of initiatives that had reached the final phase and could be approved were limited and would not have presented a good indicator of the approval rate. Instead the opinion of the researchers was used to compare the initiatives that went through an implementation process. They judged the quality of that process by categorizing it as problematic, smooth but slow, or smooth and quick. Again, because numbers had little meaning in this study, if not alone because of the necessity to correct for scale and scope, the above subjective procedures were followed in order to get a more 'objective' assessment.

The approval was measured in terms of an explicit or implicit approval, or a rejection. We also analyzed whether the initiative added to the firm's knowledge base. As for the outcome we measured the respondents subjective opinion about the success of the initiative, which is identical to the method used by Birkinshaw (1997). Just as he did (in his table 2) we categorized initiatives as either success, mixed, or unsuccessful.

DATA VALIDITY

Based on criteria for judging quantitative studies, proponents of the case study research method have used four criteria in order to judge and guard the quality of the method: (1) construct validity, (2) internal validity, (3) external validity, and (4) reliability and replicability (Eisenhardt, 1989; Leonard-Barton, 1990; Miles and Huberman, 1984; Yin, 1989). Although some (Numagami, 1998) consider the latter two criteria irrelevant for case study research because they feel case study research is not seeking for universal laws, and although some have suggested other criteria for case research (Denzin and Lincoln, 1994),

the above mentioned four validity criteria remain the norm for judging qualitative case research. As such, we show in table 5.4 how this study relates to each of the four criteria.

Table 5.4: Validity criteria and the tactics used to achieve them

Tests	Case study	Research phase
Construct validity	Framework as a priori specification of constructs (Eisenhardt, 1989)	collection, description, and analysis
	Multiple sources of evidence: interviews, meetings, workshops, documentary and archive data (Yin, 1989)	collection
	Triangulation through multiple informants on a single initiative (Pettigrew, 1988)	collection
	Review of cases by key informer (Yin, 1989)	description and analysis
	Separate and then joint analysis by different researchers (Eisenhardt, 1989)	analysis
	Workshop for presenting findings to all firms involved.	description and analysis
Internal validity	Pattern matching of initiatives both within and across firms (Yin, 1989, Eisenhardt, 1989)	analysis
	Explanation of different initiative patterns found (Yin, 1989)	analysis
External validity	Multiple cases: 25 initiatives in three firms (Leonard-Barton, 1990; 1989; Eisenhardt, 1989)	design
	Literal replication of certain findings within and across firms (Yin, 1989, Eisenhardt, 1989)	design and analysis
	Theoretical replication of certain findings attributed to different sets of organizational conditions across the firms. (Yin, 1989, Eisenhardt, 1989)	design and analysis
Reliability	Use of case study protocol for investigating initiatives (Yin, 1989)	collection
	The existence of a case study database of eight binders containing: protocol, documents, notes, interviews, slides and reports, analysis tables (Yin, 1989)	storage

S*ource: based on Volberda (1992, figure 9.4)*

The construct validity, which relates to whether the evidence truly supports its findings (Eisenhardt, 1989) and concerns the data collection, description (Yin, 1989) and analysis, was high for various reasons. Firstly, constructs were specified a priori (Eisenhardt, 1989). Secondly, multiple sources of evidence were used: interviews, meetings, workshops, and documentary and archive data (Yin, 1989). In addition, the interviews were subject to triangulation as various people were interviewed on a single initiative (Pettigrew, 1990). Moreover, the key informers reviewed the case descriptions (Yin, 1989). Various investigators analyzed the same data separately and then came together to discuss a consensus (Eisenhardt, 1989). And last but not least, a workshop was also organized for the management of the three firms in which the findings were presented.

The internal validity, which deals with the verification of the causality between key constructs (Leonard-Barton, 1990) and concerns the data analysis (Yin, 1989), appeared to be significant as all initiatives displayed a search for knowledge and resources

that was impacted by organizational conditions of the firms in which they were active. This was identified through pattern matching (Yin, 1989). The patterns of the causal impact of the organizational conditions were consistent within each firm, and differences in such patterns across firms could be attributed to different sets of organizational conditions.

The external validity, which deals with the generalizability of findings and concerns the research design (Yin, 1989) and analysis, is high (Leonard-Barton, 1990) as 25 initiatives in three companies were studied. As Yin (1989) explains this generalizability does not concern statistical generalization but analytical generalization in which "the investigator is striving to generalize a particular set of results to some broader theory (Yin, 1989, 36)." For such to be the case the study needs to move beyond a single case study and replicate findings. This study fulfills this requirement because it was a case study in which multiple initiatives were investigated within a single firm and because we also investigated these multiple initiatives across different firms (Leonard-Barton, 1990:250). This study contains certain findings that were repeated over the cases: literal replications that are discussed in the discussion. The study also contains findings that differed per firm but which we could attribute to a different set of organizational conditions: theoretical replications that are dealt with in the discussion chapter. In general these findings could be found to be generally consistent with previous research on initiatives and knowledge creation, and where this was not the case we offer an explanation for the contradicting finding.

The reliability deals with ensuring that the operations of the study can be repeated by someone else with the same results and concerns the data collection (Yin, 1989) and storage. This was ensured by using a case study protocol and the development of a case study database (Yin, 1989). A case study protocol was drawn up to ensure that the data collection, which was carried out by the three different research teams, was conducted in the same way. The case study database contains this case study protocol, all collected documents, all the notes used, the transcribed interviews, all the slides and reports used for feedback to the firms, and the tables used for analyzing the data.

LIMITATIONS

Naturally, there are also limitations to the way in which the study was set up and conducted. More specifically, we address three general sets of limitations: selection biases and liabilities, data collection incongruencies, and data reduction.

Various biases and liabilities in the selection of the cases could be said to exist. First, there is the issue of bias in the case selection. In each investigated firm, top management was asked to suggest around six initiatives that they considered interesting and that the research team might consider studying, which is the same tactic as followed by Birkinshaw (1997). Because top management can be expected to favor certain kinds of

initiatives - such as those that were initiated by themselves, that were top-down, that were successful, or that fit with their strategic thinking – this could have resulted in a selection bias. The study tried to do away with this bias by also selecting initiatives that were stumbled upon during the investigation. In other words, certain initiatives were not suggested by top management but mentioned by interviewees during our investigation. Overall, there is also the limitation, as noted by Birkinshaw (1997), that failures might be underrepresented, because "for a variety of reasons managers were reluctant to dwell on their less auspicious moments (Birkinshaw, 1997)." Although we did not detect such reluctance when failures were discussed, the point remains that they might just not have been brought up.

Other liabilities could also exist in the case selection as we can infer from quantitative studies, which use control variables for this purpose. These studies used the age of an organization (Kanzanjian and Rao, 1999) or of a project (McGrath et al, 1995) as a control variable. In this study we selected large firms, which are generally older firms. As for the initiatives we recorded their duration and their stage of development at the time of investigation. To check for liability of size, quantitative studies use the size of the organization as a control variable (McGrath et al, 1995; Kanzanjian and Rao, 1999). Again we selected large firms with revenues of over 100 million guilders that operated globally. As for the initiatives we did not check for size, in part because the initiatives were unfolding and it was not quite clear what the boundaries of the initiative were in terms of who was in or out. The quantitative study of Kanzanjian and Rao (1999) also checked for the liability of growth. Again, we selected large firms who have passed initial growth stages, and offered descriptions of each firm in which we discuss the growth they were experiencing. The quantitative study of McGrath et al, (1995) also controlled for the liability of culture and intersectional differences. As for the firms we selected, these were all situated in the Netherlands - similar to Birkinshaw (1997) who also investigated firms in a single country - with only Ericsson being a subsidiary of a foreign parent. The three were located in different industries in order to accentuate different facilitating conditions.

Data collection incongruencies could have occurred because the data collection was purposely carried out by different research teams at each firm. It might have been that because the team members did not carry out the data collection at all the firms that the actual data collection could have occurred differently. However, this liability was traded off against the increased objectivity that could be achieved by separating collection and analysis in the manner described by Pettigrew (1990). Furthermore, to ensure the largest extent of congruence as possible between the research teams we used a protocol that was extensively discussed between the research team's leaders. Moreover, collection differences turned out during the analysis as all researchers looked also at each other's material. Although collection differences were found, these were not considered to affect the study in significant ways.

Another limitation was caused by the reduction of the amount of data, as pointed out by Patriotta (1999) regarding his own data reduction. The case study database,

covering over eight binders, has been reduced to an amount of data bounded by the number of pages of this study. Naturally, portions of the data set have thus been omitted because of the cognitive, space, and time constraints imposed on the study. Possible insights might thus have been disregarded, but this was considered a necessary step in order to arrive at the outcome of the present study.

CONCLUSION

This study uses an interpretative approach whilst being guided by theory and propositions. The initiative process was investigated using a research format that is very similar to Burgelman's process study (1983b). Three firms, KLM Cargo, Ericsson ETM, and Van Ommeren Tank Storage, were selected for analysis on the basis of theoretical sampling. In these firms 25 initiatives were selected on the basis of top management suggestions and serendipity. Data was collected by interviewing the key players in each initiative. The initiatives were analyzed by first analyzing a single initiative, then comparing initiatives within a single firm, and then comparing patterns across the three firms. The analytic generalizability is high as opposed to the statistical generalizability, which is low. Having explained the methodology in this chapter we can now turn to the findings.

CHAPTER 6

Initiatives at Van Ommeren:
Effective Implementation

This is the first of four empirical chapters in which initiative trajectories are analyzed. This first empirical chapter focuses on initiatives within Van Ommeren. The chapter starts by describing the situation at Van Ommeren at the time it was investigated. Then, an overview of the initiatives investigated at Van Ommeren is offered. The chapter moves on to analyze and describe, on the basis of the theoretical framework, certain patterns that these initiatives displayed within Van Ommeren. It ends by summarizing the main conclusions of the initiative process at Van Ommeren.

VAN OMMEREN TANK STORAGE

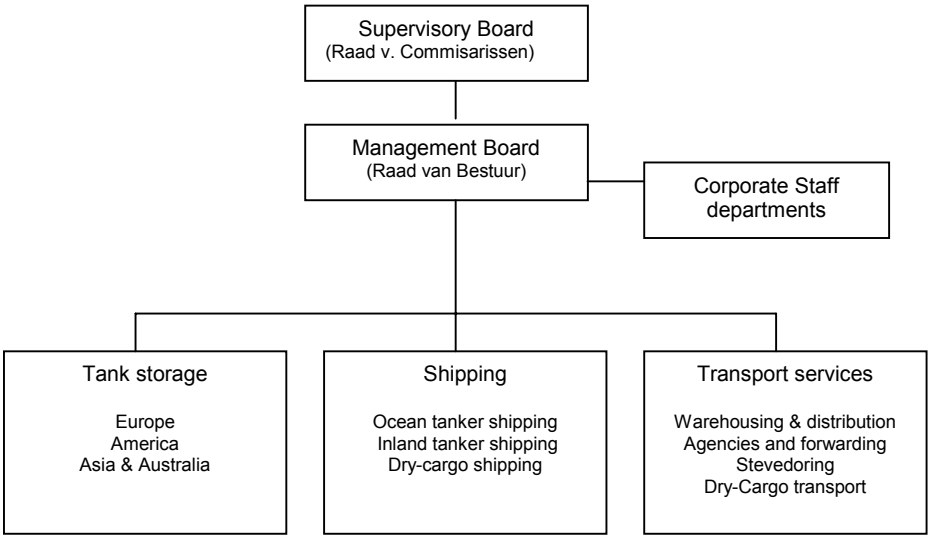
Koninklijke Van Ommeren N.V. was one of the three largest Tank Storage companies in the world (Van Ommeren, 1995) at the time of this investigation. In 1999 it merged with Pakhoed to become Vopak. Van Ommeren's headquarters were located in the port of Rotterdam in the Netherlands. It combined tank storage "with tanker shipping, tank container operations and a network of agency and forwarding offices (Vopak, 1999)." At the time of investigation Van Ommeren had 38 tank storage terminals (Van Ommeren, 1995) located all over the world near major shipping routes, capable of storing and handling oil products, chemicals and gases, and vegetable oils (Vopak, 1999). At the time, ocean tanker shipping activities were carried out by 10 vessels, the coastal and inland shipping activities by 96 vessels (Van Ommeren. 1995). In 1996 - the year of the investigation - Van Ommeren achieved a net turnover of 343 million euros and employed 3111 people (Vopak, 1999). It had just gone through quite a major reorganization when the initiatives at Van Ommeren were investigated.

The reorganizations at Van Ommeren originated from a failed attempt to move into the trading business starting at the end of the seventies. In order to compensate the fluctuating results of the shipping business it seemed to make sense, at the time, to set up a trading division (Schwab, 1989). The purchase of the Ceteco trading company in 1987 represented the ultimate realization of this strategy. Van Ommeren was renamed Van

Ommeren – Ceteco, its abbreviation V.O.C. being an intentional reference to the former Dutch East Indian Company. It was considered a dream come true. However, it was a dream that would not last as neither Ceteco nor the rest of the trading division provided the desired balance in the results (Van der Zaal, 1997).

In the 1990 the company therefore drastically changed its strategy; it divested the trading division and decided to concentrate on two core activities only: shipping and tank storage (Van Ommeren, 1991). The organization was streamlined through various cycles of "continuous reduction, rearrangement, reorganization and further reduction (Van der Zaal, 1997:18)." The amount of employees, for example, diminished from 3985 in 1993, to 3466 in 1994, and to 2582 in 1995 (Vopak, 1999). Structurally the middle layer had been cut out, as well as 13 business units in order to create a flatter and more flexible organization. As is written in the annual report (Van Ommeren, 1994: 14), "The smaller number of hierarchical levels has shortened lines of communication…[this] has improved participation and responsiveness. " The changes "were of an unprecedented magnitude for Van Ommeren, [placing] great demands on many members of the staff. Those who were spared by the rationalization process displayed a great deal of resilience. In many cases they had to take over their colleagues' work in addition to their own (Van Ommeren, 1994: 14)."

Figure 6.1: Organization Chart of Van Ommeren *(Van Ommeren, 1995)*



As a result of the above reorganization the Van Ommeren organization consisted of three sectors (see figure 6.1): Tank storage, Shipping, and Transport services. The first two represented the two core activities of the company. In the course of the nineties the emphasis shifted increasingly "to the transport of liquid cargo as an addition to the tank storage operations (Vopak, 1999)." Each sector existed of three areas. Tank storage existed of Europe, America, and Asia & Australia. Shipping existed of Ocean tanker shipping, Inland tanker shipping, and Dry-cargo shipping, with the emphasis on Ocean tanker shipping. Transport services existed of warehousing & distribution, Agencies & forwarding, and Stevedoring. The three sectors were steered by the Management Board, which was in turn aided by the corporate staff departments. One of these was a small business development department, whose task it was to develop new business ideas that could not be carried out by the operating companies themselves.

With the restructuring having ended (Van Ommeren, 1995), a major strategic reorientation meeting, termed "Stradivarius" took place in 1995. On the basis of consensus the core business and identity of Van Ommeren was reestablished. It concluded that its mission was to provide independent tank storage, especially for liquids (gas, chemicals, oil). Moreover, at the meeting it was decided to have clearer criteria and procedures for deciding on initiatives. As a controller said: "During the Stradivarius meeting … there was commitment about when the management board would approve projects instead of 'we will look into it some day." Having set the focus for the upcoming years and with the restructuring complete, Van Ommeren's management was now interested in revitalizing the company that had taken so many punches recently. Their interest in an investigation of initiatives at Van Ommeren was therefore particularly prompted by their desire to revive the entrepreneurial behavior with employees that had survived the reorganization.

Context measurement

At the time of our investigation in 1996 Van Ommeren had completed the reorganization, revenues were up 50%, and the organization seemed back on track (Van Ommeren, 1995). The question at hand seemed how Van Ommeren could grow in the future? This question formed a major reason for the management to participate in the investigation. Before investigating the initiatives a context measurement was conducted in which Van Ommeren's environmental turbulence, flexibility, structure, and culture were analyzed (Volberda, 1996, 1998; Wielemaker, Elfring, and Volberda, 2000; see appendix B). Van Ommeren's environment was found to be simple, stable, and quite predictable, except with respect to the impact of laws. The industry in which Van Ommeren is active could be characterized as mature. There were very few new entrants, the growth rates were low, there was oligopolistic competition, and the amount of innovations was low. Concerning the latter Van den Driest says: "Sometimes an opportunity arises … We do not gamble because large sums of money are involved. We as Van Ommeren are financed quite conservatively ourselves. That was already the case at the time of the Van Ommerens.

Ships they built were often paid in cash at the time (Oosterwijk, 1997: 53).” Van Ommeren was reasonably flexible except with respect to the future strategy and personnel. The relations with the unions were particularly strained. Although the structure was flat it was nevertheless quite mechanistic owing to the strong planning and control systems. There was a high degree of standardization and formalization. The culture scored in between conservative and innovative, although it had a very strong socialization. The employees had a strong sense of common identity, a participative leadership style, and a heuristic management attitude. Overall, Van Ommeren characterized as a planned company that contained some entrepreneurial characteristics.

INITIATIVES

At Van Ommeren six initiatives where investigated. Case box 6.1 describes these six initiatives.

CASE BOX 6.1 INITIATIVES AT VAN OMMEREN

Table 6.1: Initiatives at Van Ommeren

	Initiative	Idea	Phase	Basic process	Outcome
1	Splitter	Link with client plant	Integrating	middle/top-down	success
2	Eastman	Link with client plant	Integrating	middle/top-down	success
3	Cooperation	Synergy between operating companies	Integrating	top-down	ongoing
4	Tank Container	Setting up Tank container business	Interpreting	middle/top-down	ongoing
5	Latin America	Geographic expansion into Latin America	Interpreting	middle/top-down	ongoing
6	Tallin	Investment in terminal in Estonia	Interpreting	bottom-up	Terminated

Initiative I. Splitter

The Splitter initiative (appendix d) was about the set up and operation in cooperation with a client of a gas condenser splitter. Another client had previously suggested building the splitter to one of the board members. Originally, it was based on the assumption that there would be a shortage of naphtha. This would enable its substitution by a waist product of refineries: gas condense. Instead of burning this gas condense away it would be treated for reuse. Because, for some reason, the client disappeared out of the picture, the commercial manager decided to proceed with the idea. Although other customers liked the idea they never came through when it came down to making deals. Finally a player in the oil industry, whom the commercial manager had met 10 years earlier during a conference, decided to set up and operate the splitter with her own resources. Van Ommeren delivers the water, nitrogen, gas, and takes care of storage. Within Van Ommeren there was initially quite some hesitancy to make commitments to a single client. At the time the market conditions made the contract turn out to be very prosperous.

Initiative II. Eastman Kodak

The Eastman initiative (appendix e) was similar to the Splitter one in the sense that it was about a customer carrying out activities on Van Ommeren's property. Here too there was hesitancy, because the initiative would create a dependency on a particular customer. That customer was a longstanding customer of Van Ommeren and it was he who suggested making a direct link between Van Ommeren's terminals and his own chemical plant next door. Because the customer was in a hurry a working team was formed instantly. The team members were selected based on their political and knowledge contribution. The contract with the customer included an open bookkeeping agreement. At the time of the investigation there was a pipeline from the terminals to the client and the entire project was operational.

Initiative III. Cooperation

The cooperation initiative (appendix f) was based on the idea of offering integrated logistics, a door-to-door service. The directors of tank storage and inland shipping thought that they should be able to create more synergies by cooperating, particularly in liquids. For edible oils the cooperation was already working pretty smoothly. At the operational level cooperation was structured in a quarterly meeting to remove as much inefficiency as possible. At the other levels it was very informal and pragmatic. There was no strategic team in place. The main issue was how to ensure a lower price as a result of the synergy so that customers would buy into it.

Initiative IV. Tank container

The tank container initiative (appendix g) sought to get Van Ommeren involved in tank containers. Previously, Van Ommeren used to own a tank container division but it was divested around five years before the investigation because it was not performing well. That created an anti-container attitude. Nevertheless, the members of the initiative felt that intercontinental container transport by means of tank containers formed a perfect fit for Van Ommeren. Moreover, the market indicated that containers would be in the lift. At the Stradivarius session the project was put forward, and became officially approved some months later. A work group that took care of the operationalization was formed, as well as a steering committee consisting of various political factions.

Initiative V. Latin America

The Latin America initiative (appendix h) was about setting up a foothold in Latin America. Already in 1976, after the oil crisis, the understanding grew that a global presence was necessary. The trading partner Ceteco, who had had a strong foothold in Latin America, had been divested. At the time of the initiative the most southern location in America was Mexico where an opportunity had materialized in 1982. Because there were no competitors there and the risks were deemed high the initiative never had the highest priority. In 1992 the idea was taken on again, initiated by the board. At the time of the investigation the management board was about to be presented the results of a fact-finding mission in the form of a market research report. It was already certain that Van Ommeren would conduct activities in Latin America. The question was now more in what form this would take place.

Initiative VI. Tallin

The Tallin initiative (Appendix i) was about the take over of an existing terminal in Tallin, Estonia. A business developer at Van Ommeren had good contacts with a person at Mees and Hope who suggested the investment in Estonia. Although it involved quite some political risks, it looked as if very nice revenues could be made in the short term. The intention was to divest it somewhere in the near future again. The competitor, Pakhoed, already had a presence in Tallin and was very successful there. The initiative was kept secret from the management board

until the contract was almost ready to be signed with an Estonian partner. At that point the board became involved and terminated it because of a lack of confidence in the foreign partner and the political risks involved.

The initiatives investigated at Van Ommeren display distinctive patterns, which are described hereafter in terms of (1) the kinds of ideas they dealt with, (2) the process they went through, (3) the impact of the organizational conditions on the initiative's trajectories, and (4) the search for knowledge and resources.

IDEAS

Table 6.2: Initiative Idea Types at Van Ommeren

Initiative	Stimulus	Idea	Activities	Type
Splitter	Client	Link with client plant	Organizing link with client	Organizational
Eastman	Client	Link with client plant	Organizing link with client	Organizational
Cooperation	Strategy	Synergy between operating companies	Discussions on cooperation	Organizational
Tank container	Strategy	Setting up Tank container business	Market research and investment decisions	Organizational
Latin America	Strategy	Geographic expansion into Latin America	Market research and investment decisions	Organizational
Tallin	Opportunity	Investment in terminal in Estonia	Market research and investment decisions	Organizational

The initiatives at Van Ommeren were (1) all organizational in nature, and were (2) both strategy and market driven (see table 6.2). They were all organizational in nature because they affected the organization: the Splitter and Eastman initiative were about linking processes directly with a client; Tank container, Latin America, and Tallin were about expanding the organization in new areas; Cooperation was about creating synergy within the organization. Most of these initiatives (5 of 6) were organizational in the sense that

they were about adding something on to the existing organization: either a link to a client or an investment in a new business or geographic area. Only one initiative, Cooperation, was about a change within the existing organization, namely creating synergy between existing operating companies.

Both the market (3 of 6) and the strategy (3 of 6) drove initiatives at Van Ommeren (see table 6.2). Half of the initiatives were clearly market driven: Splitter and Eastman by a client, Tallin by a bank acquaintance. Cooperation, Tank Container, and Latin America were driven by the strategy. The Cooperation and Tank container initiatives fit in with the strategy of offering integrated logistics. Latin America fit in with the strategy of being a global player. It has to be noted, however, that the strategy equaled much more the decision process of the board than being a company-wide or formal phenomenon. As such the initiatives driven by the strategy could be said to have been driven by the board.

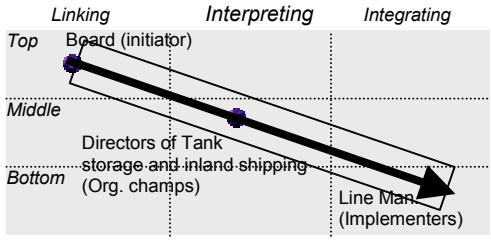
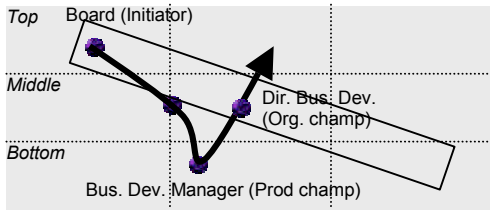
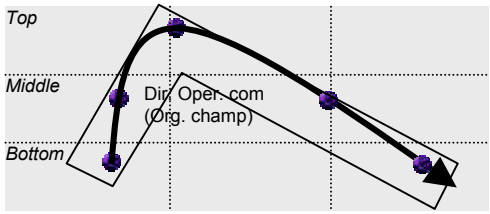
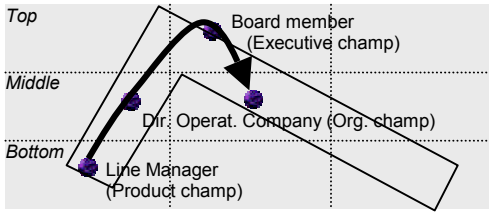
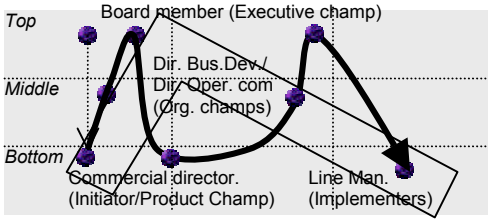
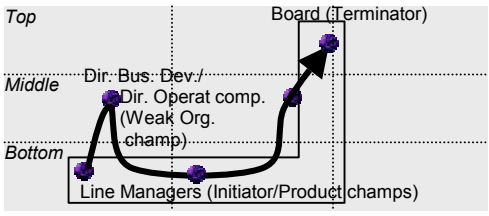
PROCESS

Whereas there were both bottom-up and top-down ideas at Van Ommeren, it is notable that they all had to proceed through the board's decision making system (see table 6.3). The decision-making was centralized - no consensus model - meaning that both the management and supervisory boards had to agree on the initiative before it could proceed. This is underscored by the Tallin initiative: one idea that was kept away and hidden from the board until the moment of signing a contract arose. When the board was informed about the initiative it was instantly terminated. Overall, at Van Ommeren initiatives got a clear go or no-go signal from the board.

Linking

Even though Van Ommeren was attributing greater significance to strategy as a driver for idea generation, in essence idea generation remained primarily opportunistic. As the business development manager explained, this was always the case at Van Ommeren: "previously, Van Ommeren was very much opportunity driven, thus very much by clients suggesting opportunities, or banks and other stakeholders drawing attention to business opportunities." And even in this investigation half the initiatives (3 of 6) were still clearly of this type: a client suggested Splitter and Eastman, an acquaintance suggested Tallin. Yet, even the initiatives that were based on strategy (3 of 6) were very much opportunity driven. The Tank Container and Latin America initiatives consisted of market research activities in which investment opportunities were being sought after. The Cooperation initiative sought possibilities for cooperation between two units. Evidently, these initiatives that were based on a strategic vision all let opportunities drive the process.

Table 6.3: Initiative trajectories at Van Ommeren

Cooperation		*Evolutionary process: continuous discussions on cooperation.* *If a feasible area is found implementation goes smoothly*
Latin America		*Market research to find best way forward.* *Board must choose strategy*
Eastman		*Not strategic, but opportunity* *Hesitancy to create dependency on one client*
Container		*Waiting for decision by board for take-over or partnership*
Splitter		*Not strategic, but opportunity* *Hesitancy to create dependency on one client*
Tallin		*When board is informed they terminate the initiative*

At this very early stage all ideas (5 of 6), whether suggested by the top or the bottom, immediately went to the management board for approval. The one that did not - the Tallin initiative - was instantly terminated by the board. This centralized decision-making process was explained by one of the controllers as: "When there is a new idea … it goes directly to the board. The employees have the feeling that things are possible then. There is a quicker communication and the board displays signs of commitment." As the director of Marketing and Business Development explained: "Whereas in the old days projects were presented ready-made to the board, nowadays the board is involved in the projects at a much earlier stage."

The centralized decision-making nature of Van Ommeren's approach to initiatives was underscored by the more formalized annual "Stradivarius" strategy meeting where employees could bring forward ideas. A member of the management board explained the selection of ideas at the session as follows: "It was a truly free discussion… and if Tank Containers had emerged much lower then that would have been an interesting signal. Of course we must be enthusiastic about it, otherwise it will not happen. But there is a culture of open discussion, because you cannot squash initiatives. There are some trendsetters and their opinion counts heavily. There are a couple with a good track record who can make us reconsider something a second time." Yet, even though management tried to involve employees in the selection of ideas the basic principle remained that initiatives had to posses the board's consent.

Interpretation

The interpretation stage was characterized by a process in which ideas circulated in the management board. The director inland shipping explained: "The ideas must be shared by the management board. But because it is evolutionary, it goes quite slowly. First the idea must be shared … before anything can happen. There must be a feeling for the idea." The board often asked a limited number of people to sort out certain aspects of the initiative and provide a report as a discussion piece. In the Latin America initiative the board asked Jacques [fictitious name] to conduct research for them: "First there was a desk-research which was presented to the board in February. Then Jacques [fictitious name] traveled around Latin America and visited six countries. Two intermediate reports have already been presented."

Although the board was particularly focused on initiatives meeting the 12% ROI criteria, they were known to be open to other criteria and informal pressures as well. As the director of one of the operating companies explained: "Within the management board, support for such projects can particularly be found with John [fictitious name]: the most entrepreneurial of the three. John is a playful strategic thinker who evaluates projects not just on their commercial value, but also on their strategic value." The super controller explains the criteria as follows: "Projects needed to meet the ROI criterion, about 12%. Nevertheless, this was not the only aspect that was considered. Other matters were also

taken into account such as the strategic value. Moreover, the decisions were often prepared in the informal circuit. What's more, estimations were unsure and flexible; the ROI therefore served more as a target." Initiative members that were not on the board tried to influence the board discussion through informal ties with an executive champion.

During the entire decision-making process no formal team worked on the initiative yet. Instead all initiatives were carried out within the hierarchy during the interpretation stage (see table 6.4) often because they could be handled within a single unit. As the director of operating company explicated: "In case project teams would have been put on the splitter project it would not have worked. Project teams have the tendency to become bureaucratic. Moreover, the project is then being pulled into various directions, whilst there is one clear direction necessary." The only formal body that was sometimes introduced in the interpretation was a steering committee. It was installed by the management board to aid in the screening process.

Integration

Initiatives that have entered the integration stage - Cooperation, Eastman, and Splitter - showed little difficulty in getting integrated. This was in line with the clear selection of initiatives by the management board in the previous stage. Termination of initiatives - the business development manager said that "the success rate of projects lies between 5 and 10 %" – was something that occurred in stages before the integration stage: during the integration stage no initiatives were terminated.

Table 6.4: Units involved in Initiatives

	Linking	*Interpreting*	*Integrating*	
Splitter	Existing Operating unit	Existing Operating unit	Informal Project team	*Team is cross-functional, and ad-hoc (not formal)*
Eastman	Existing Operating unit	Existing Operating unit	Formal Project team	*Team is cross-functional*
Cooperation	Within the board	Within existing hierarchy	Operational meeting	*Very informal setting Ad hoc gatherings*
Container	Existing Operat. company	Within hierarchy		
Latin America	Existing Bus. Develop. unit	Existing Bus. Develop. unit		
Tallin	Existing Operat. Company	Exist Operat. Company		*Project secret from board*

The actual integration of the initiative was often carried out in task force or project team like setting: the Splitter initiative in an informal project team, the Eastman initiative in a formal project team, and the Cooperation initiative in an operational meeting. These teams were kept away from the head office to avoid meddling by headquarters. As the director of one of the Tank storage company said: Director Tank Storage: "The team leader is on location and not at the head office because then he is open to too much political danger… The preparations and operationalization of the project is carried out by a work group."

Van Ommeren used to have incentive systems, but these were abandoned because it was too difficult to attribute the success of an initiative to a specific person. As the director of one of the operating companies explained: "Rewards for new ideas created problems on the work floor, because the subjective allocation of bonuses by the management to certain individuals led to tensions as others who had also contributed to the project did not receive a bonus." This could explain why not a single initiative at van Ommeren showed the use of incentive systems.

APPROVAL

The approval process at Van Ommeren was typified by the following sequence. First, the initiative members tried to influence the management board through informal contacts. As the director Marketing/Business Development explained: "There will soon be a recommendation to the management board, who will probably accept it because there has been extensive consultation beforehand. Because of the short lines and the informal contacts it has already been precooked.... I meet them in the corridors and in the bathroom where the official presentation is precooked." Secondly, the management board at a very early stage discussed the initiative, often involving some requests for refinement. Failure to consult the management board, according to a controller, was "not done according to the new rules" and caused the termination of an initiative as happened to the Tallin initiative. Thirdly, the management board took a formal decision on the initiative. However, as the controller explained: "the board has no autonomous decision making rights: the board also has to turn to the supervisory board." Therefore fourthly, the supervisory board took the final decision.

ORGANIZATIONAL CONDITIONS

The very strong centralized decision-making system benefited the integration stage by giving initiatives a clear go-ahead, but was detrimental to the generation of new ideas.

Moreover, because the system was open to informal manipulation it was especially attractive to those who knew how to pull the strings, thereby excluding those that did not.

The centralized decision-making system was very strong at Van Ommeren and was located in the management board. The initiatives could not circumvent the board of directors' decision-making procedures. Therefore, most initiatives took quite some effort to inform the board about their progress. In the Splitter initiative, for example, "Mary [fictitious] and all other personnel made reports of all visits and circulated it around the board." The Tallin initiative was terminated exactly because the board was not involved, as a director of one of the operating companies explains: “the board was involved much late, causing the termination of the ‘Tallin’ project.” All the initiatives at Van Ommeren that were not terminated all passed through the boards centralized-decision making system.

However, the strong centralization of decision-making killed off entrepreneurial behavior. As one of the interviewees said: "Everything that is new is kind of suspect; there is no entrepreneurial culture present. The current older generation are not the most entrepreneurial people." The ideas at Van Ommeren were often ideas that had been around for a long time or that fit well with the existing activities. Only the Cooperation initiative formed more of a departure from the existing mode of thinking, but it showed to evolve slowly. Tank container was a new line of business for Van Ommeren, but it was something they had done some years earlier. All other initiatives were strongly related to Van Ommeren’s existing business. Overall, the initiatives at Van Ommeren were not very radical in nature. Moreover, the amount of ideas encountered during the investigation was less than those in Ericsson and KLM Cargo. It seems safe to conclude that Van Ommeren displayed little entrepreneurial activity, which in itself is not that surprising given the bulk industry that it operates in.

One could also wonder whether the openness of the decision-making system to informal manipulation was also cause of a diminished entrepreneurial atmosphere at Van Ommeren. A member of the Tank Container initiative explains such manipulation: "Commitment for the project had already been created in the corridor with the board of directors… The [brainstorm] meeting was therefore intended to create commitment within Van Ommeren… Competing projects were killed off during the meeting..." The Tallin initiative was criticized by a board member for failing to use the informal channels: "The board of directors should not be surprised. People ought to get commitment through informal channels. They should tell the board of directors in advance about their plans, which is something that is accommodated by the informal culture that we have." This importance of the informal channel led Tallin initiative members to complain that: “the conditions to which the project should adhere to ought to have been formulated first. That is also a very important task of the board of directors: ensuring predictability, projects should comply with so and so." Although we found no evidence that people refrained from coming forward with ideas because of this aspect, it was notable that the people that did come forward with ideas all had good informal connections with the board.

Another aspect that was considered to have resulted in less entrepreneurial activity was the fact that a restructuring in which many people had lost their jobs had preceded the investigation. As one of the board members explained: "We are on the verge of transforming from a conglomerate to a focused organization. Only afterwards is it possible to peek over the fence again. But at the moment we are not ready for that yet. In this painful phase of cutbacks you cannot walk too far ahead, that is not good and causes mixed signals. The matter has to come to rest first, especially emotionally, before you can start becoming somewhat more adventurous again."

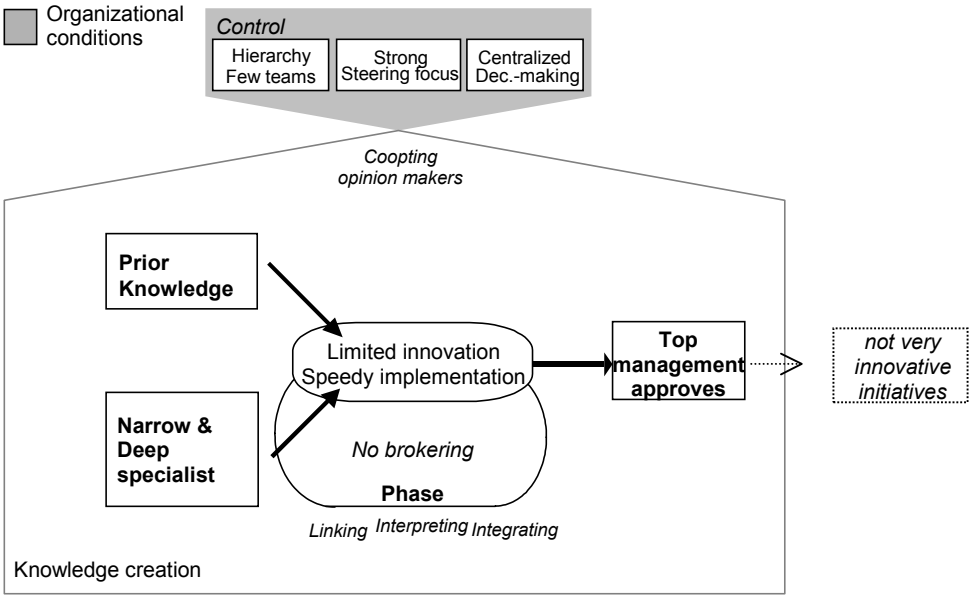
KNOWLEDGE AND RESOURCES

Because most initiatives represented investment proposals, most effort was initially aimed at building legitimacy within the board by building a knowledge base and convincing people who mattered in the organization (see figure 6.2). The knowledge base was particularly built through market research and writing up this knowledge in reports which were then distributed to the board. Because the proposals were investment proposals rather than technological concepts, little resources were needed for their development. Therefore the search at Van Ommeren focused on obtaining market information and on co-opting opinion makers in the firm. In half the initiatives the director of marketing and business development was contacted for his good contacts with the board, even when he had no direct link with the initiative.

The knowledge that was contributed by the initiatives to the existing knowledge base at Van Ommeren was therefore quite limited. This was not surprising given that the firm had just concentrated on what it considered its core again: tank storage and shipping. Instead, most initiatives represented opportunities to operationalize the existing knowledge base. Not surprisingly most initiatives were therefore carried out within units. The only reason others were brought in is for knowledge that particularly fit investment proposals, as a Splitter initiative member explained: "The project teams are put together [with] for example, a technical guy such as James [fictitious name], a lawyer, a financial guy and a commercial person."

The formal strategy as an indicator of the future knowledge base was a weak guide for initiative behavior at Van Ommeren. The director of Tank Storage, for example, therefore believed: “it is a good idea to make the Stradivarius meeting an annual event in order to achieve knowledge transfer with respect to the progress of projects and the results of operating companies. Moreover, in this way the noses point in the same direction within the concern. It creates commitment about the major strategic trajectories and it is a good way to reflect.” As opposed to this desire there was no clear future knowledge base that functioned as a reference for initiatives. The only reference was the management board’s decision-making system.

Figure 6.2: Initiatives at Van Ommeren



FOLLOW-UP

Van Ommeren confirmed many of the above findings both during an in-company presentation as during a workshop with other companies participating in the investigation. In part they attributed the lack of entrepreneurial behavior to an industry effect – the tank storage and shipping industry was experiencing low margins and lots of mergers – as well as to the fact that it was still so soon after the restructuring.

The low margins in the industry eventually resulted in Van Ommeren merging with Pakhoed, another Dutch tank storage and shipping firm. After an initial failure they finally merged with Pakhoed in October 1999. Being part of Vopak now, Van Ommeren no longer exists as a separate company anymore. It should be said that despite the low margins in the industry, Van Ommeren, did stress that they felt there was room enough for entrepreneurial behavior.

This entrepreneurial behavior was not showing itself because the restructuring had just occurred. It had been a period in which many people had lost their colleagues and in addition had to take on their jobs next to their own. The atmosphere was not such that it was very stimulating for people to come forward with ideas yet. It was thought that this would improve with time. The board also though that by having a meeting annually, like the Stradivarius one, enthusiasm and stimuli for ideas would be created. But again, this was still something that needed to prove its worth.

However, whether these speculations would ever have come true will remain unknown as Van Ommeren as a separate firm no longer exists. As a result of the merger with Pakhoed, the employees became involved in yet another reorganization. Whether the new combination will allow for initiative behavior is something only time can tell.

CONCLUSION

Overall, Van Ommeren's initiatives were few and not very radical in nature. Most initiatives were investment proposals and therefore barely required any resources during their development. Effort was put into obtaining the necessary market information and obtaining a sufficient level of legitimacy. The centralized decision-making system of the management and supervisory board determined initiative survival. Autonomous behavior outside this decision system was not tolerated and led to the termination of an initiative. The decision-making system was prone to informal manipulation and therefore not very transparent. However, if initiatives got a go-ahead by the board they showed little difficulty getting integrated. Van Ommeren then was not very innovative, but it was effective at implementing the concepts that were approved.

CHAPTER 7

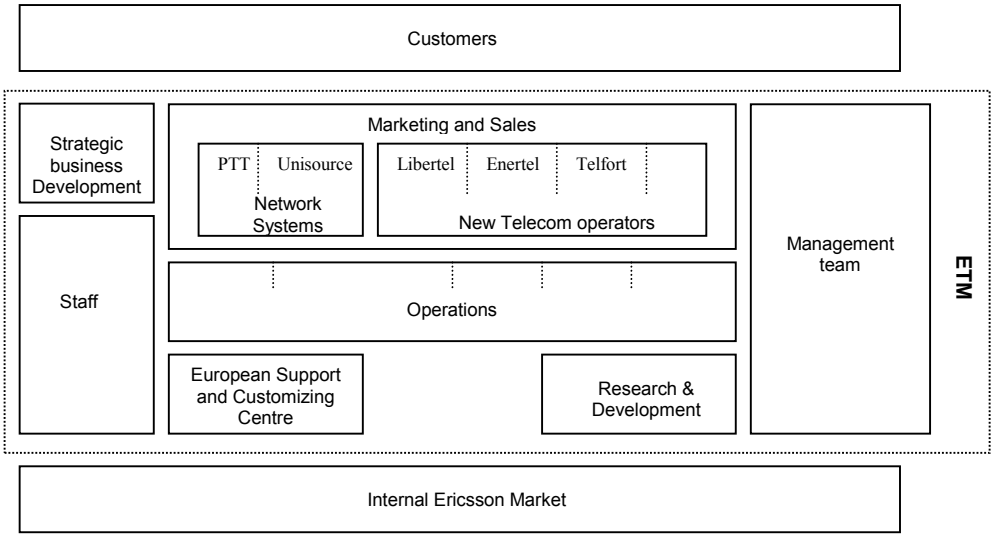
Initiatives at Ericsson ETM:
Convergence through Consensus

This is the second of four empirical chapters in which initiative trajectories are analyzed. This second empirical chapter focuses on initiatives within Ericsson ETM. The chapter starts by describing the situation at Ericsson ETM at the time it was investigated. Then, an overview of the initiatives investigated at Ericsson ETM is offered. The chapter moves on to analyze and describe, on the basis of the theoretical framework, certain patterns that these initiatives displayed within Ericsson. It ends by summarizing the main conclusions of the initiative process at Ericsson ETM.

ERICSSON ETM

Ericsson ETM in the Netherlands was the first subsidiary of Ericsson Sweden, an internationally operating supplier of telecommunications equipment (Pehrsson, 1996). The Ericsson group as a whole has been described (Bartlett and Ghoshal, 1989) as a differentiated network structure, consisting of subsidiaries that work purely for the local market and those in lead markets whose function exceeds the local market. As a typical local company Ericsson ETM in the Netherlands engages in sales, product development, and manufacturing. Within the Ericsson group it is classified as a major local company (MLC), a title given to subsidiaries that contribute at least 5 percent to Ericsson's global operations (Graetz, 1996). Ericsson ETM is just one of various independently operating Ericsson companies in the Netherlands such as Ericsson Data Services, Ericsson Radio Systems, and Ericsson Business Mobile Networks (Van Sluijs, 1996). Ericsson ETM consists not just of a marketing and sales function but also of an R&D and European logistics function. In 1996 the total amount of Ericsson ETM employees in the Netherlands was around 1100 people (Van Sluijs, 1996)" with a turnover of over 1 million Euro (1996, Ericsson ETM website).

Figure 7.1: Organization Chart of ETM in 1996 (Ericsson, 1996)



Ericsson ETM was faced with a deregulation in their marketplace that had a large impact on the company's modus operandus. Like most Ericsson companies (Graetz, 1996) Ericsson ETM used to have a close relationship with the national telecom operator, the Dutch PTT, which represented the bulk of the business and was more technologically than market focused. In 1993 the telecommunications industry was subject to deregulation, which brought new customers into existence. For ETM this meant that it no longer exclusively was to serve the Dutch PTT, it now faced new clients such as Telfort and Libertel. These new clients were less technologically focused and required a different handling by Ericsson ETM. Because the old and new clients were competitors they wanted Ericsson ETM, who was dealing with most of them simultaneously, to ensure that leakage of confidential information would be prevented. All these events resulted in a reorganization and a cultural change that took place in the latter part of 1993 (Van Sluijs, 1996).

The pattern of reorganization is very similar to what happened at other local subsidiaries of Ericsson outside of the Netherlands. Graetz (1996), for example, describes how at Ericsson Australia the management style used to be traditional, paternalistic, and bureaucratic with the organization being conservative, middle management compliant and a focus on engineering and technology. She explains (306) "the new structure emphasized

the customer divisions as the 'drivers of the business.' The functional divisions, such as Systems Design and Engineering and the Supply Division (factory operations), now operated in support of the different customer divisions ...The focus was [now also] on serving the customer better … The aim of this restructuring was to create a more responsive, more competitive organization, more focused and more attuned to the needs of the market place (Graetz,)." Pehrsson (1996) similarly describes how Ericsson Germany also became organized along customer-oriented divisions. These developments at other Ericsson companies reflect very well what occurred at Ericsson ETM, which completely terminated the production of phones, shifting from production to R&D, Marketing, and Sales (see figure 7.1).

The change from working with a technologically oriented monopolist to helping get new operators started on the liberalized market constituted a frame-breaking event for Ericsson ETM. The new working method used for acquiring new operators has been described elsewhere as follows:

> "The way in which systems usually go about establishing relations with network operators typically assumes the following pattern. After the authority responsible for the issuing of licenses in a country or region has announced its bid, Ericsson and its competitors respond and make contact with the potential operators. Sometimes Ericsson appears in a given country even before the deregulation process has started ... Ericsson supports each of the potential operators by providing plans for their technical development, network engineering and marketing. Another important way of support is by working out methods of argumentation that may be used to persuade the responsible politicians to grant licenses to the operators in question (Pehrsson, 1996: 169). "

At Ericsson ETM the reorganization entailed a shift from a functional to a matrix form, where it was now common practice to set up teams that were dedicated to helping new operators get started. These teams worked with tollgates, as operators often needed to meet stringent deadlines. Once the customer was given the license the team would evolve into a new client-axis. Although teams were already known within the R&D department, it had now become common practice within Ericsson ETM as a whole.

Context measurement

Ericsson ETM had shifted from a production to a data company and from supplying a single national operator to multiple operators. As an extension of that transformation it was evaluating its future direction by means of scenario planning and the drawing up of strategic plans. Its interest in the investigation, therefore, was primarily driven by a desire for a reflection on their strategic process.

The strategy process at Ericsson was derived from the scenarios, termed 'Vision & Strategy 2005,' that consisted of three positions that had been drawn up by headquarters in Sweden in response to the convergence of the telecom, computer, and media industry: (1) Gran Tradizione, (2) Service Mania, and (3) Up-and-Away. In the Gran Tradizione scenario convergence does not occur with consumers clinging on to existing technology. In the Service Mania scenario consumers subscribe to interactive service packages that are

mainly delivered over the phone. In the Up-and-Away scenario most services are offered over the Internet and paid for through advertising. These scenarios were considered to involve different business models that showed different patterns of revenue distribution across the players in the value chain. Based on the 'Vision & Strategy 2005' scenarios an intermediate step, wanted-position-2000, was determined in terms of the business, people, and structure. Every year a strategic plan, called the ESP (Ericsson Strategic Plan) was drawn up that specified how that intermediate step was to be achieved. The strategic plan was a yearly exercise that involved employees from all units and levels who supplied content related to their unit.

Part of the investigation consisted of measuring the context in which initiatives took place at Ericsson ETM. The environmental turbulence, flexibility, technology, structure, and culture were analyzed (Volberda, 1996, 1998; Wielemaker, Elfring, and Volberda, 2000; see appendix B). Ericsson ETM showed to be operating in a complex, dynamic but fairly predictable environment. Ericsson was fairly flexible with a moderately routine technology, a structure that demonstrated both organic and mechanistic elements, and a fairly innovative culture. As stated above, all levels were involved in the strategy process, which could be described as a consensus model of strategy making. Because ETM was mainly a local marketing organization for headquarters in Sweden there were high pressures for short-term revenues. Yet, Ericsson ETM was a technology firm, with a strong R&D department that worked at an international level. This technology aspect was evident in the high amount of interaction with headquarter staff in Sweden and with other local subsidiaries in other countries. It is an aspect that would emerge as well in the investigation into the initiatives at Ericsson.

INITIATIVES

At Ericsson ETM nine initiatives where investigated. Case box 6.1 describes these nine initiatives.

CASE BOX 6.1 INITIATIVES AT ERICSSON ETM

Table 7.1: Initiatives at Ericsson Telecommunications

	Initiative	Idea	Phase	Basic process	Outcome
1	Strat. Distr. Term.	EDI link with client	Integrating	Top-down	success
2	Unisource	Become supplier for International Alliance	Integrating	Top-down	success
3	EDI	Set up distribution network for mobile phones	Integrating	Top-down	mixed
4	Glass Box	Involve customer in development	Integrating	Bottom-up	success
5	Cable Dect	Telephony over cable via air-DECT technology	Integrating	Middle/top-down	success
6	Internet	Set up Internet business	Interpreting	Bottom-up	ongoing
7	Unax	Ericsson software on non-Ericsson hardware	Interpreting	Bottom-up	ongoing
8	SDH (2nd phase)	Reposition portfolio at lower rather than high end	Integrating	Bottom-up	mixed
9	Internet Billing	Enable charging specific Internet	Interpreting	Bottom-up	ongoing
10	Telfort (B)	Smart card for transactions over the phone	Interpreting	Top-down	ongoing

Initiative I. EDI

The Electronic Data Interchange (EDI) project (appendix j) consisted of the creation of an EDI link between Ericsson ETM and the Dutch PTT. PTT had suggested the EDI link in May 1996, because such a link with their top 10 suppliers would enable them to manage their operations better. Ericsson ETM tried to postpone the project as they were switching over to SAP at the time. Therefore the project was split into two phases. In the first phase a stand-alone system was set up at Ericsson ETM and an EDI link was made to the PTT. In September 1997 the second phase was to be carried out: Ericsson ETM's SAP would then be connected directly to PTT's information system. Within ETM this project occurred in a top-down fashion and was developed in a team composed of people from logistics, automation, and marketing & sales.

Initiative II. Unisource

Unisource (appendix k) is an alliance between PTT Telecom, Telia (Sweden), the Swiss national telephone company and Telefónica (Spain). The latter quit the alliance in the spring of 1997. The alliance was formed to protect the home markets of the national telecom operators against new entrants and to build a position on international markets. In order for Ericsson to become a supplier for the alliance it set up a project with the same name as the alliance: Unisource. Becoming a supplier to the alliance was considered of strategic importance, as Ericsson was already supplier to the alliance's members. Moreover, the alliance was considered to become a very innovative customer, which would benefit Ericsson's innovative skills. The manager of Ericsson's Marketing & Sales division (division 'A'), which catered to the former national telecom operator PTT, championed the project. He initiated the idea and allocated resources to the initiative. Integrating it into the organization went smoothly. The products required by the alliance showed a close fit with Ericsson's portfolio. New competencies lay specifically in the area of international coordination between the different Ericsson subsidiaries as Unisource operated internationally.

Initiative III. Strategic Distribution Terminals

The 'Strategic Distribution Terminals' (appendix l) is concerned with the distribution to consumers through retailers of mobile phones, also called terminals. With the emergence of a new mobile telecom competitor, Libertel, in the Dutch mobile telecommunication market a need arose for a new distribution system of mobile phones, other than through the national telecom operator's shops (Primafoon). Ericsson considered this an

opportunity because at that time mobile phones formed a major part of Ericsson's worldwide product portfolio. On the initiative of Ericsson headquarters' in Sweden a separate Mobile division was set up at Ericsson ETM that was to distribute terminals through various distributors and retail outlets. Because this project was set up in a top-down fashion, acquiring resources formed no problem. The Mobile division worked in close cooperation with the logistics division because the mobile terminal market is much faster and requires much shorter delivery times (24 hour swap service) than the traditional telecom services. The Mobile phones division was at the time one of the 'cash cows' in the Ericsson portfolio.

Initiative IV. Glass Box

Glass Box (appendix m) was considered an organizational innovation that aimed to make the relation with a customer more transparent by getting customers involved in the development of his product. It was thought that especially in the case of IT- related-products cooperation with the customer during the development stage would facilitate the customization of an IT-system. A customer, the former national telecom operator PTT, passed on the idea to Ericsson ETM's Marketing & Sales division (division 'A'). The customer's involvement was high. Employees of the former national telecom operator PTT were present at meetings of the steering group and were involved in the decision making process. The Glass Box project entailed a mentality shift as the customer was now involved in processes that were previously concealed from the customer. The steering group was considered to have provided the necessary support in breaking the resistance that this project encountered. Although the Glass box initiative worked out quite well, the knowledge acquired has not been transferred to other projects.

Initiative V. Cable Dect

The Cable Dect project (appendix n) applied DECT (Digital Enhanced Cordless Telephony) technology, normally used in the air, to the cable. DECT technology enables receiving a return signal over the coax cable allowing telecommunication and other services to occur over the cable. This allows cable operators to provide new services that they were previously unable to offer, such as telephony. Some technical experts from the Strategic Business Development group initiated the project. They later moved as a business development unit to the New Telecom Operator division (division 'B'), where they continued to pursue the initiative. The New Telecom Operators division provides the resources for the continuing development. At the time of the investigation a trial was being conducted with an interested potential client. The development of the Cable Dect project is only considered possible through the cooperation between Ericsson ETM's R&D division, and Ericsson subsidiaries in Emmen and Enschede. Obtaining commitment from headquarters in Sweden has proven difficult as the project is regarded as too nationally specific.

Initiative VI. Internet

Because of the close links between the Internet and telecommunications it was a common belief at Ericsson ETM that they had to develop business in this area. The Strategic Business Development group initiated this project (appendix o) by identifying opportunities related to the Internet together with people from other units and divisions. The outcome was presented to the management team of Ericsson ETM. As result three areas were identified: (1) the Internet as a marketing tool, (2) the Internet for internal communication, (3) Ericsson products for the Internet. The first two areas were to be covered by the Strategic Business Development group. They, for example, created the Ericsson ETM web site and participated in the national Media-Plaza event, which was sponsored by the Ministry of Economic Affairs (EZ). The last area, that of providing an overview of Ericsson's Internet products, was carried out by someone from the Marketing & Sales division (division 'A'). At the time of the investigation preliminary results were presented to the Management Team (MT) of Ericsson ETM, but resource allocation decisions were still dangling. Current developments in the projects are the results of enthusiasts working in their spare time.

Initiative VII. Unax

The UNAX project (appendix p) seeks to develop a platform that enables using Ericsson software on non-Ericsson hardware. The development of this product is based on JAVA technology. The direct trigger was that it took about half a year to translate Ericsson software into versions that would allow it to be used on non-Ericsson hardware. UNAX would do away with the need for translation. It was expected that with UNAX more Ericsson software could be sold for use on non-Ericsson hardware. Ericsson ETM's R&D division paid for the start-up of the project. The Management Team (MT) of Ericsson ETM also supported the project. However, there was no commitment from headquarters in Sweden as it was considered threatening to Ericsson's US subsidiary and they were afraid that it would cannibalize on existing business. Hence, rather than the envisioned full-blown version a mini platform was being built. To speed up the development of that platform and to acquire resources for the project a client was sought who would take care of these aspects.

Initiative VIII. SDH

The SDH project (appendix q) represents a new network standard for transmission and control of data in telecommunications. The new technology allows the network to operate more intelligently. In case there are any malfunctions in the network, the new technology detects the location of the problem and automatically reroutes the transmission of data and voice. The SDH initiative aims to commercialize this technological innovation through the development of SDH based products for the telecommunications market. The market consisted of three levels: (1) the backbone structure, (2) the transit network, and (3) the exit network. Ericsson headquarters decided to focus on developing SDH products for the highest level, the backbone structure. However, the customers - the operators - preferred to introduce SDH technology in the exit network. This caused the project to come to a halt. Nonetheless, the manager of the SDH unit at Ericsson ETM still saw opportunities for the project. He gathered support from other local companies of Ericsson as well as from the Management Team (MT) of Ericsson ETM and convinced headquarters in Sweden to shift course. With the aid of a partner a new portfolio was created consisting of SDH products for the lower exit level. This shift allowed the SDH unit to regain ground with its customers but also to acquire some related business.

Initiative IX. Internet Billing

The Internet billing project (appendix r) did somehow not form part of the previously mentioned Internet initiative. The idea is to develop a product that offers operators the opportunity to charge Internet users for specific forms of Internet usage. A marketing representative working in the New Telecom Operators division (division 'B') initiated the project. He conceived the idea while working in the Marketing & Sales division (division 'A'). The development of this project, which is purely bottom-up, was moving very slowly. Attempts of the initiator to gain support and acquire resources both in the Marketing & Sales division (division 'A') and in the New Telecom Operators division (division 'B') have failed because the idea was not related enough to the existing business of these divisions. At the time of investigation it looked as if the project would get developed in cooperation with the R&D division of Ericsson ETM because the R&D division considered it to fit with their perspective on necessary future competences. Whilst the development continued in a piecemeal manner, a client was being sought after who would supply the necessary funding for a more speedy development of the project.

Initiative X. Telfort

The Telfort initiative (appendix s) consisted of two ideas. The first is to become the preferred supplier for Telfort, a new telecom operator for the fixed network. The second idea is a technique that would enable financial transactions over the fixed phone. Telfort, a potential new competitor on the fixed network, brought the idea to use a smart card to route calls over their network. Because Telfort initially aimed to target the business market a system was required that distinguished lucrative phone calls, for example international phone calls, from non-lucrative phone calls, for example regional phone calls for which Telfort must pay the national telecom operator PTT a fee. During the feasibility study Ericsson ETM discovered that its solution to the parallel transmission of voice and data enabled the offering of all kinds of services that could be electronically paid for by the smart card.

At the time of investigation the project was in the start-up of its development phase and was in the process of becoming a separate unit. Various competencies were to be assembled in this unit: expertise in voice and data transmission, smart card technology, financial expertise, and professional project management. Telfort paid for the initial feasibility study. Ericsson ETM is seeking participants who can take on the financial risks for the upcoming phases because Ericsson ETM only wants to take on responsibility for the technological solutions and minimize its risk.

The initiatives investigated at Ericsson ETM display distinctive patterns, which we describe hereafter in terms of (1) the kinds of ideas they dealt with, (2) the process they went through, (3) the impact of the organizational conditions on the initiative's trajectories, and (4) the search for knowledge and resources.

IDEAS

Initiatives at Ericsson ETM are (1) mostly not driven by strategy, and (2) are either of an organizational or product type. Most initiatives (8 of 10) were solutions to problems or issues that customers were faced with. In four cases the ideas came directly from the client: EDI, Glass Box, Cable Dect, and Telfort. In two cases, Unax and SDH, the initiatives were driven by existence of some problem. In two other cases, Internet and Internet Billing, it was employees who had an interest in Internet technology who pushed the idea. There were only two initiatives that could be classified as being driven by strategy: Unisource and Strategic Distribution Terminals. However, even in these cases the strategy that they were based on was a response to market developments. Overall, most initiatives are not driven by strategic intent, but represent a response to market developments or problems that arose.

The initiatives are either of the organizational (4 of 10) or product type (6 of 10), with no clear preference for either one (see table 7.2). The existence of both types is not surprising given Ericsson ETM's context. Firstly, because global Ericsson products are often not directly suitable for the Dutch market, requiring the development of products that are specific to this market. The Cable Dect initiative, for example, was to enable telephony over the vast cable network in the Netherlands: a situation very different from other Ericsson countries. Secondly, because the Dutch market was recently undergoing quite some changes - owing to the liberalization of the telecom market - changes in the Ericsson ETM organization were necessary. The Strategic Distribution Terminals initiative, for example, was about the set up of a complete new unit that was to market mobile phones to retailers. This was a result of new mobile operators entering the Dutch market who needed a new outlet, next to the shops of the former national monopolist operator, from which consumers could purchase mobile phones. Ericsson therefore needed to develop this retail

channel from scratch, which required a completely new unit with people that were much more marketing oriented than the previous Ericsson employees.

Table 7.2: Initiative idea types at Ericsson ETM

Initiative	Stimulus	Idea	Activities	Type
EDI	Client	EDI link with client	Link Ericsson and client's systems	Organizational
Unisource	Strategy	Become supplier for International Alliance	Organize cooperation with subsidiaries in other countries	Organizational
SDT	Strategy	Set up distribution network for mobile phones	Set up new marketing organization	Organizational
Glass Box	Client	Involve customer in development	Co-development with customer; remove fear of sharing	Organizational
Cable Dect	Client	Enable telephony over the cable through air-DECT technology	Find technical solution	Product
Internet	Interest/ Technology	Set up Internet business	Define Internet activities that can be marketed	Product
Unax	Problem	Enabling use of Ericsson software on non-Ericsson hardware	Development of Java application	Product
SDH	Problem	Reposition portfolio at tower rather than high end products	Create products to sell at lower end level	Product
Internet Billing	Technology	Enable charging specific Internet Usage	Develop technological solution	Product
Telfort	Client	Smart card for financial transactions over the phone	Develop technological solution	Product*

** The Telfort project is essentially about offering a new product. However, it is also very organizational in nature as a complete new unit needs to be set up and the entire mode of working at Ericsson needs to be adapted.*

PROCESS

There are two trajectories at Ericsson: a top-down (4 of 10), and a bottom-up (6 of 10) trajectory (see table 7.3). It is notable that all the top-down initiatives move smoothly across the three phases. It is also notable that most of these top-down initiatives (3 of 4)

were organizational in nature: EDI, Unisource, and SDT. As noted in table 7.3, the Telfort initiative could also be considered organizational even though it has been categorized as a product initiative, because it also involves the setup of a complete new organization. In that case all top-down initiatives at Ericsson ETM are of the organizational type.
The bottom-up trajectories tended to seek approval far up the echelon (see table 7.3) as top management at Ericsson ETM was involved in all instances (10 of 10), and headquarters in Sweden in a large portion (8 of 10). Nevertheless, this is often in vain because these top levels tend to ask for consensus at the lower levels before they will sign on to the initiative. The interpretation phase therefore shows to be the phase where initiatives encounter some difficulty in getting through. Because of the consensus model quite some time delays occur and more radical initiatives tend to be held back. However, once initiatives do pass this selection by consensus they are smoothly implemented.

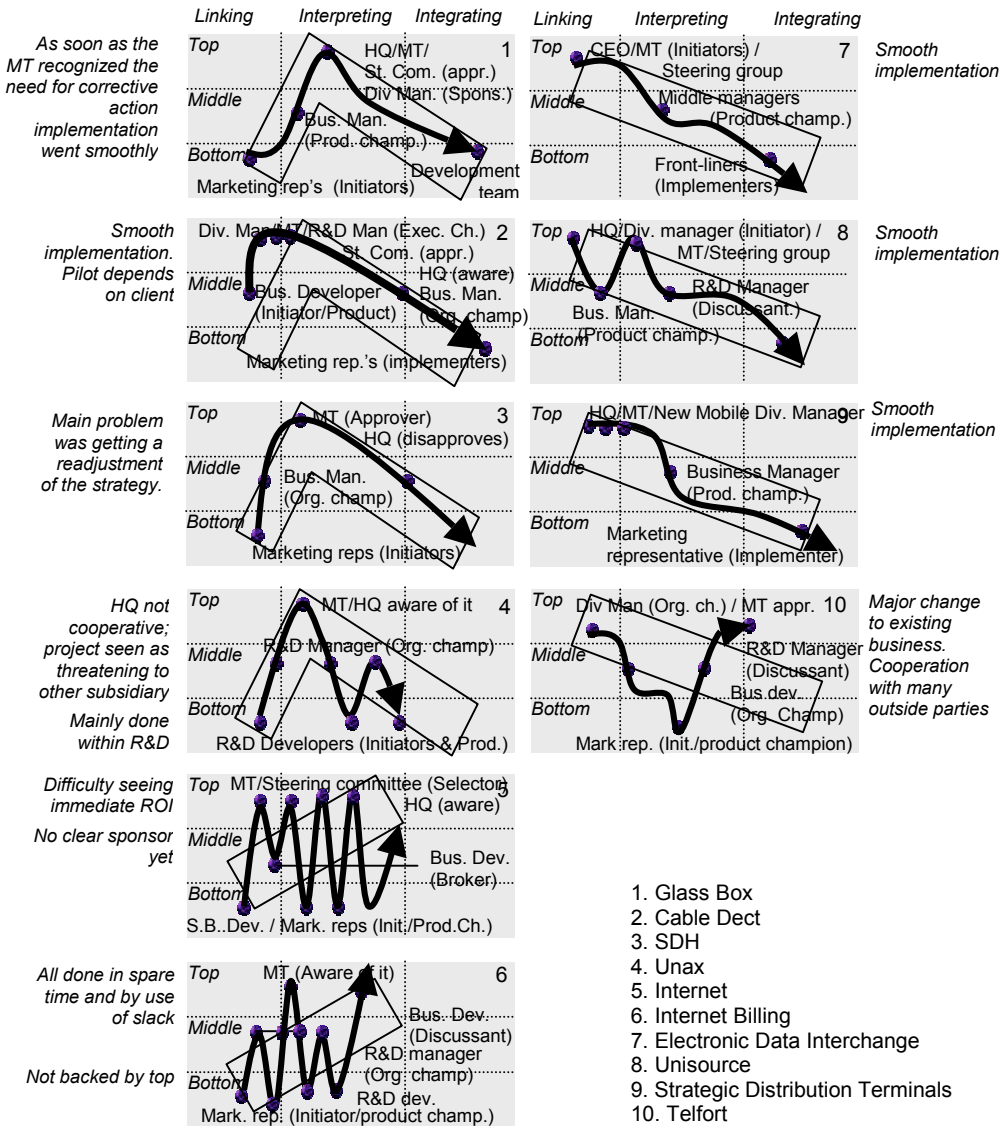
Linking

In the linking phase we see that initiatives tend to (1) be driven by non-strategic reasons, (2) shop around for necessary competencies, and (3) quickly test the reaction of higher echelons all the way to headquarters in Sweden. As previously explained, in this initial phase initiatives were not primarily driven by strategic consideration, but rather by a problem, client demand, personal interest, or market opportunity. The limited role of strategic intention at Ericsson is also echoed in a study by Huzzard where employees were asked to restate the companies values (2000: 356), "For example, the 1996 Ericsson Annual Report assures us that the company's shared values consist of professionalism, respect, and perseverance (Ericsson, 1996: 15). However, the hollowness of the claim … is exposed by the complete failure to recognize them by any of the informants interviewed in the paper's empirical investigation. When asked to reply to the question 'what do you see as Ericsson's common values? The replies forthcoming suggested no incidence of common values whatsoever." At ETM the initiative accounts suggest that people gain ideas because of their existing activities, knowledge, or interests rather than because of a certain strategy.

The linking phase also reveals a search for competencies. Contact with parties outside the immediate hierarchy, such as with other subsidiaries (6 of 10) or with an outside partner (3 of 10), is particularly made during this phase in order to obtain knowledge about competencies that the initiative lacks. The Cable Dect initiative, for example, brought in various competencies from other parties; GTI Vitel was contacted for knowledge of Cable TV, software firm ICT for their project leadership competence, Ericsson Enschede for competence in Dect technology, and Ericsson Emmen for their radio knowledge. In many initiatives (see table 7.2) two people play an important role as a broker: a business developer (8 of 10) and the R&D manager (5 of 10). These two were particularly contacted to check the merits of an idea and to find out where certain competencies could be found. Here is why a marketing representative who had an Internet billing idea went to the business developer: "Well, because Jacques is always interested in

novel things. It is also to sharpen your own teeth. At the time he was also busy with a couple of other things for the Internet." This business developer introduced him to the R&D manager where the initiative was developed further.

Table 7.3: Initiative trajectories



In the linking phase initiators tend to contact the upper echelons quite early to test the reaction. The management team of Ericsson ETM was contacted in the linking stage by every single initiative. Headquarters in Sweden were contacted in the linking stage by 8 of 10 initiatives; only two initiatives, EDI and Internet Billing, did not do so. However, contacting these upper echelons in the linking stage did not result in instant approval by the upper echelons. Some initiatives were outright disapproved, as for example the Unax initiative, whilst most were sent back for further development and consensus making.

Interpretation

The interpretation phase is characterized by (1) the use of a consensus model, (2) the use of teams, and to a lesser extent (3) the use of steering committees, and (4) the need for clients to get approved. Every single bottom-up initiative mentioned that they were obliged to operate according to a consensus model. This meant that the management team would refer proposals back to the initiative members with the assignment to obtain consensus amongst the most important players before presenting the initiative again. Interviewees never suggested that this deteriorated the quality of their proposals; in fact, they often claimed it improved them. However, as a business manager explained it caused quite some slow down: "I would say that Ericsson's culture of consensus has its disadvantages … Basically because everyone has their own budget ... See, you have to have consensus and that takes a lot of time." And as a marketing representative explains, it also is detrimental to more radical ideas: "The closer the idea is to the current frame of mind of people, and let's say you can do it, then a lot can happen. But if you talk about totally different areas where we are not a player yet, then it is a really painful way in this organization. The consensus model operates not just at the local subsidiary level but also at the level of the headquarters, as is exemplified by a remark of the business manager involved in the SDH initiative: "We had to involve our colleagues in Switzerland, Sweden, and Spain because we alone were too small and could not influence decision making in Stockholm [headquarters]. Because of our alliance we were able to commit Stockholm to a second attempt at developing an SDH [lower level] portfolio."

The team structure is used in most initiatives (9 of 10) at Ericsson during this phase (see table 7.4). All top-down initiatives, not surprisingly, have a formal team structure in this phase. Of the six bottom-up initiatives, two already had a formal team structure from previous activities - the Glass Box and SDH initiatives -, and three set up an informal team structure in this interpretation phase – Internet, Unax, and Internet Billing -. Overall the process at Ericsson suggests that initiatives make wide use of team structures, be they informal or formal. It is also evident that in many instances (6 of 10) these team structures emerge out of weak and strong ties that predated the team.

During the interpretation phase, about half the initiatives (5 of 10) were faced with a steering committee that was installed by the management team to aid them in managing the initiative better (see table 7.3). The people on board the steering committee

often consisted of specific management team members that had a stake in the initiative, either because they were strongly in favor of it, or because they were strongly opposed to it. As a strategic staff member explains, these committees were sometimes considered a blockade: "At a certain moment, out of nowhere, a steering committee was formed consisting of … and I was to report to them: as a buffer between the management team and me. … Quite a nuisance." Yet, these steering committees were also appreciated because they were more dedicated to the initiative than the management team, and people realized that if the committee was convinced, then management team would not pose much of a problem. Overall, the steering committee was considered an administrative mechanism that had both positive and negative aspects.

Table 7.4: Initiative form

	Linking	*Interpreting*	*Integrating*	
Strategic Distribution Terminals	Formal small team	Formal larger team	Separate Mobile division	*Team intentionally grows into new unit*
Unisource	Weak ties subsidiaries	Formal large project team	Formal small project team	
EDI	Strong ties client – CEO/MT	Formal project team	Formal project team	
Glass Box	Team existed for previous project	Existing team	Existing team	*Initiative was a correction to an existing initiative*
Cable Dect	Weak/Strong ties between units	Strong ties in hierarchy	Within existing unit	*Cooperation with other units and subsidiaries*
Internet	Inf. gathering interest. people	Informal teams		
Unax	Developers within R&D	Informal team		*An organizational unit has been conceptualized, but it has problems materializing*
SDH	Existing formal Team & subsid.	Existing formal team	Existing formal team	*Team already existed. The issue was readjusting strategy*
Internet Billing	Weak ties mark. Rep and R&D	Garage work within R&D		
Telfort	Dedicated team To acquire client	Split off team to become new unit		

Although the fit with the formal strategy – the Ericsson Strategic Plan (ESP) and 'wanted position 2000' – was officially a crucial selection criteria, it was particularly the existence of a client that functioned as such in practice. Before presenting proposals to the

management team, initiators made sure that the initiative fit well with the strategy as formulated in the Ericsson Strategic Plan (ESP) and in the 'wanted position 2000.' However, making initiatives fit with the strategy was not much of a problem, because the strategic plan was quite broadly framed and consisted of three scenarios. Moreover, the ESP plan was written annually and certain projects would just be written into the plan of next year. Not surprisingly, the only initiative that was not considered to fit the strategy by the interpretation phase was the Internet billing initiative; all other (9 of 10) initiatives were considered to fit the official strategy by the end of this phase. Being a local marketing organization the administrative criterion that was most relevant at Ericsson ETM was the necessity to guarantee a quick return-on-investment. In practice, this implied that a client needed to be recruited before selection could occur. As a marketing representative explains: "[If this option does not work] then I'll tie it into an … offer which I have lying here worth tens of millions of guilders, and if the client says 'yes do it,' then I'll have the space to give it hands and feet … So I think I need customer to get things going." Similarly a business manager explicates: "How can you do something in a firm with a limited budget? Well, besides garage work it also means that you have to do a lot together with clients." Not surprisingly, of the six bottom-up projects three already had a client - Glass Box, Cable Dect, and SDH - and three were seeking one - Unax, Internet, and Internet Billing.

Integration

Those initiatives that enter the integration stage (6 of 10) - SDT, Unisource, EDI, Glass Box, Cable Dect, and SDH - are implemented very smoothly. Interviewees confirmed that as a result of the consensus model there is agreement amongst all relevant parties concerned and that therefore there is no difficulty in implementing the initiative. Besides agreement, it is notable that at Ericsson ETM the control systems operate effectively during this stage ensuring the implementation of selected projects. Even the transformation of two initiatives into an organizational unit or division of the formal Ericsson ETM organization is flawless: the Unisource customer axis and the Mobile division. This mirrors the expertise that has been built up within Ericsson on acquiring new customers, setting up a new customer unit, and rolling out a telecom infrastructure for the new customer.

APPROVAL

Approval at Ericsson is very much dependent on obtaining consensus and having a client as a sponsor: this ensures approval by the management team. Once that approval is obtained, implementation goes smoothly. Organizational initiatives, those that dealt with changing something within the Ericsson organization (4 of 10) and who were mostly top-

down in nature (3 of 4), all clearly required explicit approval (4 of 4). This contrasts with the product ideas (6 of 10), which intended on providing a new service or product to the market and were mostly bottom-up in nature (5 of 6), where we have a much more diverse picture. Two initiatives, Telfort and SDH, obtained explicit approval. Three initiatives obtained implicit approval, Unax, Internet, and Internet Billing. One initiative, Cable Dect, obtained a clear signal that it needed to find a client as a sponsor. Overall, all the six bottom-up projects required a client to obtain approval: Glass Box, Cable Dect, and SDH already had a client; Unax, Internet, and Internet Billing were seeking one.

ORGANIZATIONAL CONDITIONS

At Ericsson there is a clear shift in organizational conditions from supportive to controlling ones across the three phases, with one exception: the consensus model is not supportive enough for more radical initiatives and those than require speed. The linking phase is supported by various conditions. Firstly, the network of social ties between headquarters, various subsidiaries, and units is very helpful in creating opportunities to exchange knowledge. In many initiatives we find that people from headquarters were contacted or visited the local subsidiary giving presentations and interacting with local employees. There were also vast amounts of contacts amongst various Ericsson subsidiaries, particularly aided by former colleagues who had made career moves from one unit or subsidiary to the other. Secondly, ideas are never terminated by anyone at any level, thereby creating an environment that is not hostile to initiatives. All initiatives, even those that were not particularly approved, such as the Unax initiative that threatened to cannibalize existing business, were told to reformulate or redefine themselves or to gain more support, but never were they told that they were off limits. Thirdly, being a very technologically oriented company the presence of the business development and R&D unit resulted in quite some 'inventor types' being available who proved particularly helpful in performing a broker role for others. They referred people on to others with the necessary competences.

The interpretation stage shows a shift from supportive to controlling conditions. In this stage the experience with the set up of teams proves a very supportive condition. The consensus model and the installment of steering committees is supportive in the sense that initiators can always hope of carrying out their initiative so long as they can convince others: if not now then later. However, it is controlling in the sense that they filter out radical initiatives and those that require speed. Top management's failure to stick out its neck and take charge is unsupportive for these kinds of ideas.

With the emergence of new telecom operators next to the former national operator PTT, Ericsson ETM needed to change its organizational structure from a functional form catering a single client to a matrix form catering various clients (see figure 7.1): the so-

called customer axes (Graetz, 1996; Van Sluijs, 1996; Mulder, 1997). Moreover, Ericsson needed to be able to respond more quickly and dedicatedly to the interests of potential new operators. It therefore enabled the quick setting up of dedicated teams, specifically in the New Telecom Operators division, in order to help the new potential operators, such as Libertel, Enertel, and Telfort, acquire licenses and rollout their infrastructure. This transformation has been described by Van Sluijs (1996: 485) as "the structure of the Ericsson ETM organization has gone through a drastic change in 1993 in which the classic strongly separated hierarchical structure was exchanged for (1) a flat organization with (2) clear "interfaces" with external and internal customers, and (3) decentralized responsibilities and authorities."

The new organizational form of the Ericsson ETM organization has a positive effect on the manner in which the initiatives create their own 'organizational' form. Particularly the use of teams and steering groups stand out. Most initiatives (7 of 10) involved the setting up of team structures for the development of the initiative (see table 7.4). Only three projects, Glass Box, SDH, and Cable Dect did not because they already had a team structure or an organizational unit in place that developed the initiative. In the linking stage (table 7.4) many initiatives (8 of 10) involved links with strong or weak ties. Generally speaking, strong ties would initially be consulted; if the strong ties could not help them out, they were referred on to weak ties. Of these strong/weak ties based initiatives most (6 of 8) would transform into a team form. This process is exemplified by the following remark:

> "Especially in the start-up stage, few people were involved, so financing was not a big deal. After that, we went to the Management Team of ETM to ask for additional resources…No one is appointed as manager. If we find a client [sponsor], the number of people will grow and the organization needs to be more formal and outlined." (Division manager)

At Ericsson there were no explicit incentive systems that were in place to motivate people to pursue initiatives. However, the one incentive that was mentioned by some, at least in the Internet initiative, was that the initiative offered one the chance to pursue a (international) career elsewhere in the organization by creating visibility for an employer. However, this incentive was mentioned only in the case of the Internet initiative. Overall, incentive systems apparently had little influence on bottom- and middle-up initiatives. Instead people seemed much more motivated by factors that could be described as intrinsic motivators: solving client problems (3 of 5), finding technological solutions that could help clients (1 of 5), personal interest (1 of 5).

As for the administrative system, it exerted its influence mainly in the interpretation phase. Another administrative mechanism used for both bottom-up, middle-up, and top down projects was the use of steering committee's (5 of 10) consisting of internal stakeholders and at least some management team members (see table 7.3). In the integration stage we see that most projects have already been approved, at least partially, which is why the members focus on convincing the market rather than the management

team per se. Overall the projects display a process in which the control systems are tightened along the way, as is exemplified by the following remark:

> "To Ericsson it [the project] was a trial and error process. We gave it a lot of thought before we implemented it, but we did not write anything down in procedures and processes. One advantage is that you can start much faster and you are very flexible in the way you want to do the next step."
> (Business manager)

At Ericsson the initiatives display a clear division of roles. Generally speaking product champions were mainly front-liners and middle managers, whereas the organizational champions consisted of the division managers. They often headed the steering group and fought for their initiative within the management team meetings. The resource owners (Mulder, 1997) were either the same division managers or clients. The idea generator and initiator roles could not be attributed to any specific level: all three levels were involved in these roles. However, it is notable that most (7 of 10) idea generators and initiators were in direct contact with clients, be it at the division (4 of 7), business manager (1 of 7), or marketing representative level (2 of 7). The two that did not display this pattern from strong/weak ties to formal teams, merely used the ties for obtaining knowledge, as was the case in Cable Dect, or used them to create a larger consensus, as was the case in the SDH initiative.

KNOWLEDGE AND RESOURCES

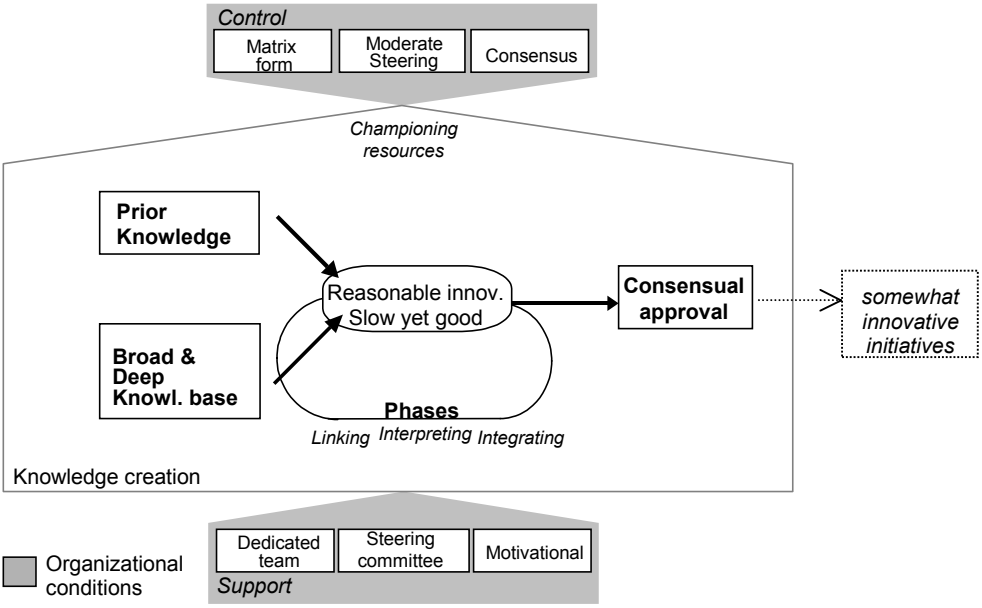
We clearly see a search for knowledge and resources at Ericsson. Only two initiatives, EDI and Unax, show a limited need for incorporating new knowledge and are better typified as implementation projects. All the rest (8 of 10) involve a search for new knowledge, especially during the linking and interpretation stages although not in the integration stage (see table 7.3). Although new knowledge is incorporated in the initiatives there is not a single initiative that does not build on existing knowledge in Ericsson. As for the resources, most initiatives (7 of 10) showed an increase in resource requirements along the way (see table 7.3). This is also exemplified by the following quote:

> When it started to get more body we said we ought to ensure that other divisions start contributing because our budget is very limited. I mean, we can give some money but as soon as it exceeds the 50.000 guilders you want commitment, other wise you just cannot manage."
> (Strategic staff unit member)

> The investigation stage was financed by [the division]. It is likely that a consortium of participants will be needed, consisting of banks and … we are talking 600 million guilders…You have to start this project on a large scale to gain acceptance, which requires a lot of money. Ericsson simply cannot invest 600 million guilders … the financial risk had to be taken by other participants.
> (Business manager)

Particularly upon entry into the integration stage resource demands surged as was the case with SDT, Cable Dect, Unax, Internet Billing, and Telfort. Clients form a main source for obtaining necessary resources for those initiatives that consists of product ideas (4 of 6). In all these instances obtaining such a client was actually a condition for the initiatives to obtain explicit approval.

Figure 7.2: Initiatives at Ericsson



FOLLOW-UP

Ericsson ETM confirmed many of the findings during an in-company presentation and in a workshop organized with the other companies participating in the investigation. Ericsson ETM particularly recognized the need for more skunk work type settings to allow for more radical speedy initiatives that were being held back by the consensus model. They also recognized that initiatives focused on the divisional level rather than Ericsson ETM in total, because the resource allocation was organized along the divisions. However, they explained that they were pondering about the set up of a separate new venture unit to deal with these issues. This, they hoped, would also allow for more initiatives that superseded the divisions.

CONCLUSION

In conclusion, at Ericsson there are two initiative trajectories: a top-down and bottom-up one. The latter trajectory is characterized by a consensus building process, which renders a lot of support and ease of integration but also leads to time delays particularly during the interpretation process when approval is sought and causes problems for radical initiatives to become selected in. Being a technologically focused firm we see much knowledge linking activity at Ericsson. Those involved in an initiative easily contact other subsidiaries, headquarters or even outside firms for obtaining knowledge. The initiatives at Ericsson show an evolution of organizational form, which moves from strong and weak ties to an informal and then formal team. The organizational form of Ericsson ETM aids in this process, because it resembles a matrix structure in which people are used to setting up dedicated teams for acquiring new clients. This expertise is clearly reflected in the setting up of initiative teams and the use of various control measures such as tollgates and milestones. Incentives seem to have little effect on Ericsson employees other than the chance to create more visibility for oneself and thus improve one's career chances. The administrative system operates on the interpretation phase and seems absent in the linking and to a lesser extent also in the integration stage. Idea generation, which occurs in the linking stage, is based more on the existing knowledge base and activities of the initiators than on some formal strategy. Strategic fit is used as an administrative criterion in the interpretation stage but because it is so broad fails to function as a selective device. Instead the crucial criterion relates to the ROI and is generally covered by having a client sponsor the initiative. The managerial roles are fairly straightforward: the product champion is mostly a front-liner or middle manager and the organizational champion or resource owner is the division manager who often heads a steering committee and fights for the initiative within the management team of Ericsson ETM. Particularly notable at Ericsson is that the broker role is related to specific people rather than to their level.

CHAPTER 8

Initiatives at KLM Cargo:
Creative Drift

This is the third of four empirical chapters in which initiative trajectories are analyzed. This third empirical chapter focuses on initiatives within KLM Cargo. The chapter starts by describing the situation at KLM Cargo at the time it was investigated. Then, an overview of the initiatives at KLM Cargo is offered. The chapter moves on to analyze and describe, on the basis of the theoretical framework, certain patterns that the initiatives displayed within KLM Cargo. It ends by summarizing the main conclusions of the initiative process within KLM Cargo.

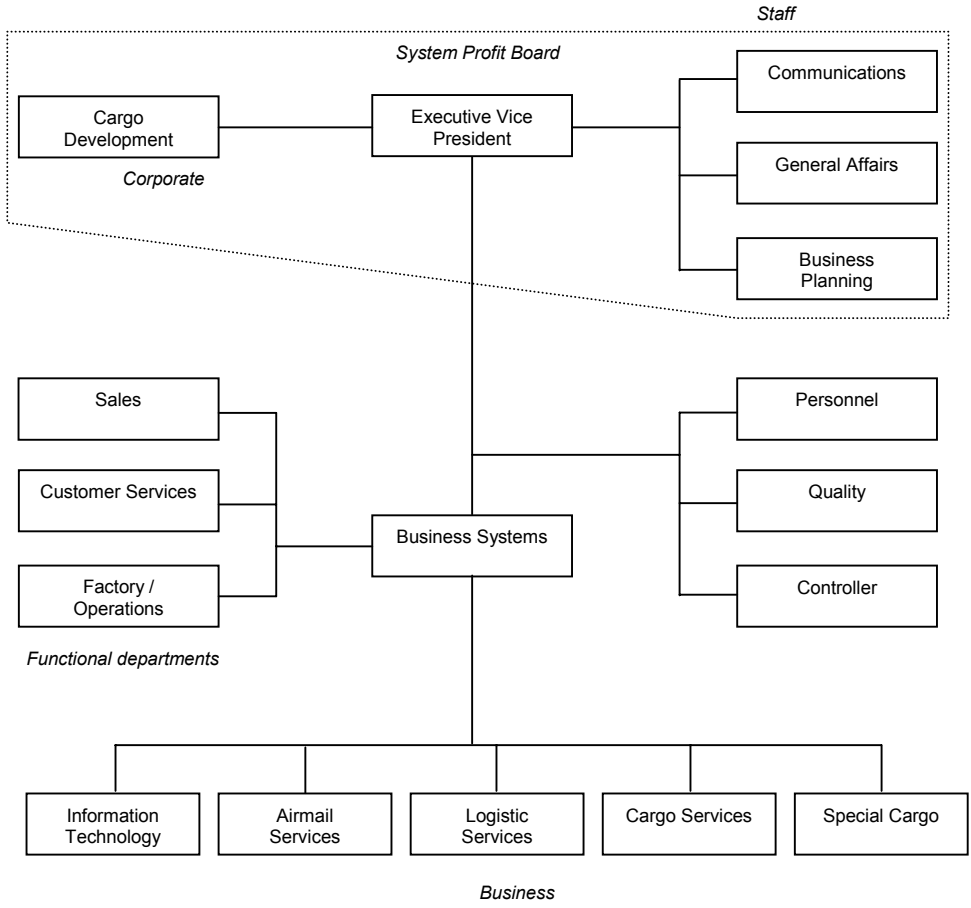
KLM CARGO

KLM Cargo, the freight division of KLM Royal Dutch Airlines, forms one of the major players in the air cargo industry (Volberda, 1998). In 1995, at the time of the investigation, KLM Cargo had around 2500 employees (Baden-Fuller and Volberda, 2001) and transported cargo worth 773 million Euros in revenues with an average occupancy rate of 70.9 percent (KLM, 1996). As opposed to some other major airlines, such as Lufthansa Cargo, KLM's cargo has always been tightly interwoven with its passenger transport. By combining the transport of passengers and cargo, with ratios varying between 60/40 and 70/30 on combo-aircraft, KLM manages to obtain a higher flight frequency to many destinations than if such sharing had not occurred (Nelms, 1996: 53). Although Cargo and Passengers share the same resources – the airplanes – since 1991 they are organized as separate divisions within KLM. The follow-up of this organizational restructuring was reaching its completion when in 1995 the initiatives at KLM were investigated.

The restructuring process started when KLM realized, as Jacques Ancher, CEO of KLM Cargo put it (Nelms, 1998: 165), that, "the airline's ultimate customers were introducing their own repositioning policies [in the air cargo industry]. And if they [the customers] were changing we certainly needed to be changing alongside them." In 1989 KLM therefore set up a corporate program, 'Vision'93', that was to determine KLM's core

business and desired position for the year 1993. As a result, KLM was restructured into two divisions: Passenger and Cargo (Volberda, 1998).

Figure 8.1: Organization Structure of KLM Cargo in 1996



In 1994 this new division called KLM Cargo launched the 'Division in Transition' program, which "included not only changes in strategy and structure, but also the goal of effecting organizational change throughout the organization (Volberda, 1998: 266)." No longer did KLM Cargo consider itself as merely a traditional cargo carrier. Instead, it perceived itself as a provider of integrated logistics (Volberda, 1998). As Jacques Ancher said (Nelms, 1998: 165), "Most carriers tend to stick to traditional

business. We decided that that certainly has to be one line of our business, but that there will certainly be other lines as well of our business to focus much more on adding value." As Volberda states (1998: 200) "This new strategic schema brought along a very different perspective of competitive forces: other logistics providers such as Fedex, United parcel Service (UPS), [and] NedLoyd, not the traditional airlines, became their new competitors."

To enable this shift to integrated logistics the Cargo division (see figure 8.1) restructured in 1995 into a flatter structure in order "to get closer to customers, [to] cut … down the bureaucracy, and empower … people to act innovatively and swiftly (Volberda, 1998; 265)." The traditional cargo operations were grouped in a functional factory consisting of three departments: Operations, Sales, and Customer Service (Volberda, 1998; Nelms, 1998). Next to this functional factory five semi-autonomous business units were also set up for specific product/market combinations: Cargo Service, Airmail Services, IT, Logistics Services, and Special Cargo (Volberda, 1998; Nelms, 1998; KLM, 1996). The whole system was aided by seven staff departments (Volberda, 1998). KLM Cargo made its managers reapply for management positions, it helped create self-organizing teams in the functional factory, and it organized training seminars, interactive workshops, and awareness courses (Volberda, 1998: 267). Bouby Grin, KLM Cargo's director of strategy and governance, sums up the new structure as:

> "Lying between the concept of a functional and fictional [virtual] organization with the functional being the basic rock solid but thereby very inflexible organization, while the 'fictional' [virtual] organization is totally flexible but has no definite or permanent structure.… Units by nature will be much more market oriented and customer focused than functional departments; they create more room for entrepreneurial scope and they cope better with erratic growth patterns." (Nelms, 1998: 165)

For KLM Cargo the Division in Transition program represented a radical transformation. Volberda (1998: 269) describes the transformation as going "from a rigid to an extremely chaotic organizational mode …offering an increasing number of added-value services to customers (transporting dangerous goods, live animals, or expensive paintings), attracting new customers, and providing non-transport related logistic services (assembly of components, stock maintenance)." This lead the international Air Cargo Association to give KLM Cargo an award in 1998 for being "the first to push the boundaries within the industry to a new dimension, [thus] forcing a change and giving air logistics a new meaning (Nelms, 1998: 166)." The fundamental nature of the shift is also underlined by Jacques Ancher, Executive Vice-President of KLM Cargo (Volberda, 1998: 61): "Our greatest challenge is to let go; there is no place for a command and control culture. We have to prepare for mistakes, and be prepared to learn from them. This requires an entirely different mindset to the one we had last year; it demands nothing short of fundamental change."

This radical shift, however, did cause some problems or as KLM Cargo's vice-president said, "we had some misfortunes, such as trying to develop the new product worldwide too quickly (Nelms, 1996: 56)." Volberda (1998) is more specific in stating these misfortunes. First, the information systems and the skills of the employees were not

ready and suitable for the change. Second, the segmentation of the department into functional departments and business units caused "large sequential interdependencies and fights about who owns the customer (269)." Third, lower level managers had not been involved in the change process and therefore offered much resistance. KLM Cargo took corrective action to alleviate these problems such as the creation of a 'business systems' department, which was responsible for coordinating the departments and units, standardizing the service portfolio, focusing the strategic vision, and creating Cargo values through a code of conduct (Volberda, 1998). Notwithstanding these corrective measures, overall KLM Cargo could still be characterized as quite chaotic at the time of the investigation.

Context measurement

KLM Cargo wanted to participate in the investigation because it was interested in receiving feedback on the effects of the new strategy and reorganization. Before the initiatives were investigated, a context measurement was conducted in which KLM Cargo was analyzed on the aspects environmental turbulence, flexibility, technology, structure, and culture (Joppe, 1995; Volberda, 1996, 1998; Wielemaker, Elfring, and Volberda, 2000; see appendix B). Cargo's environment was found to be complex and dynamic, yet somewhat predictable. Cargo showed itself to be fairly flexible with a routine technology, quite an organic structure, and a reasonably innovative culture. Translated into the various organizational levels KLM Cargo seemed to consist of layers that were still trying to get to terms with each other. Whilst top management was busy setting out the strategy for the future, middle management was still thinking very much in the old strategic mode and felt the top failed to explain this new strategy and did not provide them any clarity. The front-line felt the top was very conceptually preoccupied, yet out of touch with every day operational issues. The newly hired front-liners on the other hand were very enthusiastic about top management's strategic vision, but felt held back by middle management when they tried to accomplish changes.

INITIATIVES

Similar to Van Ommeren and Ericsson ETM at KLM Cargo nine initiatives where investigated. Case box 8.1 describes these nine initiatives below.

CASE BOX 8.1 INITIATIVES AT KLM CARGO

Table 8.1: Initiatives at KLM Cargo

	Initiative	Idea	Phase	Basic process	Outcome
1	Cargo info. System	Present Cargo's offerings electronically to clients	Integrating	Top-down	mixed
2	Tracking & Tracing	Track and trace goods	Interpreting	Top-down	ongoing
3	System Profit Man.	Create Management Decision Support System	Integrating	Top-down	ongoing
4	Product Portfolio	Develop method for dealing with client requests	Interpreting	Top-down	ongoing
5	Jump start SCU	Re(de)fine future position of business unit	Interpreting	Bottom-up	ongoing
6	NVOCC	Decouple cargo space from flights: larger cap.	Interpreting	Top-down	ongoing
7	Express	Offer full logistics in Business Unit	Integrating	Top-down	ongoing
8	BU-Logistics	Provide an Express Product	Interpreting	Top-down	ongoing
9	E-Status	Handle dangerous goods	Interpreting	Bottom-up	ongoing

Initiative I. Cargo Information System

The Cargo Information System initiative (appendix t) consisted of an electronic presentation of KLM Cargo's commodity products that would enable these standard products to be offered to customers and intermediaries through channels that also lye outside existing stores. The first releases consisted of sending floppy disks to all sorts of customers. However, the initiative had aimed too much at sophisticated Information technology instead of consumer-friendliness. A major issue in the initiative turned out to be the gathering of the necessary data from the diverse units that lacked a clear information system. Either the data could not be located, or it was unknown which unit owned the data, or units did not want to release the data. These issues have troubled much of the development of the initiative and have caused major delays and readjustments to the project.

Initiative II. Tracking and Tracing

The Tracking & Tracing initiative (appendix u) is about obtaining tracking and tracing information and making this commercially available to clients. Another aim was to ensure better internal process controls for the Operations department. The top of operations came with the tracking idea, which matched with other ideas at Business development on tracing. Initially the project tried to achieve its goal by hooking up internal registration systems. However, the data was either not suitable or not obtainable because of the involvement of third parties that took care of the handling. Therefore, the initiative shifted to technological means of tracking and tracing products. At the time of investigation a small pilot was being conducted as part of the development program. There is a strong realization that the system must first prove to work 100% before any implementation can be considered.

Initiative III. System Profit Management

Based on the new strategy to move to Integrated Logistics a new management decision support system was considered necessary as optimization criteria for the short, middle, and long-term business had changed. Moreover, the shift to offering an integrated product rather than merely a transportation service was considered to involve many more decisions requiring a management decision support system. The initiative (appendix v) sought to set up such a system by the name of 'System Profit Board.' Notable is that the top-down initiated project involved all functional departments of the factory but none of the business units yet. A demo has already been made.

Initiative IV. Product Development

The Product Development initiative (appendix w) is about the development of a methodology to translate client wishes into a tangible KLM Cargo offering, and is considered essential for the success of the customer-focused strategy of KLM Cargo. The project was initiated by Sales who needed to be able to deal better and quicker with potential client requests. The project involves almost all units of KLM Cargo and is supported by the System Profit Board of KLM Cargo. The idea is that a project group responds to the request of a customer and comes up with a solution for how KLM Cargo can best handle it. This would then be put before the System Profit Board for approval, and then via Sales proposed to the customer. The initiative was an offspring of the strategy of offering value-added services.

Initiative V. Jump-start SCU

This SCU initiative (appendix x) consists of specifying in more detail what operational activities should be carried out by the Business Unit SCU instead of by the somewhat overlapping departments of Sales and Operations. The initiative seeks to redefine for the longer future in detail the strategic position of the SCU business unit. At the time of investigation the initiative could be described as a discussion at the top management levels including that of the business unit SCU. The lower levels were not involved yet, as the discussion still needed to crystallize more and the unit itself was still heavily involved in the development of Product-Market combinations.

Initiative VI. NVOCC

The NVOCC initiative (appendix y) was about the idea that the capacity for freight transport could exceed the capacity of KLM's airplanes by allowing freight to be transported through third parties. Because such a decoupling of cargo-space and flights involved obtaining certain transport and cargo licenses the original idea was to set up a separate unit for this, called NVOCC: a name reminiscent of the Dutch shipping companies. And indeed the initiative obtained a license in the USA. However, owing to KLM's alliance with Northwest the idea changed. No longer was obtaining a pacific network necessary anymore. Instead what remained to be worked out was the core of the idea, the decoupling of cargo-space and flights. Although the initiative was generally considered as being crucial, at the time of the investigation those involved had difficulty explaining other KLM-ers what it was all about.

Initiative VII. BU-Logistics

The Bu-Logistics initiative (appendix z) evolved out of the idea that the network offered to customers should be world encompassing, therefore larger than the KLM network alone. Moreover, it also sough to offer full logistics services. Because these services would conflict with KLM's existing agents, a separate logistics provider called SCS was set up. In practice CSC was not perceived as separate from KLM. Therefore the initiative arose to bring it within KLM Cargo as the business unit Logistics. However, at the time of the investigation the person who was put in charge of developing the concept has told management to first specify more clearly what they want out of the initiative.

Initiative VIII. Express

The Express initiative (appendix aa) focuses on offering express products to clients. In order to do so the main challenge lies in setting up the appropriate infrastructure. The initiative consist of various subprojects (1) an express product for Europe, (2) an intercontinental express product, and (3) a worldwide express product as a separate business. The latter is purely conceptual and will probably be carried out in cooperation with existing external couriers. The first two form the main purpose of the initiative. The initiative was initiated by the CEO in response to a high customer demand for express products. The designated 'manager express' through informal

contacts got the people from different units together that were in one way or another also busy with express products. The product is developed in a small team. The project is on target to be implemented provided the Passenger division cooperates.

Initiative IX. E-Status

The initiative's purpose is to obtain a license that allows KLM Cargo to handle the documentation, declaring, packaging, and transportation of dangerous goods in the Netherlands (appendix ab). An intern in the firm got the idea. Three years later, now a sales representative at KLM Cargo, he and another co-worker are still involved in getting the project going. The drive for the project is dependent on these two, as they both feel that the initiative would bog down if they quite pursuing it. They have convinced both the business unit manager and the CEO that cooperation with an external partner is essential for the obtaining the E-status. At the time of the investigation negotiations with that external partner were ongoing.

The initiatives investigated at KLM Cargo display distinctive patterns, which we describe hereafter in terms of (1) the kinds of ideas they dealt with, (2) the process they went through, (3) the impact of the organizational conditions on the initiative's trajectories, and (4) the search for knowledge and resources.

IDEAS

Most initiatives at KLM Cargo are (1) of an organizational nature and (2) driven by the new strategy and reorganization (see table 8.2). The organizational nature of the initiatives (7 out of 9) meant that they focused on changing something in the organization rather than on developing an end product or service. Even in the case when initiatives were about the offering of a product or service, their focus was still on changing the organization. Because KLM Cargo's organizational processes are often unsuitable for delivering that new product or service, initiatives focused on getting the systems in place first, causing it to become organizational in nature. The Cargo Information System initiative, for example, wanted to present Cargo's product offering to clients. However, because Cargo's existing information systems did not provide the necessary information, the initiative centered on making the existing knowledge in KLM Cargo explicit and available.

Most initiatives at KLM Cargo were driven by the new Integrated Logistics strategy and accompanying reorganization (7 out of 9). The new strategy caused the existence of new business units that still required further refining: the BU Logistics initiative represents the setup of such a unit, the Jump-start SCU initiative is about the longer term strategy of such a new business unit, and the NVOCC initiative moves from decoupling Cargo not just from the Passenger division, but from flights as well. The new strategy also required new systems and services: the System Profit Management initiative

deals with setting up a decision system for initiatives, the Product Development initiative is about setting up a system for dealing with client requests, the Tracking and Tracing initiative is about setting up a system for tracking goods, and the Cargo Information System initiative is about setting up a better internal information system. Clearly, strategy rather than the market drives initiatives at KLM Cargo. Only two initiatives were driven by the market: a demand for the transport of dangerous goods drove the E-Status initiative and a demand for express products drove the Express initiative.

Table 8.2: Initiative idea types at KLM Cargo

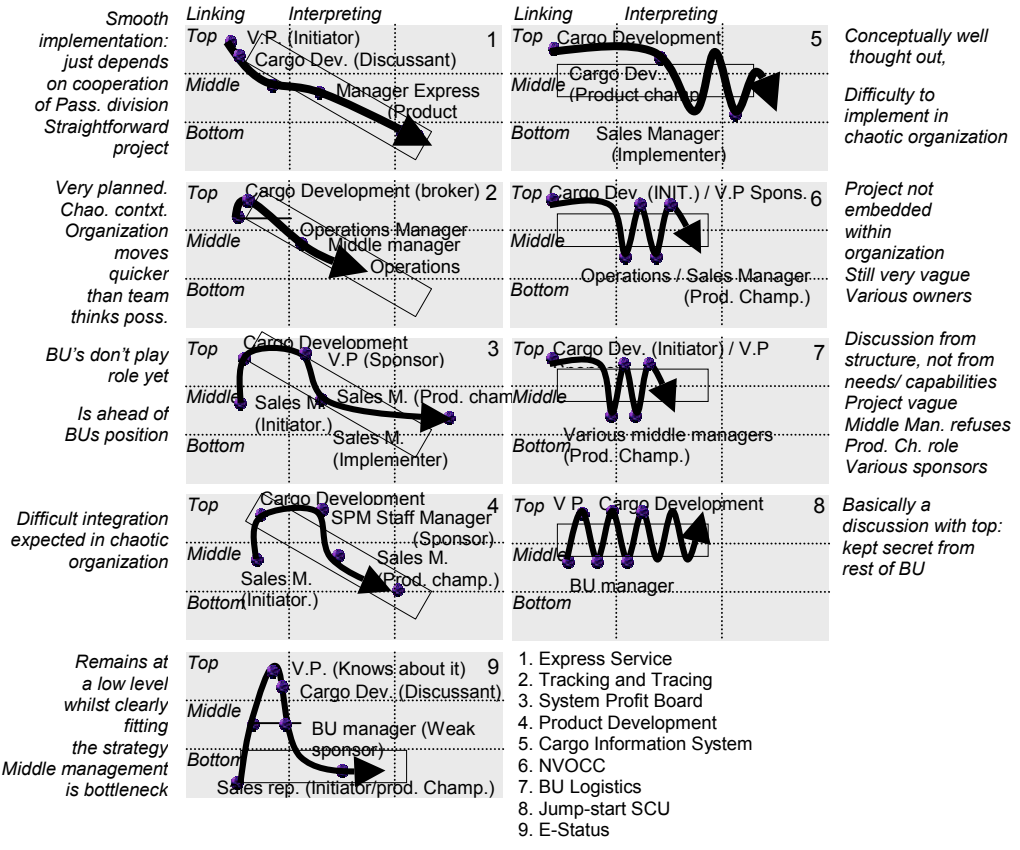
Initiative	Stimulus	Idea	Activities	Type
Cargo Information System	Strategy	Present Cargo's offerings electronically to clients	Make Cargo's knowledge explicit	Organizational
Tracking and Tracing	Strategy	Track and trace goods	Set up an infrastructure or an information system that enables this	Organizational *
System Profit Management	Strategy	Create Management Decision Support System	Make decision routines and criteria explicit	Organizational
Product Development	Strategy/ Client	Develop method for dealing with client requests	Reorganize process to enable client request handling	Organizational
Jump-start SCU	Strategy	Re(de)fine future position of business unit	Operationalize corporate strategy	Organizational
NVOCC	Strategy	Decouple cargo space from flights for larger capacity	Redefine cargo's domain	Organizational
BU-Logistics	Strategy	Offer full logistics in Business Unit	Operationalize corporate strategy	Organizational
Express	Client	Provide an Express Product	Set up infrastructure	Service
E-Status	Client	Handle dangerous goods	Obtain License for transport of dangerous goods	Service

* Although tracking and tracing also had a non-organizational purpose, namely to offer a tracking and tracing service to clients, in essence it first aimed at achieving this for internal operations purposes.

Process

With the initiatives at KLM being clearly strategy driven, they result in initiative trajectories that are mostly top-down in nature (see table 8.3, initiatives 1 to 7). Cargo's top is ahead of the rest of the firm in terms of the strategy. Hence, the initiatives, which are based on this new strategy, show difficulty getting past the middle level, which is still operating in the old strategic mode. The one bottom-up initiative, E-Status, initiated by a newly hired front-liner who was enthusiastic about the new strategy (table 8.3, initiative 9), also did not get past the middle, confirming the bottleneck nature of the middle layer. Quite a number of initiatives (table 8.3, initiatives 5 to 8) therefore evolve into discussions between the top and middle levels. If initiatives do get past the middle level, they bump into difficulty getting implemented (table 8.3, initiatives 1 to 5). This is because the organizational system is either still operating in the old strategic mode with unsuitable systems or when it has been reorganized it is still too chaotic.

Table 8.3: Initiative trajectories



Linking. Most (7 of 9) ideas are generated at the top levels (see table 8.3), with approximately half of those generated by Cargo Development: a unit that develops corporate strategy. Not surprisingly, most ideas (7 of 9) are very conceptual in nature as well, having been generated on the basis of the corporate strategy (see table 8.2) rather than by client suggestions. The BU Logistics initiative exemplifies this conceptual nature of the initiatives at Cargo when the project manager says that it "started out as an unspecified box with a dotted line in a diagram, which could some day become a unit."

When initiators did not belong to the top (2 of 9), they immediately checked with that top level, notably with Cargo Development, to see whether their ideas fit in with corporate strategy. This was because KLM Cargo typically operated on the basis of strategic intent. Corporate strategy formed a reference point for the selection of initiatives. Not surprisingly, the unit that took care of corporate strategy – Cargo Development – was involved in every single initiative during the linking stage: either as the idea generator, as a broker, or as a discussant (see table 8.2). This linking was purely vertical: there was no cross-unit linking during this stage that caused any ideas to emerge. This comes as no surprise, because ideas were driven by strategy rather than by knowledge sharing or new technological possibilities.

Table 8.4: Initiative form

		Linking	*Interpreting*	*Integrating*	
Cargo Information System	1	Existing Cargo Develop. unit	Existing Cargo Develop. unit	Formal project team	*Team is cross-functional*
Tracking & Tracing	2	Strong ties in hierarchy	Formal project team		
System Profit Management	3	Strong ties in hierarchy	Formal project team	Formal project team	*Use of SPM as control board*
Product Development	4	Strong ties in hierarchy	Formal project team		*Use of SPM as control board*
Jump-start SCU	5	Strong ties in hierarchy	Strong ties in hierarchy		
NVOCC	6	Existing Cargo Develop. unit	Strong ties in hierarchy		
Express	7	Weak/Str. ties in hierarchy	Formal project team	Formal project team	*An organizational unit has been conceptualized, but it has problems materializing*
BU Logistics	8	Existing Cargo Develop. unit	Strong ties in hierarchy		
E-Status	9	In Chemical unit of BU	In Chemical unit of BU		

Interpretation. Once the concepts are born - often strategic in nature - the top transfers the initiative to the middle level. The initiative is either operationalized within an existing unit (see table 8.4: initiatives 5,6,8,9) or in a project team that is formally installed by top management (see table 8.4: initiatives 1,2,3,4,7). From then on, top management - in the form a of a body called the System Profit Board - follows the development of the initiative from a distance. Because the initiative is already considered to fit with top management's strategy, the initiative focuses on operationalizing the project during the interpretation stage.

At Cargo almost all these teams are formed during the interpreting stage, with one team formed during the integrating stage; in none of the cases were any teams formed in the linking stage. They typically functioned as operationalizating rather than idea generating mechanisms. Although the teams were formal, in the sense that they had formally been appointed, only one team started out with a very structured form, namely the tracking and tracing initiative. The project leader described the administration of the initiative as: "The project has a very clear structure, that is actually acted on. We have carefully described within which period certain matters must be dealt with, what has to be realized, against what costs, which members, and how reporting should occur." Such a clear structure was also imposed on the Cargo Information System initiative after the initial unstructured team proved not to work that well. As the manager of Cargo Development said, "I chose for the blue print method so that everyone could see concretely what the plans were, what the consequences were, and who should get involved." The other teams were not structured when they started out, but became structured along the way as is exemplified by the Express manager: "Cooperation arose through coincidence. Through informal contacts we found out who else was busy with an express product and then we sought agreement." If we take into consideration that the Cargo Information Systems team also started out less structured, we can conclude that most formal teams (4 of 5) at Cargo started without a detailed administrative structure.

Similarly, all the initiatives that were developed within an existing unit rather than within a team were also very unstructured when they started out. As the product champion of the NVOCC initiative illustrates: "The roles in the project have not been clearly determined, but are instead very vague. The organization [form and administration of the initiative] is also very vague." Whether initiatives are developed within existing units or within formally appointed teams, at KLM Cargo there is little administrative structure when initiatives start out. The project leader of the NVOCC initiative underscores this when she says: "Projects in Cargo are never formal, because project based work is not common at Cargo. There is a lot of teamwork but it is more ad-hoc. And we do not need any formal team here either."

The middle managers, often business managers who have been with KLM Cargo over many years, show difficulty understanding what the top intends with a strategy that is far reaching. That this strategy is far-reaching is illustrated by the manager of Cargo Development when he says: "We do not want to show the world all that we are capable

of…There is a lot of magical power in the organization that cannot be made explicit." Because many initiatives are an offspring of this far-reaching strategy, they show difficulty getting operationalized by the middle level, which still needs to come to grips with it. As the project leader of the NVOCC initiative explains: "The strategy is conceptually very good, but it is so complex that nobody can fully grasp how it is to be implemented." The interpretation phase at KLM therefore shows quite some discussions between the middle and top in order to understand what management's intentions are with the initiative. The reason people participate in an initiative is because they have been 'asked' to manage the project and it is judged to be of strategic importance. However, because of a lack of understanding between the layers, the middle managers hesitate to act as strong product champions. The manager of BU logistics exemplifies this when he says: "I was asked to take on the project, but I gave the assignment back. Let them first figure out what it is that they actually want."

Integration. After having come to grips with what the initiative is all about, the initiative members move on to detail it in terms of the parties and systems that are to implement it. This integrating phase proves to be extremely problematic for the initiatives. Firstly, because they are confronted with 'old' modes of thinking, systems, and infrastructure, which were suitable for the 'old strategy,' but not for the initiatives based on the new strategy. Secondly, because the units that have been set up on the basis of the new strategy lack appropriate control systems and are still too chaotic to ensure effective implementation.

Corporate strategy is so far ahead of the rest of the organization that this becomes problematic when the initiatives that are based on this 'new' strategy need to be implemented. As explained before, middle management already has great difficulty in understanding corporate strategy. Consequently, at the front-line level the problem is even larger as the 'old' thinking, working practices, and systems are still largely in place, and there has been no trickling down of the 'new' strategy. One of the Business Unit managers describes this as: "There is a hole that exists between the strategic thinking on the one hand and the operational thinking on the other hand. There is little in-between." The product champion of NVOCC alternatively says: "Very few people understand the project. This is because the project is so abstract and so broad. Many people just do not get the possibilities yet." Except for a lack of understanding, the working practices are out of touch and unsuitable for the new strategy, as the Cargo Information System initiative exemplifies: "People are not accustomed to explicitizing knowledge or updating it. And the disciplinary handing over of such knowledge was also a problem." This leads to a situation in which initiatives fail to become integrated, or as the NOCC manager says: "We have great difficulty in getting this project embedded in the organization and to keep it embedded."

Not all the front-line is a fortress of the 'old' strategic thinking. New business units have been set up from scratch in which newly hired people work the front lines. They

are very enthusiastic about the new strategy, but are confronted with an organization that is often staffed by middle managers that grew up with the 'old' strategy and systems that are still very chaotic in nature. These units lack a strong control system that would allow effective implementation. The project leader of the Tracking & Tracing initiative expresses this as, "The organization wants to move faster than the technology [system] allows." In other words, the strategy-operations mismatch causes initiatives to encounter problems when they try to get integrated in the organization.

APPROVAL

Because most projects are top-down and strategy driven they have implicit if not explicit top management approval from the start. However, they need to acquire legitimacy at the middle and bottom levels for them to get approved and adopted by those levels. To enable that, they need to develop their knowledge further by operationalizing it. Their main problem, however, is that there are no incentives for lower levels to sponsor the initiative and subsequently adapt their systems. Hence, the initiatives lack the implementation systems that would allow them to be 'approved' by the lower levels. Hence, although top management approves most initiatives implicitly or explicitly, the initiatives have a problem gaining approval at the lower levels.

ORGANIZATIONAL CONDITIONS

The organizational conditions at Cargo are such that they do not support entrepreneurial behavior at the middle and lower levels, even though they have been intended to achieve just that. Firstly, because rather than being stimulated by corporate strategy the middle and lower levels have become dependent on top management explaining them the strategy and whether their ideas fit in. Secondly, the lack of controls with respect to the organizational systems has created a setting that does not allow for the development and implementation of ideas. This situation in which top management controls heavily in terms of the strategy, but abstains from control in terms of the systems has been very unsupportive for entrepreneurial activity, which is therefore limited to the top with the exception of a few newly hired front-line employees.

Cargo's strategic intent limits rather than stimulates employees at lower and middle levels. The strategy that has resulted from the "Division in Transition" program is considered somewhat "holy" and regarded as coming from above. The lower levels have not caught up with this strategy, they do not understand it, and it is therefore very hard for them to participate. The few that do understand it, such as the newly hired front-liners who

previously worked for logistics companies, have difficulty getting past the middle. A level that still stems from the 'old' strategy and is not in tune with the 'new' strategy. As one of them says: "It would be handy if we could take this directly to top management instead of having to go through the Business Unit manager. That would decrease the amount of time involved." The intentionality of the strategy is so strong that everyone who does have an idea immediately checks its strategic fit with the Cargo strategy department. In this sense, the strategy is still very controlling with respect to any ideas that might float.

Whereas there is much organizational control, it limits itself to the strategy process and excludes any control over the firm's administrative systems. Cargo's management purposely did not introduce such a strong command and control structure (Nelms, 1998), because that they felt that such a control system would disempower employees. Consequently, Cargo did much to stimulate entrepreneurial behavior: flattening the organizational structure, diminishing the bureaucracy, and empowering people (Volberda, 1998). Ironically, it is exactly the lack of a control system that has become unsupportive for entrepreneurial behavior. Initiatives dropped flat on a system that lacked any implementation systems; the organization constituted no soil for initiatives to germinate in. Even the team structures, which might seem more supportive for initiatives, were chaotic in nature as is illustrated by various remarks. The Sales manager said: "Although working in teams occurs, these are not well-defined project structures." A sales representative said: "There are no clear and fixed roles." And the project leader of the Product development initiative said: "Cooperative procedures have not been documented." Overall, Cargo with its chaotic form and weak administrative control system provided a context that was oversupportive for those pursuing an initiative.

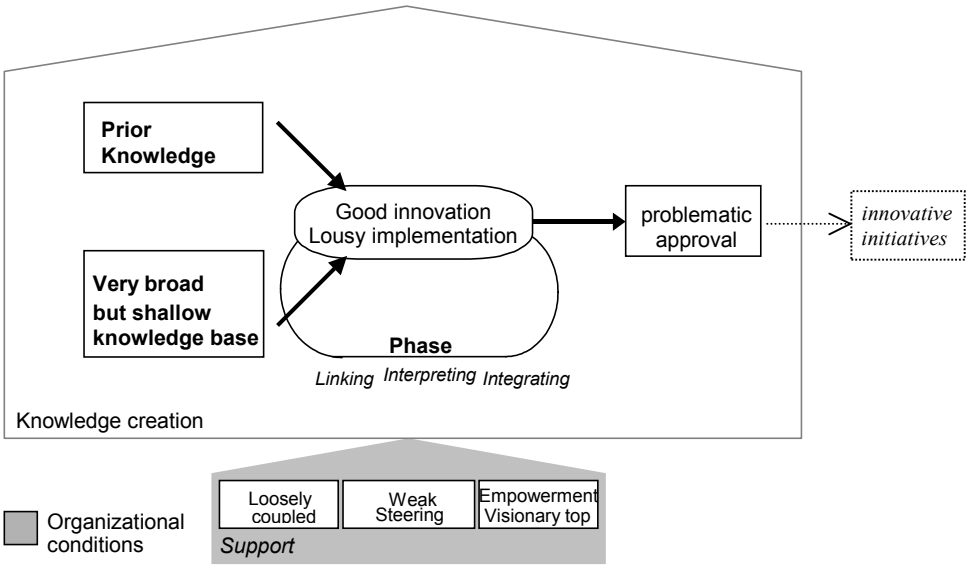
KNOWLEDGE AND RESOURCES

As expected, the initial stage of the initiative process at KLM Cargo concentrates on forming the knowledge base. This knowledge base is very conceptual in nature and emanates from or via the Cargo Development unit to the rest of the organization. Because the initiative comes with this 'corporate' blessing, the initiative does not focus on acquiring resources in the next stages, taking it for granted instead, but concentrates on operationalizing the knowledge base in order to gain legitimacy. However, because the operationalization requires the cooperation of the middle and lower levels and the use of an effective administrative system, the knowledge development halts.

The initiatives' knowledge base starts out at a very broad conceptual level, in part because most initiatives are based on the conceptual strategy that resulted from the 'Division in Transition' program. The Business Unit manager illustrates this when he describes the BU Logistics initiative: "It started as an empty organizational unit in may 1994. Beforehand it was an unspecified box with a dotted line in the organizational

diagram, which might some day evolve into a unit." Development of the initiatives' conceptual knowledge base was thus very much tied to the Cargo Development unit, which set up the 'new' strategy. Because, the knowledge is so conceptual and so much based on a single source - Cargo Development - there is no cross-linking to other units. The only linking is a vertical one to the Cargo Development unit, to check the strategic fit.

Figure 8.2: Initiatives at KLM Cargo



Because Cargo's top management is so strongly involved from the beginning, blessing most initiatives from the start, the initiatives' pursuit focuses not so much on acquiring resources but on acquiring legitimacy. To achieve that, the initiative needs to operationalize the broad conceptual knowledge into more practically applicable knowledge. As Cargo delivers services rather than products, practical knowledge refers to operational rather than technological knowledge. Therefore, the search initially focuses on finding people who understand the concept. As the manager of the Express initiative says: "through informal contacts it became clear who were also busy with an express product and in that way cooperation was sought." Gaining the necessary understanding proves to be difficult as is evidenced by the discussions that many initiatives get into (see table 8.2). If the understanding does arise, the next challenge is to transform the conceptual into operational knowledge. This proves to be the main stumbling block at Cargo, because the existing operational systems, i.e. the control systems, are very weak and not suited for these initiatives. Since the knowledge creating process comes to a halt, so does acquiring the necessary legitimacy. The initiative therefore also fails to obtain the funds that it could

have counted on obtaining had it been able to operationalize the originally so conceptual knowledge.

FOLLOW-UP

In a workshop organized for all the participating firms in the investigation, KLM Cargo confirmed many of the above findings, but stressed that the situation at the time of the investigation concerned the initial implementation of the "Division in Transition" change program, a phase that was concerned with constructing the main strategy and structure. The set-up of the appropriate systems was considered to naturally follow this chaotic phase. And indeed, during our investigation KLM Cargo was already moving to a less chaotic context, as was clear from the context measurement. On top of this, Cargo's management also took corrective measures to alleviate problems that arose as a result of the change program and that affected the initiatives negatively.

The corrective measures had already been set in motion at the time of our investigation. Business Systems had already been set up to improve the coordination between the different units and departments. The System Profit Board initiative was being set up to improve decision making on initiatives. As the project manager explains this included the set up of criteria and rules that were up to then still lacking: "people find it difficult to accept that the way in which we work is going to change… The discussion shifts from a deliberation about the outcome of a decision to the criteria and rules by which a decision is to be taken. The output is then a given. There can be no deliberation about that anymore. This objectivity is quite difficult for some people." Management also took more time (Nelms, 1996) in explaining the 'new' strategy to the rest of the organization, as the initiative investigation had shown that particularly the middle level formed a bottleneck for the trickling down of the strategy. Overall, it seemed that many of the problems that the initiatives had countered, were being dealt with in the aftermath of the change program, although these changes had not been implemented yet at the time of the investigation.

CONCLUSION

Overall, KLM Cargo's initiatives seem fairly radical and ambitious in the sense that they are based on a strategy that is considered far-reaching in the air cargo industry. Almost all initiatives emanate from the top through the strategy unit, namely the Cargo Development unit, showing the strategy process to be very intentional. This ambitious strategy resulted in an extremely broad knowledge base, but without the depth needed, resulting in a chaotic situation. This is confirmed by the limited amount of bottom-up ideas. The middle level

has a hard time interconnecting the top and bottom because of the large discrepancy between the visionary strategy of the top and the down-to-earth bottom. Cargo's organizational conditions are oversupportive for the initiative process. Firstly, because the strategy is so ambitious that it is not understood by the lower levels and therefore fails to stimulate initiative. Secondly, because the weak control system creates an oversupportive context for the initiative to be created. At Cargo, because of the corporate blessing of initiatives from the start, the initiative concentrates on developing knowledge rather than on acquiring resources. However, the quest to operationalize the very conceptual knowledge into operational knowledge proves to be a bridge too far for most initiatives. First, they must overcome resistance to the 'new' strategy on which they are based. Second, they bump into a weak control system that fails to aid implementation of initiatives. The latter was an insurmountable challenge at the time of the investigation.

CHAPTER 9

Comparing Co-evolutionary Patterns
A Cross-Case Comparison of Initiatives

Whereas the previous empirical chapters focused on initiatives within each separate firm - Van Ommeren tank storage, Ericsson ETM, and KLM Cargo - this chapter focuses on comparing initiatives across the three firms. The chapter starts with describing the major differences between the three firms in terms of their initiative trajectories. Then three ways for explaining these differences are discussed. First, the conditioning view is considered. It attributes differences in initiative trajectories to different sets of organizational conditions in the context of these initiatives. Second, the knowledge-creating view is discussed. It ascribes differences to the way in which the processes are managed content-wise. Third, the chapter reflects on the co-evolutionary view, which draws on the conditioning and knowledge creating views. This view attributes differences to the interplay between organizational conditions and the knowledge-creating process. The discussion of the three views is accompanied by revisiting the propositions that were formulated at the beginning of the study. The chapter ends by offering conclusions.

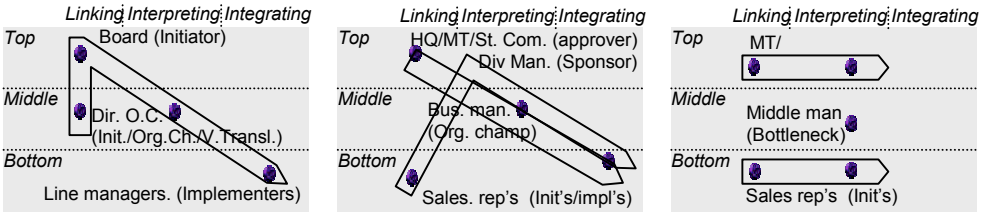
INITIATIVES

When all the individual initiative patterns within each firm (Tables 6.3, 7.3 and 8.3 as well as appendices C to AB) are aggregated together, we arrive at an overall general initiative pattern for each firm. Although this is, of course, a simplification of reality, it allows us to more clearly see the difference in the general trajectories of initiatives across the three firms. The initiatives in each of the three firms clearly display such a distinct trajectory pattern (see figure 9.1): (1) Van Ommeren showed a middle/top-down trajectory, (2) Ericsson shows both a top-down and a bottom-up trajectory, and (3) KLM Cargo shows a trajectory in which initiatives remain stuck at either the top or the bottom level.

At Van Ommeren Tank Storage the initiatives showed a middle/top-down trajectory. Only in the initial linking phase did we see that other levels are allowed to contribute, for example by means of the idea sharing "Stradivarius" meeting. However, in practice this role was limited to middle management, because they possessed the necessary

personal links with the board. Not surprisingly, the initiatives that were proposed at Van Ommeren were much less inventive than they were at the other two firms. Once the ideas were in the open, they were immediately subject to the centralized decision making system. The initiative was then passed on down the hierarchy to be developed and implemented. Although, as opposed to the other two firms idea generation was problematic at Van Ommeren, their development and integration occurred very smoothly.

Figure 9.1: Initiative trajectories



At Ericsson Telecommunications there are two basic initiative trajectories: a top-down one, and a bottom-up one. Compared to Van Ommeren there is clearly more room for bottom-up processes to occur and the front-line level is also much more involved in the entire initiative process. Bottom-up idea generation is stimulated by the constant interaction that exists with other departments, subsidiaries, and headquarters, by the involvement of employees in the strategy process, the ease of setting up teams, and the presence of innovative units. The latter function as sounding boards for people who wonder around with ideas and they consist of various business-development units and the R&D department. They embody creativeness and expertise and function as brokers by referring initiators to others elsewhere who posses necessary knowledge. Because the initiatives are not subject to an instant centralized selection but to one of consensus, they have more time to refine themselves and acquire support in order to be selected in. This, of course, comes at a cost in terms of speed and radical nature. Yet once they have been selected by consensus, they are fully backed. Similar to Van Ommeren, the integration of the initiative proceeds very smoothly.

At KLM Cargo there are also two trajectories, yet very different from the ones at the other two firms: a trajectory in which initiatives remain at the top level and one in which they remain at the bottom level. These single-level trajectories are the result of middle management not functioning as a vertical integrator, thus constituting a bottleneck for vertical communication. This is in part because middle management, who largely stems from the "old" organization, finds the corporate strategy and initiatives too complex to grasp. Thus, corporate strategy remains at the top and does not trickle down. Similarly, middle management does not pass on the initiatives that exist amongst the newly hired

front-liners that are motivated by the strategy. Even though middle management and parts of the operational work force find it hard to grasp the new corporate strategy, at KLM initiatives of a much more inventive nature are generated than was the case at the other two firms. In contrast, the integration phase reveals to be problematic because the necessary resources and knowledge cannot be acquired. Middle management's bottleneck nature exacerbates the problem even more during this phase. The chaotic loose structure and lack of controls leads to a lack of coordination amongst different units and a lack of decision-making that is necessary to carry out the initiatives.

THE CONDITIONING VIEW

The organizational conditions of the three firms vary from (1) controlling for Van Ommeren, to (2) a mixture of supportive and controlling for Ericsson ETM, and to (3) oversupportive for KLM Cargo (see table 9.1). According to the conditioning view, it is these different sets of organizational conditions that result in different initiative-trajectories.

Table 9.1: Case Comparison according to the Conditioning View

	VAN OMMEREN	ERICSSON	KLM CARGO
Conditions	Supportive / Controlling: **Controlling** Link. - Interpret. - Integrat.	Supportive / Controlling: **Supportive Controlling** Link. - Interpret. - Integrat.	Supportive / Controlling: **Oversupportive** Link. - Interpret. - Integrat.
Organizational form	Hierarchy, barely any teams	Matrix Form, with teams	Loosely coupled
Administrative & Incentive system	Very strong steering	Moderate steering	Weak steering
Managerial roles	Centralized decisions (Champions)	Consensus decisions (Champions)	Strong vision Empowered bottom

Van Ommeren Tank Storage's organizational conditions characterized as having a control focus, certainly in the phases after the initial linking phase. This was first of all exemplified by the hierarchical form in which initiatives showed very little cross unit activity; they were instead mainly developed within existing units. The hierarchical distance was such that front-liners had little contact with the board; only middle management had personal contacts with the top level. The control focus was also

illustrated by the strongly centralized decision-making system for evaluating and implementing initiatives. This was accompanied by an administrative system that can be described as one of strong steering. Every initiative needed to pass through and obtain the approval of the management and supervisory board. The only exception to this control focus existed in the linking phase, where the management set up a meeting, Stradivarius, in order to stimulate the generation and sharing of initiatives amongst employees. Yet in this meeting it was only middle management that was engaged in initiative initiation and even they immediately focused their attention on the board in order to influence the centralized decision-making system.

At Ericsson Telecommunications the organizational conditions are more a mixture of supporting and controlling conditions than was the case at Van Ommeren. Now it is not only the linking but also the interpretation phase that has supportive conditions; only the integration phase has controlling conditions. Various aspects illustrate this environment that is mixed supportive and controlling. First of all, the matrix form with its use of teams to acquire new clients or develop new products enabled cross-unit ties and the setup of initiative teams. Accordingly, the hierarchical distance between the front-line and the top levels was quite low, with front-liners often dropping in to the CEO's office to convey their ideas. At Ericsson ETM there was also a climate of interchange with people from headquarters or other subsidiaries. They gave presentations for anyone interested to attend and functioned as brokers for those with ideas. As for the administrative system this could be described as one of moderate steering. Although there were strategic plans with targets and budgets, people from all levels and units had been involved in scenario-planning sessions as well as in the write-up of the Ericsson Strategic Plan (ESP). Also, management would not control decision-making, but would instead leave it to the initiators to reach consensus with their peers, allowing top management to function as motivators. As opposed to the generally supportive conditions in the first two phases, the integration phase shows a strong control focus. Once initiatives have been selected they are subject to the clear project control measures used at Ericsson, which entail the use of milestones, tollgates, and pilots. This is not surprising given that Ericsson ETM is a subsidiary, which is experienced in rolling out telecommunications infrastructure.

KLM Cargo's organizational conditions have the strongest support focus of all the three firms, thus lying at the opposite end of the spectrum from Van Ommeren. This support focus remains effective across all the three phases that the initiatives flow through. Various aspects exemplify this support focus. The organizational form can be described as loosely coupled. It exists of units with activities that have been envisioned on the basis of corporate strategy, of which some are in the process of being set up whilst others still only exist on paper. Although the strategy has been devised top-down at corporate levels, top management purposely refrains from installing control measures believing that the empowerment of employees is necessary to create a more responsible work force. Certain units are thus not more than boxes on a piece of paper waiting for employees to take charge of setting them up. The administrative system, which can be described as one of

weak steering, causes KLM Cargo to be of a chaotic nature, something that is lamented by many employees who feel a loss of direction. This chaotic nature is stressed by the lack of vertical integration, in which middle management blocks vertical communication. Yet, corporate management feels this ambiguous state, in which there is a lack of controls, as necessary for bringing about a more initiative-taking work force. Certainly the newly hired employees are particularly motivated by this attitude.

Revisiting proposition 1

The conditioning view leads to propositions 1a, 1b, and 1c (See figure 9.2). Proposition 1a stated that firms with controlling organizational conditions in the retention phase have better implementation. Proposition 1b stated that firms with supportive organizational conditions in the variation phase have better idea generation. And proposition 1c stated that firms that shift from supportive organizational conditions in the variation phase to controlling ones in the retention phase have better overall generation and implementation of ideas.

Figure 9.2: Revisiting proposition 1

Proposition 1a:	Firms that provide controlling, rather than supportive, organizational conditions in the retention phase of initiatives show better implementation of initiatives.
Proposition 1b:	Firms that provide supportive, rather than controlling, organizational conditions in the variation phase of initiatives show better generation of initiatives.
Proposition 1c:	Firms that provide supportive organizational conditions in the variation phase of initiatives and controlling ones in the retention phase of initiatives show better overall generation and implementation of initiatives.

** Supportive versus Controlling*

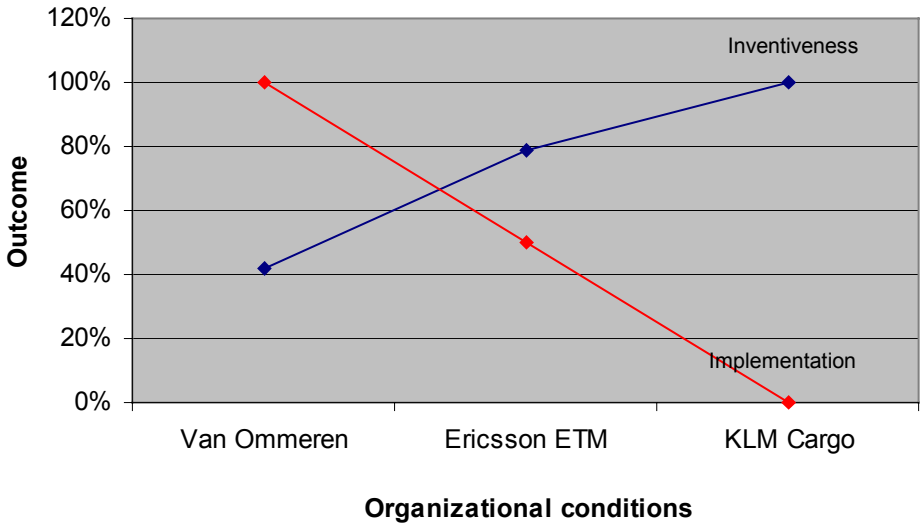
	Controlling	Supportive
Organizational form:	Hierarchy	Network
Administration & incentives	*Centralized None*	*Self organizing Incentives*
Managerial roles Facilitator/motivator	*T: Entrepreneur*	*T:*
Entrepreneur/Implementer	*M: Translator B: Implementer*	*M: Horizontal broker B:*

Translated to the three firms these three propositions lead to certain expectations. First (1a), one would suppose that Van Ommeren, with the most controlling conditions in

the retention phase, would be best at implementing ideas but would in turn find it problematic to generate innovative[36] ideas because it also has controlling conditions in the variation phase. Second (1b), that KLM, with the most supportive conditions in the variation phase, would generate the most innovative ideas but would find it problematic to effectuate them, because it also has supportive conditions in the retention phase. Third (1c), that Ericsson ETM would have the best throughput of ideas from the variation to the retention phase, with the ideas being more innovative than at Van Ommeren yet less than at KLM Cargo. This because it has supportive conditions in the variation phase and controlling ones in the retention phase.

Comparing the three firms (see table 9.1), the data indeed provides support for the three propositions of the conditioning view. KLM Cargo, for example, with the most supportive conditions in the variation phase has the most innovative initiatives. Van Ommeren, on the other hand, with the most controlling conditions in the retention phase showed to be much better at implementing ideas than KLM Cargo. Ericsson ETM with conditions shifting from supportive to controlling, displays the best throughput. Compared with Van Ommeren its ideas are more innovative, although compared with KLM they are less innovative. Yet in the latter case, they get implemented smoothly as opposed to those of KLM Cargo.

Figure 9.3 The Outcome versus Organizational Conditions



[36] In this chapter Innovative is used purely in the sense of being inventive (not in the sense of implementing).

By depicting the data in a graph (see figure 9.3) we can detect these patterns more clearly. The x-axis shows the organizational conditions ranging from controlling to supportive conditions. Thus Van Ommeren, with the most controlling (supportive-controlling-controlling) conditions, was situated most to the left. Ericsson, with mixed supportive/controlling (supportive-supportive-controlling) conditions, is situated to the right of Van Ommeren. KLM Cargo, with the most supportive (supportive-supportive-supportive) conditions, is located on the far right. On the y-axis various aspects of the initiatives that were mentioned in the propositions have been depicted: the innovativeness (better idea generation) and better implementation.

The implementation of the initiatives was coded as smooth and quick (value 2), smooth but slow (value 1), and problematic (value 0). The initiatives of all the three firms were coded by three different researchers (of a different research team) with an intercoder reliability of 77%. The implementation was best at Van Ommeren (1.8), then Ericsson (1.4), and worst at KLM Cargo (0.5). This sequence coincides with a decrease in controlling conditions and thus provides support for proposition 1a, which states that controlling conditions are best suited for implementing initiatives.

The innovativeness of the initiatives was coded by assigning a value of 0 to no, 1 to limited, 2 to new, and 3 to radically new knowledge. The same coders that coded the implementation coded this aspect as well with an intercoder reliability of 80%. We see that the innovativeness of the initiatives increases if they occur in more supportive conditions: 0.8 for Van Ommeren, 1.5 for Ericsson, and 1.9 for KLM Cargo. This finding provides support for proposition 1b: supportive conditions result in better (in terms of innovativeness) idea generation.

The throughput of initiatives is a measure for the overall process. It has not been measured, because that would have required a complex weighing of the importance of innovativeness versus implementation. Yet, by looking at the three firms it is immediately clear that Ericsson scores best on the throughput. Notwithstanding that KLM Cargo's ideas are innovative, it fails to accomplish a reasonable throughput because the implementation is problematic. Compared to Van Ommeren, Ericsson also has a smooth implementation process (although much slower), but outperforms Van Ommeren in innovativeness (1.8 instead of 0.5). With Ericsson being the firm that shifts from supportive (in the linking and interpreting stage) to controlling (in the integrating stage) conditions, it supports proposition 1c.

Overall, the data provides support for the conditioning view, which attributes differences in initiative trajectories to differences in organizational conditions of the firms in which the initiatives are situated. Supportive conditions are considered beneficial for idea generation. This is exemplified by the KLM Cargo case, which is the case with the most supportive conditions and the most innovative initiatives. Controlling conditions are considered beneficial for idea implementation. This is exemplified by the Van Ommeren case, which is the case with most controlling conditions and the smoothest and quickest

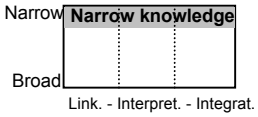
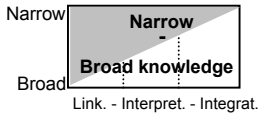
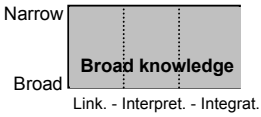
implementation of initiatives. The best throughput is considered to be obtained by shifting from supportive conditions in the initial stages to controlling conditions in the final stages of the initiative process. This is exemplified by the Ericsson case, which is the firm that shifts from supportive conditions in the linking and interpreting stages, to controlling conditions in the integrating stages.

THE KNOWLEDGE -CREATING VIEW

That initiatives show different trajectories is, according to the knowledge-creating view, particularly the result of internal idiosyncrasies, i.e. a result of variations in the knowledge base, form, administration, and roles of the initiatives themselves. According to the knowledge-creating view it is these internal variations, rather than external organizational conditions, that explain the different trajectories that exist. In this view, one expects not only to find differences amongst the three firms - as external conditions will inevitably impact internal aspects - but also between different kinds of initiatives. Below we therefore not only focus on interfirm differences but also between different types of initiatives.

Knowledge base

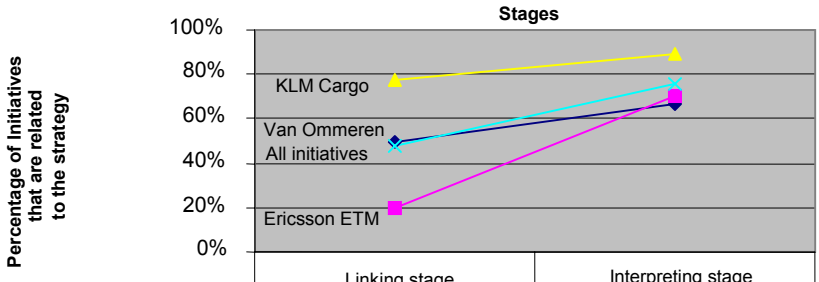
Table 9.2: Case Comparison according to the Knowledge-Creating View

	VANOMMEREN	ERICSSON	KLMCARGO
Knowledge creation			
Initiative form	No form until the integration stage	Gradual formalization of form, partially building on existing team forms	Gradual formalization of form
Initiative administration	Moderate & gradual build-up	Strong & instant build-up	Barely any build-up
Initiative Roles	Directive leadership, No brokers	Participative leadership, Brokers	Visionary leadership, Brokers

In the knowledge-creating view the main task of initiatives is to build up a knowledge base of their own during their life span. The knowledge base that is built up stems from prior knowledge, other specialist knowledge, and integrative knowledge that spans the two. The availability of these kinds of knowledge explains the distinct initiative patterns present in the three firms (see table 9.2).

At KLM, with its visionary plans, there existed a very broad integrative knowledge that embarked on new domains previously unknown to KLM and the airline industry at large. In fact, the corporate strategy was so far reaching that many KLM Cargo employees found it difficult to grasp it themselves. Nevertheless, as a result of the far-reaching strategy, the knowledge content created in the initiatives at KLM Cargo was much more innovative than at the other two firms. However, because the new areas were so unchartered there was a lack of prior knowledge. The actual integration of knowledge in the integration stage thus proved to be problematic because there was no prior knowledge from which to bridge to other specialist knowledge. Hence, at KLM the horizontal knowledge flows were thus hindered by the absence of vertical knowledge flows. As such initiatives remained very much in the concept stage, failing to translate into tangible outcomes.

Figure 9.4 Initiative Relation to Strategy



	Linking stage	Interpreting stage
Van Ommeren	50%	67%
Ericsson ETM	20%	70%
KLM Cargo	78%	89%
All initiatives	48%	76%

At Van Ommeren there was barely any integrative knowledge that was of a broad nature. Initiatives, instead, built to a large extent on the existing prior knowledge. Most initiatives, for example, were basically investment proposals and the kind of knowledge that was sought was predominantly market data. New specialist knowledge was easily

integrated, because it was closely related to the prior knowledge. Because Van Ommeren already had a lot of marketing knowledge, the amount of new knowledge acquired was thus limited. Consequently, this resulted in few innovative ideas being born and most knowledge flows being exclusively vertical. The lack of broad integrative knowledge explains the lack of cooperation with outside partners, but also makes it clear that because the knowledge areas are so interrelated, integration was not an issue at Van Ommeren.

Ericsson represents a mixture of the above two firms in that both broad integrative and specialist knowledge are present. Being a technological firm there is much prior knowledge within the firm. This technological focus is underlined by the presence of the large R&D department in Ericsson. Simultaneously the firm, perhaps because of its links with other subsidiaries and the involvement of employees in scenario planning and the set up of the strategic plan, possesses much integrative knowledge, much broader than Van Ommeren albeit somewhat less broad than KLM Cargo. Because the specialist knowledge that is required is often located in other units, subsidiaries, or even outside companies, a lot of knowledge sharing occurs with these units. Ericsson thus possesses a mixture of horizontal and vertical knowledge flows that enable it, much better than the other two firms, to develop its knowledge base.

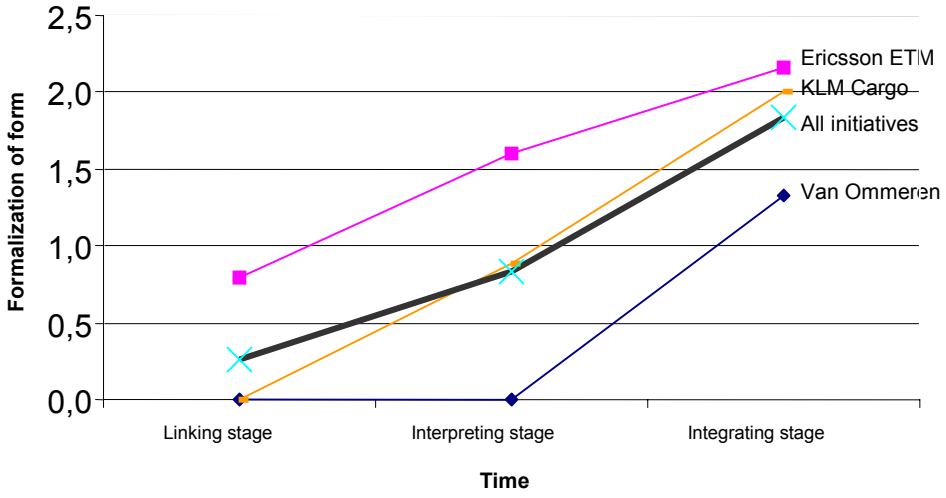
It is also interesting to see how the build-up of the knowledge base gets triggered in the first place. We see that in the initial linking phase strategy mattered to the initiative in 48% of the cases (see figure 9.4). In other words, about half the initiatives were driven by strategic and the other half by non-strategic reasons, mostly by a problem encountered or a client request. In the interpreting phase, when the selection is made, we see that strategy mattered to a much higher extent, namely in 76% of the cases. When comparing the three firms it is evident that the role of strategy differs amongst them. At KLM Cargo strategy motivated most initiatives as 78% of all cases were related to the strategy in the initial linking phase. At Van Ommeren about half the initiatives were strategically motivated. Ericsson ETM stands out amongst the three as only 20% were driven by strategic considerations in the first phase. Overall, we can conclude (1) that strategy matters more in the selection of initiatives than in their initiation, and (2) that idea generation is triggered both by strategic and non-strategic considerations.

Initiative form

In order to create knowledge certain forms are required during the process. The knowledge-creating view assumes that the organizational form of an initiative formalizes during the course of an initiative. This was expressed in assumption 2d, which stated that initiatives move from an informal structure in the linking phase to a formal hierarchical structure in the retention phase. In other words, in terms of formalization it was expected that the initiative would transform from an initial non-team form, to an informal team form, then to a formal team, and then eventually to a separate unit. If we attribute an increasing score to each - with the non-team form being 0, the informal team as 1, the

formal team as 2, and the separate unit as 3 - we can depict the general pattern of the development of organizational form within the initiatives themselves (see figure 9.5).

Figure 9.5 Initiative Form over Time

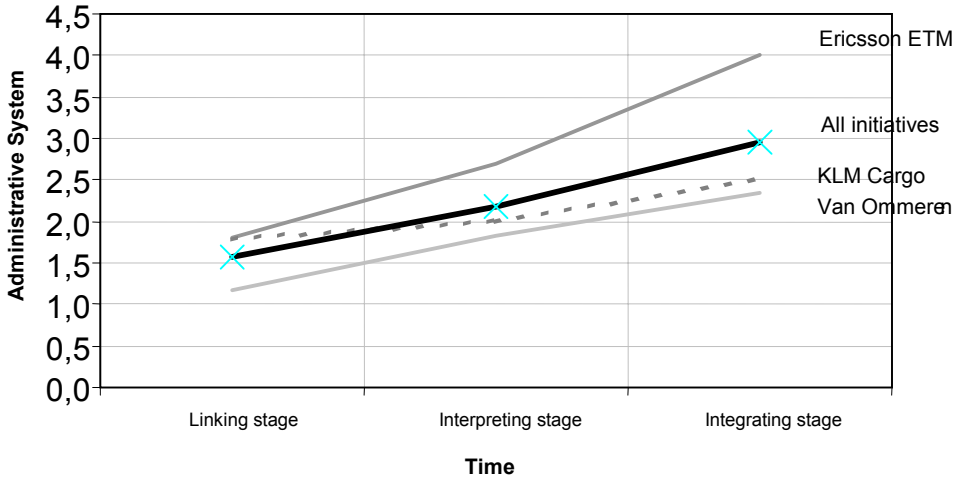


From figure 9.5 it is clear that all initiatives on average formalize their organizational form during their life span. The same goes for the three firms individually; At Ericsson, KLM Cargo and Van Ommeren we see an increase in the formalization of the form during the life span of initiatives. The higher formalization scores for the initial linking stage at Ericsson, where we would expect less formalization, are due to the fact that quite some initiatives (4 of 10) at Ericsson emanated from existing projects, which were already organized as formal teams. During the interpreting stage Van Ommeren showed lower formalization scores. This is explained by the centralized decision-making system at Van Ommeren that did not stimulate team formation, even in an informal manner, before the board selected the initiative. The other two firms, Ericsson and KLM, show a more linear patter of formalization during the life span of initiatives. Hence, assumption 2d on the formalization of the initiative form seems plausible. The formalization data is in line with the finding that almost all initiatives (19 of the 25, see appendix C) started out with an idea before a team was formed. Clearly, in these firms ideas preceded teams. This suggests, in these firms at least, that teams served not as mechanisms of idea generation but as vehicles for knowledge integration.

Initiative administration

In order to manage the initiative process the knowledge-creating view assumes that the initiative must set up an administrative system of its own. Over the course of an initiative the knowledge-creating view assumed that the build-up of such an administrative system would increase. This was expressed in assumption 2e, which stated that initiatives move from the absence of any administration in the linking phase to the use of its own administration in the retention phase. In other words, the initiative was assumed to move from no procedures to the use of procedures, and simultaneously from no control, to management control, and then self-control. By attributing metrics to this sequence (no procedures 0, procedures 1; no control 0, management control 1, self control 2), the general pattern of the development of the administrative system of the initiative can be depicted (see figure 9.6).

Figure 9.6 Initiative Administration over Time



From figure 9.6 it is evident that initiatives' administrative systems are being built up over the course of time, certainly at Ericsson and Van Ommeren, making assumption 2e quite plausible. Only KLM Cargo barely shows an increase in the build-up of an administrative system within its initiatives. In terms of the starting point, initiatives at Ericsson manage to build up an administrative system of their own much quicker than at Van Ommeren. In terms of variance, it is notable that Ericsson and KLM have more variance than Van Ommeren, in the sense that initiatives exist with and without an administrative system in the initial stage. This is in line with the finding that management had a strong control focus at Van Ommeren.

Initiative roles

In the various sorts of trajectories (see table 9.2) - be they top-down (12), middle-up (5), or bottom-up (8) – there are various roles that stand out because they relate not to a hierarchical position but to knowledge expertise. The players that perform these 'expert' roles are typically the inventor types, i.e. business development, corporate development, and R&D. These kinds of players are notably absent at Van Ommeren, where there was a lack of knowledge creation. At Ericsson ETM it is particularly business development and R&D that perform this expert role. Not only do they posses relevant knowledge, but they also function as brokers for referring people onward to others with more relevant knowledge. Somewhat similarly, at KLM Cargo, Cargo development's role lies in its expertise on the corporate strategy; this is the reason why they are often consulted. Although in the conditioning view most roles are tied to hierarchical levels, in the knowledge-creating view roles, particularly that of the broker, are related to the task that they perform, i.e. an innovation task.

Revisiting proposition 2

Figure 9.7: Revisiting proposition 2

Proposition 2a:	Initiatives that can build on broad, rather than deep, knowledge bases in their linking phase show better generation.
Proposition 2b:	Initiatives that can build on deep, rather than broad, knowledge areas in their integration phase show better implementation.
Proposition 2c:	Initiatives that build on broad knowledge in the linking phase and deep knowledge in the integrating phase show better overall generation and implementation of initiatives.
Assumption 2d:	Initiatives move from an informal structure in the linking phase to a formal hierarchical structure in the retention phase.
Assumption 2e:	Initiatives move from the absence of any administration in the linking phase to the use of its own administration in the retention phase.

The Knowledge-Creating view leads to propositions 2a, 2b, and 2c (see figure 9.7). Proposition 2a stated that initiatives that possess broader knowledge bases in the linking phase show better idea generation. Proposition 2b stated that initiatives that possess deep knowledge areas in the integrating phase show better implementation. Proposition 2c states that initiatives that possess broad knowledge in the linking phase and then deep knowledge in the integrating phase have better idea generation and implementation.

Translated to the case data these three propositions lead one to suppose the following. First (2a), one would expect that KLM, with the broadest knowledge in the linking phase, would generate ideas that are the most innovative, but would find it problematic to effectuate them, because it lacks deep knowledge in the integrating phase. Second (2b), that Van Ommeren, with the most deep knowledge in the integrating phase, would be best at implementing ideas, but would in turn find it problematic to generate innovative ideas in the linking phase. Third (2c), that Ericsson ETM, with a mixture of broad knowledge in the linking phase and deep knowledge in the retention phase, would have the best throughput of ideas, with the ideas being more innovative than at Van Ommeren yet less than at KLM Cargo.

Comparing the three firms (see table 9.2), the data indeed provides support for the three propositions of the Knowledge-Creating view. KLM Cargo, for example, with the broadest knowledge in the linking phase, has the most innovative initiatives. Van Ommeren, on the other hand, with the deepest knowledge in the retention phase showed to be much better at implementing ideas than KLM Cargo. Ericsson ETM with a mixture of broad in the linking phase and deep knowledge in the integrating phase, displays the best throughput. Compared to Van Ommeren, it has ideas that are more innovative. Compared to KLM, it might have ideas that are less innovative, but at least they get implemented smoothly as opposed to those of KLM Cargo.

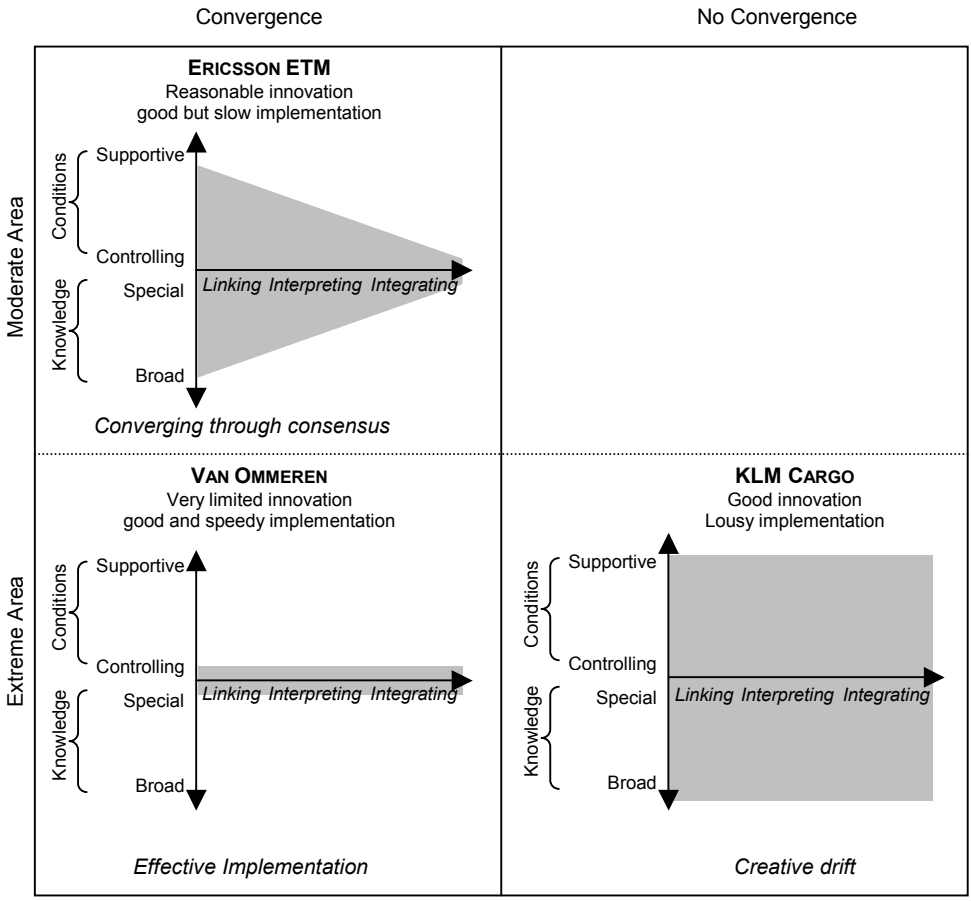
Overall, the data also provides support for the Knowledge-creating view, which attributes differences in initiative trajectories to differences in the organization of knowledge both in the initiatives as well as in the firms in which they are situated. Broad knowledge is considered beneficial for idea generation. This is exemplified by the KLM Cargo case, which is the case with the broadest knowledge and the most innovative initiatives. Specialist knowledge is considered beneficial for idea implementation. This is exemplified by the Van Ommeren case, which is the case with most specialist knowledge and the smoothest and quickest implementation of initiatives. The best throughput is considered to be obtained by shifting from broad knowledge in the initial stages to specialist knowledge in the final stages of the initiative process. This is exemplified by the Ericsson case, which is the firm that shifts from broad knowledge in the linking and interpreting stages, to specialist knowledge in the integrating stages.

THE CO-EVOLUTIONARY VIEW

According to the co-evolutionary view conditions and knowledge must co-evolve for initiatives to be successful, be it that this is necessary but not sufficient. If the two do not co-evolve there is a mismatch between conditions and knowledge. In that case, the initiative must take corrective action or it will terminate. For the initiatives to be successful

the conditions and knowledge must also converge and the area they span must be large. But most importantly, the co-evolutionary process must be subject to an appropriate amount of dampening. If we look at the three firms we see that all the three firms show co-evolution, but (1) that at KLM Cargo conditions and knowledge failed to converge, but that they spanned a large area, (2) that at Van Ommeren they converged right from the start, yet they failed to span a large area, (3) that at Ericsson ETM they converged and also managed to span quite a large area, (4) in all the three firms knowledge and conditions co-evolved, yet in the specific initiatives where a mismatch occurred the initiative took corrective action or perished.

Table 9.3: Case Comparison according to the Co-evolutionary View



At KLM Cargo (see table 9.3), the conditions and the knowledge co-evolved, the area spanned by the conditions and knowledge over time was large, but there was no convergence. There was co-evolution because at all times the supportive conditions were matched with a broad knowledge base. This resulted in a large area that was spanned by the knowledge and conditions over the three consecutive stages. The large area indicates that KLM Cargo was very innovative, which was indeed the case. However, at KLM Cargo the conditions and knowledge failed to converge, resulting in a failure to reach implementation.

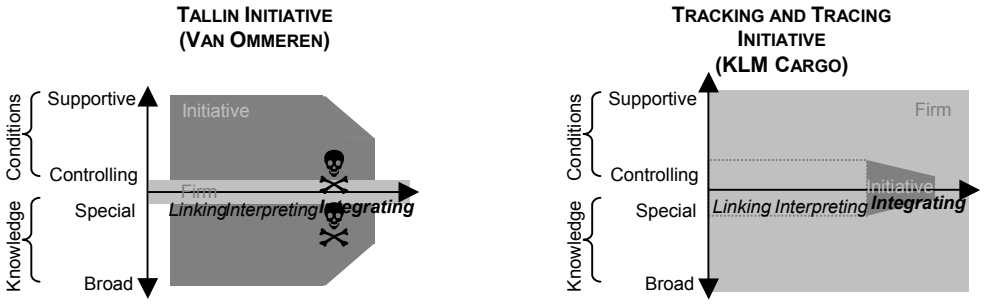
At Van Ommeren (see table 9.3), the conditions also co-evolved, only this time the area spanned by the conditions and knowledge over time was very limited, yet convergence was maintained at all times. There was once again co-evolution, in this case the controlling conditions where matched by a specialist knowledge base that remained so over all the three stages. As opposed to KLM Cargo, this configuration led to a very small area that was spanned over time. This small area indicates that Van Ommeren was not very innovative, which was indeed the case. Nevertheless, because of the constant convergent situation of knowledge and conditions, initiatives were easily implemented at Van Ommeren.

At Ericsson ETM (see table 9.3), we again see co-evolution, but the area spanned by the conditions and knowledge lies in between that of the two previous firms, and although there is convergence it takes longer to achieve than at Van Ommeren. In this case the co-evolution involved a shift from supportive to controlling conditions that was matched by a shift from broad to specialist knowledge. In the linking stage the supportive conditions were matched by broad knowledge; in the integrating stage the controlling conditions where matched by specialist knowledge. The amount of area spanned by the conditions and knowledge over time was less than at KLM Cargo, but much more than at Van Ommeren. Such an area indicates that there was quite some innovation, although not to as much as KLM, which was indeed the case. As opposed to KLM, at Ericsson initiatives did manage to reach convergence in the integration stage. Because it took more phases to reach convergence than at Van Ommeren, initiatives at Ericsson did reach implementation, but at the cost of a time-consuming process.

Of course the above discussion of the findings is based on a general overview of initiative patterns in the three firms. The general overview displayed co-evolutionary patterns: there were no mismatches between conditions and knowledge bases. But what if specific initiatives displayed different patterns from the general pattern in their host firm? In other words, what if co-evolution was not present? At KLM Cargo and at Van Ommeren we find two such examples (see figure 9.8). The Tracking & Tracing project at KLM Cargo, for example, was very specialist in nature and required controlling conditions to obtain all the necessary data from various units so that cargo could be traced. However, the knowledge was broad at KLM, with the required specialist knowledge being unavailable, and the conditions were without any controls, leaving the initiators without instruments to enforce data supply. Thus, the initiative set up its own conditions and

knowledge base. The tracking and tracing initiative was to be based on a specialist technological solution bought from outside the firm, and the team was reduced to bring on a more controlled setting. From then on, the initiative has shown to proceed much better. At Van Ommeren, there was the Tallin project. It concerned broad knowledge that lay outside the specialisms of Van Ommeren, namely investment in the Soviet Union. Yet the organizational conditions were too constraining to allow for the development of such an initiative. The Tallin project thus created supportive conditions for itself, by separating itself from the rest of the firm, and thus from the latter's constraining conditions. However, in the integration stage it needed to match up with the knowledge base and conditions of the firm at which point it failed. Both the initiative's knowledge base and its conditions where too distant from those of the firm, resulting in the termination of the initiative.

Figure 9.8: Mismatches according to the Co-evolutionary View



Revisiting proposition 3

The Co-evolutionary view of initiatives lead to propositions 3a, 3b, and 3c (see figure 9.9). Proposition 3a stated that co-evolution of conditions and knowledge is a necessary requirement for successful initiatives. Proposition 3b stated that the more supportive the organizational conditions and the broader the knowledge base the more innovative the initiative. Proposition 3c states that the more controlling the organizational conditions and the deeper the knowledge base the better the implementation of the initiative.

Figure 9.9: Revisiting proposition 3

Proposition 3a:	Co-evolution of conditions and knowledge is a necessary requirement for successful initiatives.
Proposition 3b:	The more supportive the organizational conditions and the broader the knowledge base the more innovative the initiative.
Proposition 3c:	The more controlling the organizational conditions and the deeper the knowledge base the better the implementation of the initiative.

Translated to the case data these three propositions imply certain expectations. First (3a), that in all the three firms co-evolution will be present and that in the instances where there was not, initiatives would take corrective action or be terminated. Second (3b), one would expect that KLM, where the supportive conditions and broad knowledge span the largest area, would possess the most innovative initiatives, but that because of a lack of convergence they would have a problematic implementation Third (3c), that Van Ommeren, with the highest convergence of controlling conditions and specialist knowledge, would perform best in implementing the initiatives, but that because they did not span much area they would not be very innovative.

Looking at the initiatives in the three firms (see figure 9.8), the data provides support for the three propositions of the Co-evolutionary view. The first proposition (3a) claims that co-evolution is a necessary condition and in case this is not achieved initiatives must undertake corrective action or they will fail. In all the three firms there is indeed co-evolution, meaning that at every moment in time, the knowledge and conditions are equidistant from the x-axis. One could perhaps question why it is that the three selected firms are each representative of a different co-evolutionary type? The answer is now obvious. The three firms were chosen for their different sets of organizational conditions. As became apparent in the knowledge-creating view, knowledge is related to the conditions: the division of knowledge matches the division of labor. The Co-evolutionary view states that it is actually a necessary requirement that knowledge matches the conditions. Hence, different sets of organizational conditions translate into different sets of knowledge creation processes, and thus into different co-evolutionary types. Differences in outcomes are then due to differences in dampening of the process.

If we look at corrective trajectories of initiatives within the firm, we see that such is very difficult to achieve. At Van Ommeren, the overall pattern was that the knowledge base was too narrow and the conditions too controlling. Initiatives that tried to correct this, by creating supportive conditions through their own form and administration and by networking to obtain broad knowledge, i.e. the Tallin project, got terminated. At KLM Cargo, corrective action refers to creating more controlling conditions and more specialist knowledge. Here too, we see that it is very difficult for initiatives to take corrective action, with some exceptions such as the Tracking and Tracing initiative. At Ericsson there is not much need for corrective action as overall the right pattern of conditions and knowledge is available. Nevertheless, here too we see that truly radical ideas have difficulty setting up new forms and administrative systems for themselves. Overall, if we look at all the three firms, it is very hard for initiatives to sidestep the path-dependent form and administration of the firm in order to set up more appropriate ones for themselves.

The second proposition (3b), which claims that initiatives with conditions and knowledge that span a large area over time are more innovative, is supported by the general patterns in the three firms. Van Ommeren showed the smallest area - covered by

the controlling conditions and specialist knowledge over time - and indeed its initiatives were not very innovative. Ericsson ETM covers a much larger area - because its conditions shift from supportive to controlling and its knowledge from broad to specialist over time – and shows much more innovative initiatives. KLM Cargo shows the largest area of all – because it maintains broad knowledge and supportive conditions over all stages – and indeed possesses the most innovative initiatives of all. An increasing area spanned is thus related to more innovative initiatives.

The third proposition (3c), which claims that convergence of knowledge and conditions is necessary for implementation is also supported by the data. KLM Cargo, where there is no convergence between conditions and knowledge – the conditions remained supportive and the knowledge remained broad – indeed has difficulty in accomplishing implementation. Ericsson ETM, where there is a gradual move towards convergence – it moves from supportive conditions and broad knowledge in the linking stage to controlling conditions and specialist knowledge in the integration stage - shows good albeit slow implementation. Van Ommeren, where there was convergence - between controlling conditions and specialist knowledge across all the stages – showed the best and most speedy implementation. Increasing convergence is thus accompanied with increasing ease of implementation.

Although not mentioned as a proposition, the dampening effect, whether natural or managerial- had to be of appropriate dosage. At KLM, where there was a divergent pattern, there was no dampening effect from the management: it hoped for self-control. Instead, a natural dampening effect occurred because the organization could not indefinitely create more and more supportive conditions nor add broader and broader knowledge. Notwithstanding, this lead to the situation where convergence was absent, resulting in a limited implementation of initiatives. At Van Ommeren, on the other hand, management's strong control dampened the co-evolutionary pattern so strongly that it converged to specialist and controlling conditions way too fast, namely already in the idea generation stage. Although good for implementing ideas, it hindered the generation of innovative ones. Only Ericsson seems to have a co-evolutionary trajectory in which the dampening effect of the consensus model seems to lead to a reasonably suitable trajectory, although in the initial stages the pattern could be more divergent to allow for more radical innovations.

The above findings demonstrate how conditions influence the knowledge base and how the knowledge base influences conditions, as well as how co-evolution is more than adaptation between the two. At the genotype level conditions influenced the knowledge base. At KLM Cargo oversupportive conditions drove a knowledge base that became so broad that it lacked depth. At Van Ommeren the strong controlling conditions limited the formation of linkages to other knowledge areas, thus enforcing a knowledge base that, although deep, was very narrow. The conditions also influenced initiative survival at the phenotype level, by selecting them in or out. We saw that at Van Ommeren management decided on the selection whereas at Ericsson a consensus model paved the

way for retroactive legitimation of initiatives. The other way round, we see that the knowledge base also influences the conditions. At Ericsson, for example, the newly formed knowledge base on electronic payment via the telephone culminated in the setup of a new unit, thus changing the condition set of the firm. The dampening effects in the three firms clarify that the conditions and the knowledge base do not just adapt to each other but that they co-evolve. The natural and managerial dampening effects can go in different directions, i.e. diverge (KLM Cargo) or converge (Van Ommeren), and can do so at different speeds (Van Ommeren was fast; Ericsson was slower). As such the findings suggest some level of managerial intentionality to be necessary.

CONCLUSION

Overall, the data provides support for the Co-evolutionary view, which attributes differences in initiative trajectories to differences in the co-evolutionary process of knowledge and conditions of over time. If the conditions and knowledge cover a large area it is considered beneficial for idea generation. This is exemplified by the KLM Cargo case, where supportive conditions and broad knowledge cover the largest area over time; it possesses the most innovative initiatives. Convergence of conditions and knowledge is necessary for implementation. This was exemplified by the Van Ommeren case, which is the case with most convergence of specialist knowledge and controlling conditions over tall the stages; it had the smoothest and quickest implementation of initiatives. The best throughput is thus considered to be obtained by shifting from supportive conditions and broad knowledge in the initial stages to controlling conditions and specialist knowledge in the final stages of the initiative process. This is exemplified by the Ericsson case, which does exactly that; it has the best throughput of innovative ideas. According to the co-evolutionary view, initiatives build on the form and administration of the firm. If these are inappropriate, initiatives will fail or they must take corrective action. Because of the strong path-dependency of form and administration it is very hard for initiatives to correct any mismatches on their own. It is thus up to firms to create the appropriate conditions in the organization.

Creating these appropriate conditions depends on management's ability to reach an appropriate level of damping. Although natural dampening occurs, as was evident in KLM Cargo, intentional managerial dampening is necessary to ensure a proper conversion form broad knowledge and supportive conditions to deep knowledge and controlling conditions. Such forceful dampening must be measured; otherwise it will cause excessive dampening, as was the case at Van Ommeren. As such, Ericsson Telecommunications seems to have found the better level of intentional managerial dampening of these three firms.

CHAPTER 10

Reflection and Discussion:
Concluding Remarks

In this book we investigated the initiative process, in particular how organizational conditions and the knowledge creating processes affect initiatives, and suggested a co-evolutionary approach as a basis for understanding initiatives. This chapter starts off by revisiting the research questions of Chapter 1 and reflects on how the findings provide an answer to those questions. Then, the limitations that were present in this research study are reflected upon. This is followed by a discussion of the implications that this study has for both theory and managers. Finally, various venues for future research are suggested.

FINDINGS

"How do initiatives emerge and develop in firms?" was the question that instigated this study. Three perspectives were presented to answer this question: (1) the conditioning, (2) the knowledge-creating, and (3) the co-evolutionary perspective. *The conditioning view* takes the position that it is the organizational conditions that determine the trajectory of initiatives. It provides an answer to the second research question on what the influence of the organizational conditions is on the trajectory of initiatives. These organizational conditions are of two types: supportive and controlling. Supportive organizational conditions are beneficial to the generation of initiatives. Controlling conditions are necessary for the implementation of initiatives. According to the conditioning view successful trajectories of initiatives are those that show a shift from supportive conditions in the initial stages to controlling conditions in the final stages. Based on whether firms supply a context that specifically caters to initiatives we can distinguish between a constraining and a facilitating conditioning view. In the constraining conditioning approach, organizational conditions are in place to guide all sorts of firm activities, not just initiatives. The control system is not fine-tuned to initiatives and is consequently regarded as hostile; it limits the survival chances for the more autonomous and radical initiatives. The best that can be done for initiatives is to relax the influence of the control system on initiatives. In the facilitating conditioning view, the firm is considered to supply favorable

conditions for initiatives. This view neglects the notion that firms also have other activities, besides initiatives, for which to create appropriate conditions. It also tends to underplay the need for controlling conditions that enable implementation during the later initiative stages. Notwithstanding their differences, both views stress that successful initiative trajectories are the result of their organizational context. Unlike the two views that present a very static view of organizational conditions, this study points out that different organizational conditions, i.e. controlling and supportive conditions, can simultaneously coexist within the firm because they operate on different phases of initiatives.

The *knowledge creating view* neglects the impact of organizational conditions on the development of initiatives. Instead, it focuses on the unfolding of the internal processes of the initiative. It provides an answer to the third research question on what the influence is of the knowledge base on the trajectory of initiatives. It assumes that other knowledge is linked to, that ideas emerge as a result of this knowledge brokerage, and that they are then developed through integrating specialist knowledge. Knowledge creation is then supported by the availability of broad knowledge (Leonard-Barton, 1995), i.e. horizontal knowledge flows, whereas the integration of knowledge is supported by the use of deep or specialist knowledge (Leonard-Barton, 1995), i.e. vertical knowledge flows. As the knowledge creation process moves from linking to integration it therefore also moves from a broad to a narrow knowledge base. This entails a move from loose to tight coupling of the initiative members which requires the build up of the initiative's own organizational form, such as a team, its own administrative system, and the use of the appropriate knowledge roles, such as brokers. The only recognition of any organizational conditions is that they are assumed to facilitate this knowledge creating process. But the implications of this recognition, namely that these conditions are often not specifically set up for initiatives but for other activities as well, is neglected. Overall, according to the knowledge creating view, successful trajectories are the result of a shift from broad to deep knowledge in their content-wise development.

This study proposes a *co-evolutionary view* that synthesizes the knowledge creating with the conditioning view, thus clarifying that both aspects, conditions and knowledge, must match and co-evolve with each other over time. It provides an answer to the fourth research question at the beginning of this study on whether there is any value in combining the two perspectives. Because resources are necessary for creating appropriate conditions the co-evolutionary also answers the other research question on how resource acquisition and the creation of knowledge interact. This co-evolutionary view points to various requirements for successful trajectories of initiatives. *First*, broad knowledge must be accompanied by supportive conditions and deep or specialist knowledge must be accompanied by controlling conditions. This principle is exemplified by the initiatives that showed a mismatch and their ensuing corrective action. The Tallin initiative, for example, was based on broad knowledge but was embedded in a firm with controlling conditions. In order to survive, it temporarily separated itself from the firm in order to create the appropriate supportive conditions. The Tracking and Tracing initiative, on the other hand,

was based on specialist knowledge but was embedded in a firm with supportive conditions. It consequently set up a separate system with controlling conditions.

Second, if we consider an area spanned by knowledge on the one side, ranging from deep (low) to broad (high), and conditions on the other, ranging from controlling (low) to supportive (high), then the larger the area covered by these two aspects, the more innovative the initiative. Of the three firms, KLM covered the largest area through its constant supportive organizational conditions (high) and very broad knowledge (high). It had the most innovative initiatives of all the three firms. Van Ommeren, on the other hand, showed the least area covered because of its constant deep knowledge (low) and controlling conditions (low). It had the least innovative initiatives of all three.

Third, there must be a convergence of these two aspects for effective implementation of ideas: broad to deep knowledge and supportive to controlling conditions. At KLM there was no convergence towards specialist knowledge and controlling conditions. In fact, the situation could be described as one of divergence. Broader knowledge was sought than was available. This lead to the setup of more supportive settings, which in turn enabled more broad knowledge. Overall, the process spiraled into broader knowledge and more supportive settings. Not surprisingly, initiatives failed to become implemented. Van Ommeren, on the other hand, showed the strongest convergence of all the three firms because it constantly had deep knowledge and controlling conditions. It possessed the most effective implementation of initiatives.

Fourth, the dampening effect, whether natural or managerial- must be of appropriate dosage. Co-evolutionary patterns are accompanied by damping effects that are either a natural offspring of the process or that management has imposed (McKelvey, 2002). At KLM, notwithstanding the natural dampening, the lack of management dampening led to a lack of convergence to the narrow knowledge base and controlling conditions necessary for implementation. Yet at Van Ommeren, management dampened the co-evolutionary pattern to such an extent that convergence to specialist knowledge and controlling conditions already occurred in the idea generation stage. Only Ericsson seems to have dosaged the dampening effect at an appropriate level through the consensus model. One could possibly say that in their case the dampening could have been less in the initial stages to allow for broader knowledge and more supportive conditions in order to obtain more radical innovations.

Overall, how have these views helped us understand how organizational conditions impact initiative trajectories? The organizational conditioning view points to the direct impact of organizational conditions on the initiative, with supportive conditions aiding idea generation and controlling ones facilitating implementation. The knowledge creating view only attributes some indirect impact to organizational conditions. Instead it attributes successful initiative trajectories to the knowledge base of initiatives, with broad knowledge facilitating idea generation and deep knowledge supporting idea integration. The co-evolutionary view clarifies that organizational conditions and the knowledge base are interdependent and that they can reinforce each other in a divergent or convergent

direction. By changing the organizational conditions and the organizational knowledge settings management can steer this direction. The challenge is to dosage this so-called dampening effect in such a way that idea generation converts to implementation in smooth and timely manner resulting in successful initiative trajectories.

LIMITATIONS

Of course these findings must be viewed in light of the theoretical and empirical limitations that come along with any research study. There are several theoretical limitations that need to be considered. First, there is the possibility of a top management selection bias. The initiatives were selected by asking top management of each of the three firms to suggest several initiatives. Top management could have been biased in their suggestions, for example, because they are fonder of initiatives that are top-down, ones in which they were involved themselves, or successful ones. This study has tried to offset this possible bias by also investigating initiatives that were serendipendipously stumbled upon during the investigation, a tactic that was also used by Birkinshaw (1997).

Then there is the possibility of subsidiary, country, and industry effects. One of the three firms, namely Ericsson ETM, was a subsidiary of a Swedish multinational. Not only could a Swedish country effect thus have been present in this firm, but also the maneuverability of a subsidiary is very different from stand-alone firms. All three firms were located in a single country, the Netherlands, with one of them having its parent firm in Sweden. It might be that results would differ across different countries. One could also imagine an industry effect to have influenced the results. Evidently, the oil shipping industry is very different from that of the telecommunications industry. All these different effects impact the organizational conditions and thus ensure that the three firms had very differing sets of conditions. Whilst this is a good situation for analytical generalization, it of course hinders statistical generalization.

The chosen firms do not necessarily represent best practice examples. Other firms might exist that have found even better ways for dealing with initiatives. Under norms of rationality (Thompson, 1967) firms will strive to perfect the balancing act between knowledge generation and integration. Even though in reality these firms do not represent such perfection, they do demonstrate the relation between organizational conditions, the knowledge base, and the initiative process.

Another limitation is that the outcome of initiatives, i.e. whether they were successful, was determined by asking the initiative members whether they considered it to be successful. Other authors (Birkinshaw, 1997) have also suggested additional measures, such as the direct investment amount or the market performance. However, it was felt that the amount of investment did not reflect the success of an initiative, in particular because the initiatives were of very different nature and required very different sums of

investments. The market performance was considered to be influenced by so many factors that play a role after an initiative has been approved that it was regarded as very inaccurate. The measure chosen was thus the subjective opinion of the participants.

Similarly, the innovative nature of an initiative, i.e. whether it was radical or incremental, was determined subjectively. However, it turned out that because the radical nature is a very relative concept, subjects tended to either underplay the radical nature of an initiative or to overestimate it. The research teams felt that the participants were not capable of weighing the innovative nature of the ideas. Either they were so deeply involved that it did not seem new to them, or they were so in love with their 'baby' that they could not imagine it being merely an incremental innovation. Thus, the three researchers were the ones who acted as a panel for judging the radical nature of the initiatives, because they were the only ones that were in the position to compare the three firms.

One should realize that the organizational conditions of the three firms at the time of the investigation are most probably somewhat different from the conditions before and after the investigation. The three firms were all undergoing reorganizations. Although the effect of these changes is reflected in the organizational conditions of the three firms, it is very clear that they have probably changed since then. KLM Cargo, for example, was in a phase of reorganization where control systems were still lacking. They have been set up in the near future. However, this does not influence the results of this study, as what was being investigated was the impact of organizational conditions – whatever they were at the time - on initiatives. That these conditions could be different at later times is of less interest.

IMPLICATIONS

Theory

This study has contributed to the innovation literature in various ways. One central theme in the innovation literature concerns the conflict *between change and stability.*

At the initiative level, studies have sought resolution of this conflict through temporal separation (Baden-Fuller and Volberda, 1997). Abernathy and Utterback (1975), for example, proposed that the type of innovation depended on the stage of development, i.e. radical innovation (change) in the early stage and incremental innovation (stability) in the later stages. The initiatives in this study confirm their findings, as there are clear differences between the idea generation and implementation stages. The first deals with change; the latter with stability. The change-stability conflict is thus considered resolved in the initiative itself over time.

At the organizational level, studies have sought resolution of this conflict through both temporal and spatial separation (Baden-Fuller and Volberda, 1997), thus

acknowledging that change and stability require separate conditions, i.e. different organizations. Burns and Stalker (1961) proposed a mechanistic organization for dealing with stability and an organic one for dealing with change. Miles and Snow (1978) subdivided this categorization to four types: the defender, prospector, analyzer, or reactor type[37]. Volberda (1998, 2003) proposed the dual, network[38], and oscillating forms. The dual and network form use spatial separation, in the sense that the dual form organizes change and stability in separate levels or units and the network organizes it in different firms in the network. The oscillating form uses temporal separation, by letting firms switch from an organic to mechanistic mode over time. This resembles Duncan's (1976) ambidextrous organization that shifts its organizational conditions through various stages of innovation. All these forms at their core believe that it is impossible to balance change and stability in a single unit at the same moment in time. We find evidence for this with Van Ommeren and KLM Cargo, with the first being mechanistic and the second organic. Also within Ericsson, the New Telecom Operators unit was more organic, whereas the Logistics unit was more mechanistic. Overall, at the organizational level firms or units mostly take sides in the change-stability conflict, although they can shift sides over time.

When considering initiatives, the change–stability conflict must be resolved at both the initiative and organizational level. Academics studying initiatives have tended to resolve the change-stability conflict by considering the initiative to represent change while the firm represents stability (i.e. Burgelman, 1983b). Spatial separation of the initiative from the firm, by means of skunkworks (Peters and Waterman, 1982), new business development departments (Fast, 1979), or internal corporate ventures (Burgelman, 1983a), is viewed as the way to resolve the conflict. This is partially supported by this study, which shows various initiatives that made use of such spatial separation, such as the Strategic Distribution Terminals initiative at Ericsson that grew in to a complete separate division. Other academics have disregarded the conflict and acted as though both the initiative and firms deal only with change (Bartlett and Ghoshal, 1993). In this respect, Hargadon (1998a,b), for example, discusses a design firm, Ideo, which is all about change and whose creative processes are naturally also about change. Most firms, of course, do not have the luxury of dealing exclusively with exploration, but also need to manage exploitation. Overall, from the initiative viewpoint, the change-stability conflict is thus present in the initiative versus the firm. Is the only solution then that initiatives deal with change and firms with stability?

Not surprisingly, there have been attempts to find a balanced form (Volberda, 1996, 1998, 2003), alternatively labeled poised form (Kauffman, 1995) or dissipative structure (Prigogine and Stengers, 1984), that resolves the exploration-exploitation paradox within a single unit at a single moment in time. In such a form the initiative would feel comfortable, as there would be room for both exploration and exploitation. This balanced

[37] Miles and Snow (1978) actually talked about four kinds of strategies, but these can easily be related to four kinds of organizational forms.
[38] The network form is also known as the virtual corporation (Davidow and Malone, 1982).

form (Volberda, 1998, 2003) uses artificial stimuli to prevent conditions from becoming too controlling or supportive. Tushman and O'Reilly (1996), building on the work of Duncan (1976), suggest ambidextrous organizations that use small and autonomous units for innovation, while they take advantage of the aggregate size of the entire firm for achieving economies of scale and scope. However, when taking a closer look at these hybrid forms (Volberda and Lewin, 2003) many often do not represent a true balance as they use spatial (i.e. separate project units) or temporal separation as the basis for dealing with change and stability. For example, Nonaka and Takeuchi's (1995) hypertext organization lets a business system and knowledge base (both representing stability) interact with project teams (change). The latter clearly represents a spatially separate structure form the business system. Moreover, it is questionable whether the examples provided, such as the often-quoted ABB, which carried out a reorganization into smaller units (i.e. Bartlett and Ghoshal, 1993; Tushman and O'Reilly, 1996), are truly balanced forms. Moreover, in the case of ABB, in spite of its so-called hybrid structure, it is currently performing very badly. As such, finding a balanced form still forms a challenge to academia and is the reason for much speculation o new organizational forms (Lewin and Volberda, 1999).

This study proposes a different take on the issue. It shows that it is very well possible, albeit not easy, to have within one firm or unit conditions that promote both change and stability, because supportive (change) and controlling (stability) conditions need not operate on the same phases of processes that occur within these firms or units. At Ericsson, for example, the supportive conditions, such as the availability of knowledge brokers, operated on the initial phase and controlling conditions, such as the use of milestones, operated on the implementation phase. The change-stability conflict can be resolved by realizing that organizations consist of various processes that are in different stages of development and that therefore have different organizational conditions operating on them. Hence, firms can deal with change, as was the case with KLM, or with stability, as was the case with Van Ommeren, or with both, as was the case at Ericsson, and simultaneously have supportive and controlling conditions that work on the change and stable phases of initiatives. The example of 3M as a balanced form, as discussed by Volberda (1998, 2003), comes very close to this, because it allows employees to devote thirty percentage of their time to autonomous explorative activities. In essence, this means that those explorative activities are under a separate set of conditions without having used temporal or spatial separation. There is thus no need to limit change to initiatives and stability to firms; each can deal with both.

Another theme is that on the *role of knowledge*. One crucial aspect concerns the relation of knowledge creation processes to structure. Firms are often structured according to the division of specialist knowledge, and as a result organizational conditions tend to be in line with these divisions. However, knowledge creation processes tend to cut across organizational boundaries. Besides managing the division of specialist knowledge,

managers must therefore also manage the sharing of knowledge. In order to facilitate knowledge sharing, various structures have been proposed that allow cross-functional interaction, besides the interaction provided by the division of labor. Often this cross-functional interaction occurs in the form of temporary teams. The resulting structures can take various forms such as the matrix form (Galbraith, 1973), the hypertext organization (Nonaka and Takeuchi, 1995), the platform organization (Ciborra, 1996), or the hollow corporation (Davidow and Malone, 1992).

However, this study questions the adequacy of these structures for generating new knowledge. This study has shown that the knowledge sharing that sparked the generation of new ideas often occurred before teams were set up. Team structures were the result rather than the source of such knowledge sharing. Knowledge generation is thus more a result of cross-functional interaction than of some cross-functional structure. Although it is certainly true that cross-functional structures, such as teams, represent a form of interaction, by being structured they simultaneously limit the amount and kind of interactions. At Ericsson, for example, many ideas were formed by visits to other firms, lectures of guest speakers, a trip to headquarters, clients suggesting ideas etc. Firms should concentrate on providing a lot of interaction rather than structuring it per se in some form.

Another crucial aspect lies in the relation of knowledge to strategy. This study shows that the knowledge base rather than corporate strategy formed the source for idea generation. In other words, people – in the lower echelons - conceived ideas because of what they were doing, rather than what they were instructed to do. This agrees with Lovas and Ghoshal (2000) who claim that Burgelman's (1983) autonomous-induced distinction is irrelevant for the idea generation stage, because idea generators behave irrespective of corporate strategy. Evidently, it disagrees with the notion of strong strategic intent (Prahalad and Doz, 1987). However, in the selection phase strategy clearly directed the process. Strategy worked directly on the selection rather than the variation – the generation of ideas -. This is very much in line with Burgelman's intraorganizational ecology view (1991) in which managers retroactively legitimize initiatives. Yet, is there no role for strategy in the initial phases at all? Are we to assume that managers can lay back for ideas to pop up and then in retrospect select? Looking closely, this study found that managers were already guiding the initiative before it was formally legitimized. This is very much what Lovas and Ghoshal termed guided evolution (2000). Managers must therefore both shape a facilitating context for knowledge sharing (Ghoshal and Bartlett, 1994) and strategically 'guide' the evolution of ideas (Lovas and Ghoshal, 2000).

The initiative process is of course a theme in the innovation literature that formed the focus of this study. Organizational levels have been considered to play an important role in the initiative process (e.g. Ghoshal and Bartlett, 1994). Other studies have attributed more significance to individual tasks as a determinant for initiative roles (Hargadon, 1998a,b). This study found more support for the latter. Certain people and units performed certain roles - such as the product champion, broker, and organizational champion roles – not so

much because of their hierarchical level but because of the tasks they are involved in. For example, individuals within strategic and regular business development and R&D units stood out as product champions and brokers. Although the organizational champion role was linked to the upper levels, it was clear that certain individuals stood out more than others in this respect. People within the same hierarchical level did not perform identical roles. The roles people performed were instead more related to their tasks. Idea generators and brokers were, for example, particularly individuals who were involved in innovative activities. Thus, notwithstanding the role of levels, firms would do wise to ensure that certain people have task descriptions that increase the likelihood of performing necessary roles for innovative processes.

Another interesting finding was also that whilst resources were tied to the hierarchy, knowledge typically cut across hierarchical boundaries, something that is very much in line with the network literature (Hedlund, 1994). In fact, one could even say that it knew no boundaries at all. In the Internet initiative at Ericsson, outsiders who possessed necessary knowledge were involved in aiding the initiative. Quite interestingly, there were even cases, such as the cable Dect initiative, where knowledge was shared without the expectation of any return favor. This questions trust as an explanation for such sharing (Granovetter, 1985), because if no return favors are expected then the concept of trust is irrelevant. Rather it seems as if the kind of sharing that is needed for gaining insight is different from that of developing knowledge, because in the latter case more formal arrangements are made between parties to facilitate the knowledge integration.

If one mirrors the various governance structures of initiatives over their life span against transaction cost economics (Coase, 1937; Williamson, 1975; Ouchi, 1980) this study suggests that initiatives move through the following three governance structures: (1) markets for ideas, (2) clans for development, and (3) hierarchies for implementation. In the linking phase, people search for others with relevant knowledge and ideas. This search behavior resembles people shopping in a marketplace. Similarly, in the interpreting phase top management then selects certain initiatives for development. Not surprising, Hamel (1999) discusses this in terms of 'bringing Silicon Valley inside large firms.' In the integrating phase, where knowledge is integrated, the clan or team form (Ouchi, 1980) is used in order to actually develop the idea. Once developed, the idea is embedded in the knowledge hierarchy of the firm, this is the reason why it matches the hierarchy form. Overall then, initiatives enter internal idea markets of the firm, then develop their own clan structure, and finally embed within the hierarchy of the parent.

Notwithstanding all the above implications, the main contribution of this study to the literature consists of the notion that organizational conditions and knowledge co-evolve during the initiative process. Previous studies that have focused only on the organizational conditions (i.e. Burgelman, 1983a) tend to view successful trajectories as those in which initiatives initially are provided with supportive conditions, for example through separation, before they are brought into the firm to be implemented under more controlling conditions. Previous studies on knowledge creation (i.e. Nonaka and Takeuchi, 1995) tend

to view successful trajectories as those in which initial cross-functional interaction facilitates broad knowledge sharing that is then followed by detailing and embedding the idea within the specialist knowledge base of the firm. There are few studies that have tried to show a link between organizational conditions and the knowledge base. As discussed before, Kanzanjian and Rao (1999) form a notable exception, but their study did not treat initiatives and did not take a process approach. This study has shown that conditions and knowledge must co-evolve and that the role of management lies in providing the appropriate amount of damping to reach convergence.

Managerial

The most important managerial implication from this study is that managers must think more dynamically in terms of using a varying management style over time. The reason for this is that initiatives require different types of knowledge and conditions over their life span. Because various initiatives exist at the same time it is imperative that the management of knowledge and conditions is varied per initiative and over time. Management styles that remain steady and are indiscriminant will not serve those circumstances. Today's managers must act more dynamically, being motivators and deciders or explorers and exploiters and vary this per specific activity. Given this need for a varying management style, there are further implications for managing the knowledge base and the organizational conditions, i.e. the organizational form, the administration, and the roles people perform.

Managing the knowledge base

Managers should balance a healthy co-existence of broad and deep knowledge. KLM had a broad knowledge base, resulting in many ideas, but lacked the deep knowledge to implement them. In contrast, Van Ommeren had a deep knowledge base, resulting in effective integration, but lacked the broad knowledge to create enough variety in ideas. Ericsson offered a better mixture of the two. The R&D and new venture units possessed lots of deep and specialist knowledge, yet the large amount of interfirm and cross-functional interaction also provided for a lot of broad knowledge. Also, if we look at knowledge creators, managers should expect new ideas from everyone yet also invest in specific people. The study shows that certain people definitely stand out as generators of new ideas, as was evidenced at KLM and Ericsson. These inventor types are often the same people who perform a broker role for others. So it seems as if firms must ensure a mixture of innovators and employees who innovate, just as they must ensure a mixture of deep and broad knowledge with both types building on each other.

Managing the conditions

Managers should provide supportive conditions for broad knowledge sharing, and controlling conditions for deep knowledge sharing, and should set up systems that manage

these over time. In this way, managers can ensure that knowledge and conditions co-evolve and that they dosage a dampening effect that leads to convergence of the idea in a marketable innovation. KLM and Van Ommeren clearly fail to make this shift. Ericsson, with its milestone system, had a much better grip on the transition, which is reflected in its better throughput.

The *organizational form* must be managed in such a way that the initiative can move from an informal network to a formal hierarchy. As such, the team form merely represents a phase in this transformation in which initiatives are undergoing increasingly tighter coupling and formalization as they evolve. Once the knowledge base of the initiative has been set up, no new linkages are needed and tight integration of complex specialist knowledge becomes necessary, requiring controlling conditions. For that situation the informal network form is not adequate. It implies that within team forms, commitments and tight coupling are to such an extent necessary that the team becomes realigned with the hierarchy. Rather than treating teams as ideal mechanisms for stimulating initiatives (Nonaka and Takeuchi, 1995), managers should understand their temporary nature, and instead focus on the need for appropriate forms during all the phases. At Ericsson this is reflected in promoting an informal network through organized interchanges with others both within and outside the company, by allowing and having mechanisms in place for the quick set up of teams, and for allowing teams to become new units within the organization.

The *administrative system* must also be managed with this dynamic aspect in mind. Management should understand that strategy may kill off initiatives and cause less variety in the strategic repertoire of a firm. At Van Ommeren the strong strategic intent clearly limited the scope of the initiatives, and thus the potential strategic variety that managers could have at their disposal. For this reason, many managers are promoting empowerment as a means to increase innovative behavior of employees or because it is just the politically correct thing to do (Argyris, 1998). However, if autonomy means a lack of strategy, it will smother initiatives because there is no foundation to hatch on. At KLM there was so little strategic direction that those with ideas could gain no control over other elements necessary for the implementation. This study shows that although autonomy, generally speaking, benefits idea generation and makes it easier to acquire resources, control systems are necessary for managing the tight coupling that is needed to develop and implement the idea. It underscores Argyris's point that managers must "recognize that every company has both top-down controls and programs that empower people (Argyris, 1998: 105)." One way of managing this, as the Ericsson case shows, is by empowering people in the beginning, with limited strategic influence, yet taking control towards the end with strong strategic influence. This resulted in a reasonable variety of ideas, yet enough foundation to embed them in the firm. The crucial role for managers is thus to find an appropriate balance between the two and realize that for initiatives the balance changes over time.

As for the *roles* that people perform in the initiative process it is already known that these differ for the various phases an initiative evolves through (Burgelman, 1983a). This study found no new roles as such. Yet it did find that certain people stood out as the inventor types. This does not necessarily mean that firms should boost their innovative reservoir by hiring people that seem to possess entrepreneurial traits. Although it may indeed be the case that these inventor types possess such traits, i.e. they have entrepreneurial genes; it might just as well be that they have developed entrepreneurial skills over the course of time owing to the kinds of tasks they were involved in. This study did not investigate this distinction and cannot tell whether entrepreneurship is the result of genes or upbringing. What the study does suggest is that the reason these people performed broker roles is because they were recognized by their peers as always being 'busy with new things.' In other words, for firms to stimulate brokerage behavior they need to create centers of innovation, such as the business development or R&D units in the investigated cases, where employees know they can discuss questions about any ideas that they might have. These centers will function not just as innovation centers but also as brokers.

FUTURE RESEARCH

This study points to various possibilities of future research. Firstly, future studies could try and relate intrafirm, interfirm, and industry levels. Previous studies have either considered the microlevel (Burgelman, 1983a; Bartlett and Ghoshal, 1993) or the macrolevel (Rosenberg, 1972; Schmalensee, 1985). This study has also taken an intrafirm level, yet it was found that particularly the knowledge creation process cuts across firm boundaries in this way relating various firms to each other. This cross-border activity clarifies that firms can renew through a blend of internal and external renewal. Future research could investigate how intrafirm activities relate to extra-firm evolution, which would, for example, be relevant for network organizations, clusters, joint ventures, and the setting of standards.

Future studies should try and quantify various findings that stem from qualitative research such as this one. Although quantitative studies on initiatives exist, they tend not to deal with similar questions as qualitative ones. Thus there is little contribution of studies of both types to each other. This study, for example, pointed out the importance of considering the knowledge creating process when analyzing the initiative phenomenon. Few quantitative studies exist that deal with a similar approach. One study that gets close was conducted in the chemical industry by Ahuja and Lampert (2001). They quantified the amount of knowledge bases in chemical patents by using the US-patent categorization as a basis for knowledge base categorization. This was then related to the patents market performance. Yet, the problem with patent data is that it does not necessarily cover all

types of innovative behavior in firms. Future research should thus try and quantify qualitative findings in order to allow for statistical generalization.

Of particular interest is how firms, and more in particular managers, should balance support and control. Although there are various studies that have addressed the resolution of what seems like a paradox (Volberda and Baden-Fuller, 2003), they have done so with firms or units as the main unit. Future studies must acknowledge that the resolution of support versus control also occurs within initiatives, projects, or activities. New research should therefore consider the resolution of paradox at the initiative and unit levels.

CONCLUSION

This study has shown that management plays a strong role in the success rate of initiatives by manipulating the organizational conditions and knowledge settings. These conditions and knowledge need to co-evolve and must move from broad to specialist and from supportive to controlling conditions to reach convergence. Management's influence is embodied in a dampening effect on the co-evolutionary pattern of two. Too little dampening, i.e. too little management control as was the case at KLM, leads to a situation where convergence is not reached. Too much dampening, as was the case at Van Ommeren, leads to a situation where too little divergence has been achieved. Of the three investigated firms, Ericsson seemed to be the one that best managed to find a middle ground. Yet, even Ericsson was not without its problems: it was a lengthy process and the ideas could perhaps have been more radical. Managers must therefore possess a dual management style, one that is both explorative and exploitative, based on a both a broad and deep knowledge base, and must differentiate these per initiative over time.

Appendix A:
Semi-Structured Interview

Choose those questions below that belong to the phases through which the project has moved. The phases are:
1- sensing the idea
2- idea generation
3- development
4- consolidation.
Furthermore, ask the interviewee only those questions he is able to answer.

Description of the Project

Give a brief description of:
Reason for the start-up of the project
Technical and commercial statement of the problem
Aim of the project

The Project Status

Describe the project during the course of time in terms of:
1- the phases of the project (in his own words!)
2- the staffing (who were involved and when)
3- the kind of project management (how was the project managed)
4- the structure of the project (how was the project set-up)

What was your role in the project?
- were the roles clearly defined or were they ambiguous?

Could you tell some more about the form of organization of the project?
- clearly defined or vague structure
- did the culture within the project differ a lot from the organizational unit?
- did the project require any new technologies other than the existing ones?

How has the necessary mix of expertise been implemented during the consecutive phases of the project?

Sensing the Idea

Who had/proposed the initial idea?

Was this person an employee of the firm or an outsider?
- If it was an outsider, describe his relation to the firm and why he suggested it.
  Also describe how the idea got picked up by the firm.
- If it was an employee, describe his position in the firm (top, middle, bottom -

function) and find out how much autonomous behavior he had in his task?

Why was the idea picked up (in case of an outsider) or how did the idea come about (in case of an employee)?
- market-pull / technology push
- follower / first mover (new in the Industry sector)
- reactive / pro-active

How did the idea relate to the at that time existing strategy? (induced - autonomous: how deviant was it?)

Did the idea threaten any existing business at the time?

Did the idea belong to the divisional charter (business area) or did it compete with the charter of another division?

Was there anything that functioned as a benchmark for the idea?

To what extent did the idea involve the creation of new competencies?

Was there a pressure or need for new ideas? (Was the old business still earning enough revenue?)

Initiating the Initiative

Who started the project in the organization and why?

Was this the same person as the one who had the initial idea?
If not, why is there a difference.
What position in the organization does the initiator have?
- think of top-down/bottom-up, horizontal, mix?

Was the initiative in line with his job description?

What personal objectives did the initiator have to start the project?
career, money personal, fulfillment?

What company objectives did it relate to?

How did it relate to the at that time existing strategy and was this taken into account when trying to set up the project?

What selection criteria were present at the time of the initiative and how did the project fit in?

What were the objectives of the project and have these been changed during the course of time?

How was the project initiated?

Was the project initiated in a planned manner or did it come about spontaneously?

Was the culture favorable towards experimentation/initiatives or not?

Was there any (official) freedom to be entrepreneurial?

Role of the Management Levels

What management levels (top, middle) were involved and at what time in the project?
- was this immediately from the start?

At what moment do you think did or will the project obtain a formal status? Why then?

What was the role of:
- Ericsson Sweden
- MT of Gilze-Rijen
- Central staff
- Other divisions and units?
(steering, facilitating, supportive, delegating)

What was the role of:
- MT of the division
- Staff within the division
- Competence managers within the division
- Other BU managers within the division
(steering, facilitating, supportive, delegating)

Failure and Success Factors

Has the project been aborted prematurely or is there a strong chance that it will be aborted prematurely? If so, when and why?

What where the biggest (organizational) obstructions and success factors for this project?
- Failure and success factors

When is the project considered successful?
- What are the evaluation and selection criteria?

Sponsors/Feeders

Describe the current sponsors of the renewal project?
- Initiating sponsor: individual/group who has the power to initiate and legitimize the change for all affected targets.
- Sustaining sponsor: individual/group who has the political, logistical, and economic proximity to the targets.
- Change agent: individual/group who is responsible for implementing the change.

When did these sponsors get involved and why? Describe their personality? If there was a cane of sponsor, why did this occur and what result did it have?

Why did people side with the sponsor? (Also think of sponsors outside the division)

Who do you think should become a sponsor in the future to guarantee success?

Integration: Spinning-out / Spinning-in

Has there been a specific moment when the project became separated from the organization (special unit or team)?

To what extent was the project incorporated in the existing organization and how has this changed during the course of the project?
- Internalized (what form)?
- Externalized (how)?
- Hybrid organization form (network, alliance, joint-venture etc.)

What problems have occurred during the process of (de-)integration in the existing organization?

Who are the parties interested in the success of this project?

Hindsight

If you could do the project again would you do anything differently and why?

Has the project had any influence on your career, in what way?

Has the project had an impact on Ericsson, in what way?

Appendix B:
Context measurement

Background

The three firms investigated, Van Ommeren, Ericsson Telecommunications, and KLM Cargo, all possess a different set of organizational conditions. Although much information on those organizational conditions could be deducted from the interviews held in order to depict the initiative trajectories in these firms, most information regarding their organizational conditions is based on a context measurement that had been set up and conducted previously through the Erasmus Strategic Renewal Center (Volberda, 1992, 1996, 1998, 2003; Wielemaker, M.W., Elfring, T., and H.W. Volberda, 2000; Wielemaker, M.W., Elfring, T. and H.W. Volberda, 2001).

Methodology

The methodology used for carrying out the context measurement in these three firms has already been described in another publication (Wielemaker, M.W., Elfring, T., and H.W. Volberda, 2000). Basically, the context measurement was conducted using Volberda's Flexibility Audit and Redesign method, which is available as an expert system called Farsys (Volberda and Rutges, 1999).

He determines the nature of firms by using two dimensions. The first dimension consists of the repertoire of management capabilities, ranging from simple routines to dynamic capabilities. The range should consist of current capabilities (activated flexibility) and not yet activated capabilities (flexibility potential). The emergence of opportunities or threats requires management to have potential capabilities as a backup when renewal is necessary. The other dimension consists of the controllability, i.e. the responsiveness of the whole organization. It consists of the organizational conditions, i.e. the organization's technology, structure, and culture (described in Volberda, 1998).

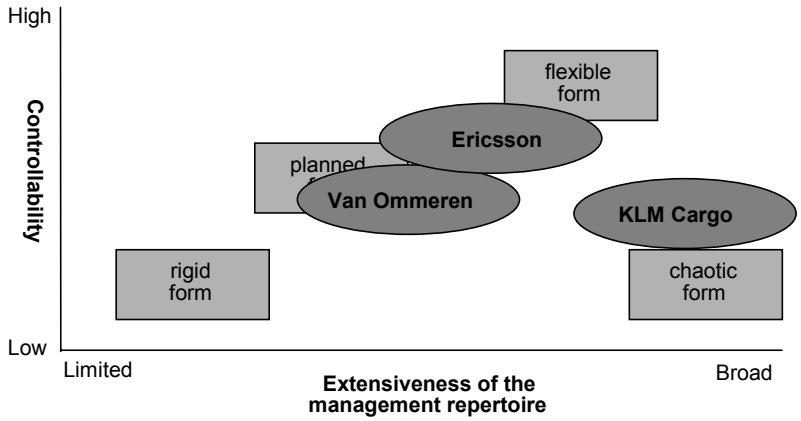
Volberda's framework leads to four ideal type organizational forms: (1) rigid, (2) planned, (3) flexible, and (4) chaotic. The *rigid form* has developed simple procedures and has a low degree of controllability. It has a routine technology, a mechanistic structure, and a conservative culture. The *planned form* also shows the variety of routines to be less limited. In addition, the controllability is much higher. It possesses more non-routine technology, a relatively organic structure, and a conservative culture. The *flexible form* possesses a large and rich flexibility mix dominated by strategic and structural

conduciveness to renewal, while in addition the controllability of the organizational conditions is high. It possesses a totally non-routine technology, and organic structure, and an innovative culture. The *chaotic form* possesses a very extensive flexibility mix dominated by strategic conduciveness to renewal, but is totally uncontrollable. In this organization the possibilities of variation are unlimited; there is no anchorage through the organizational conditions.

Questionnaires (described in Volberda, 1998) that dealt with the environmental turbulence, flexibility, technology, structure, and culture were entered into Farsys. They were edited in advance in order to ensure that they fitted the firm situation. We carried out approximately 30 interviews per firm for the purpose of editing the questionnaires and gaining insight in the firm (see Wielemaker, M.W., Elfring, T., and H.W. Volberda, 2000). All interviews were taped and transcribed. We also analyzed documents for the same purpose, as well as to verify respondents' answers. The edited questionnaires were then put out into the organization to be answered. There were five types of questionnaires relating to structure, culture, technology, environment, and flexibility. In total each firm filled in about 60 questionnaires. These were then processed by the Farsys expert system.

Results

After having processed the questionnaires the FARSYS expert system provided many profiles of the firms indicating their conduciveness to renewal (for the profiles see Wielemaker, M.W., Elfring, T., and H.W. Volberda, 2000). Using the profiles we can depict a taxonomy displayed for the three firms.



KLM Cargo is located somewhat more to the chaotic because it is embedded in a turbulent environment that was complex and dynamic, yet somewhat predictable, because it has an organic structure (particularly formalization, standardization, participation, and grouping), and a rather innovative culture (particularly the scope, openness, and planning attitude), with some limitations in the technology.

Van Ommeren is located somewhat to the planned form because it is embedded in a more predictable, simple, and stable, environment, except with respect to the impact of laws. The structure is more mechanistic (particularly in formalization, standardization, and participation). The culture scored in between conservative and innovative (being conservative particularly in scope, openness, and planning attitude), although it had a very strong socialization. The employees had a strong sense of common identity, a participative leadership style, and a heuristic management attitude.

Ericsson Telecommunications is located in-between the other two, more towards the flexible form because it is embedded in a complex, dynamic but fairly predictable environment, somewhat less predictable than Van Ommeren although not as much as KLM Cargo. It also has a more innovative culture than Van Ommeren, but less so than KLM Cargo. Its structure showed to posses both organic and mechanistic elements. With a fairly routine technology, its technology lies in between the other two again.

Appendix C:
Initiatives

	Stages			Form
Van Ommeren	Link	Interpr	Integr	Just had reorganization with one layer cut out. Hierarchical form.
Splitter	0	0	1	From project within existing unit to an informal project team across units
Eastman	0	0	2	From within an existing unit to a formal project team
Cooperation	0	0	1	From informal contacts at the top of the hierarchy to add hoc operational meetings
Tank Container	0	0		From within an existing operating company to informal contacts at the top of the hierarchy
Latin America	0	0		Is carried out within an existing unit
Tallin	0	0		Project kept secret from the board within unit
	0	0	1.3	

	Stages			Form
Ericsson	Link	Interpr	Integr	Matrix form with teams for obtaining new operators. Restructured to customer axes.
Strat. Distr. Term.	2	2	3	From a small formal team it grew into a new separate division
Unisource	0	2	2	From informal tieas between different subsidiaires it grew into a formal project team
EDI	0	2	2	From strong CEO-client ties it converted into a formal project team
Glass Box	2	2	2	A formal team already existed from a previous project
Cable Dect	0	1	2	From informal ties to a formal cooperation structure
Internet	0	1		From informal gatherings to informal teams
Unax	0	1		From strong ties amongst developers in R&D to an informal team
SDH (2nd phase)	2	2	2	The formal team already existed from a previous project
Internet Billing	0	1		Informal contacts between R&D and marketeer. Development occurs as garage work within R&D.
Telfort (B)	2	2		Originally part of a Division, then as a formal separate project in a business development unit.
	0.8	1.6	2.2	

				Form
KLM				Loosely coupled form. Dual structure of Central factory is functional plus business units, with a business systems structure on top.
Cargo info. System	0	0	2	From within an existing unit to a formal project team
Tracking and Tracing	0	2		from strong ties to a formal project team
System Profit Man.	0	2		from strong ties to a formal project team
Product Portfolio	0	2		from strong ties to a formal project team
Jump start SCU	0	0		Remained as an initiative based on strong ties
NVOCC	0	0		From within an existing unit to an initiative based on strong ties
Express	0	2	2	From ties within the hierarchy to a formal project team
BU-Logistics	0	0		From within an existing unit to strong ties in the hierarchy
E-Status	0	0		Remained within a unit
	0	0.8889	2	
	0.3	0.8	1.8	

0	No team form
1	Informal team
2	Formal team
3	New unit/division based on initiative

	Stages			Rel. to strategy		Administration	Non-level related roles		Managerial roles
Van Ommeren	Link	Interpr	Integr	Link	Interpr	Centralized and formalized decision-making at the level of the board of directors. Weak control and support.	Who	reason	A restructuring has just taken place in which a management layer has been removed
Splitter	1	3	3	n	n	administration rests with board of directors, own procedures developed.			middle/top-down
Eastman	1	3	3	n	n	administration rests with board of drectors, own procedures developed.			middle/top-down
Cooperation	1	1	1	y	y	No procedures, except for answering to the board of directors			top-down
Tank Container	1	1		y	y	administration rests with board of drectors			middle/top-down
Latin America	1	1		y	y	administration rests with board of drectors			middle/top-down
Tallin	2	2		n	y	Detached from firm			bottom-up
	1.2	1.8	2.3	50%	67%				

	Stages			Strategy driven		Administration	Non-level related roles		K
Ericsson	Link	Interpr	Integr	Link	Interpr	Consensus model of decision making, Formalized routines Strong control and support. Stimulation of social network/community by exchanges with other HQ, universities etc.	Who	reason	Essentially a marketing organizationa that implements orders from HQ
Strat. Distr. Term.	3	3	4	y	y	Use of targets, instantly given marketing budget.			Top-down
Unisource	2	4	4	y	y	introduction of project management techniques along the way			Top-down
EDI	1	3	4	n	y	Strictly implemented in a planned top down-fashion			Top-down
Glass Box	3	3	4	n	n	Approval of top management of corrective measures			Bottom-up
Cable Dect	2	4	4	n	n	Constant shopping for resources, use of pilots and trials.	Business development	Expertise	Middle/top-down
Internet	0	1		n	y	No procedures. Resources needed.	Individuals bussy with Internet	Expertise & Interest	Bottom-up
Unax	2	2		n	y	Lack of resources. Exists through slack. No formal procedures.	Business development and R&D	Expertise and Expertise	Bottom-up
SDH (2nd phase)	3	3	4	n	y	Was initially cart blanc in terms of resources. Acquiring a change in top strategy was problematic			Bottom-up
Internet Billing	0	0		n	y	No formal procedures, rules etc.	Business development and R&D	Expertise & Referal and Expertise	Bottom-up
Telfort (B)	2	4		n	n	Loose structure, No formal procedures and processes.	Business development	Expertise	Top-down
	1.8	2.7	4.0	20%	70%				

	Stages			Strategy driven		Administration	Non-level related roles		K
KLM	Link	Interpr	Integr	Link	Interpr	Lack of control and support. Lacks adminstrative control systems. Middle layer is a bottlenack for vertical comunication.	Who	reason	Lower management levels has been empowered, but are uncomfortable with the change
Cargo info. System	3	3	3	y	y	Very planned and focussed on implementation.	Cargo development	Strategy expertise	Top-down
Tracking and Tracing	3	3		y	y	Very planned through the use of time slots, go/no-go points, procedures, and routines.	Cargo development	Strategy expertise	Top-down
System Profit Man.	1	3		y	y	Limited administrative control	Cargo development	Strategy expertise	Top-down
Product Portfolio	2	2		y	y	Procedures have not been documented.	Cargo development	Strategy expertise	Top-down
Jump start SCU	2	2		y	y	No procedures.	Cargo development	Strategy expertise	Bottom-up
NVOCC	2	2		y	y	No roles, procedures etc have been determined	Cargo development	Strategy expertise	Top-down
Express	1	1	2	n	y	No procedures or routines set up.			Top-down
BU-Logistics	0	0		y	y	Nothing specified yet.	Cargo development	Strategy expertise	Top-down
E-Status	2	2		n	n	No clear and fixed roles. Only that convincing of BU manager is necessary.			Bottom-up
	1.8	2	2.5	78%	89%				
	1.6	2.2	2.9	48%	76%				

0	no procedures, no control
1	no procedures, management control
2	no procedures, self-control
3	procedures, management control
4	procedures, self control

Van Ommeren	Knowledge bases	Common language	Innovativeness	Accent Linking	Interpreting	Integrating	Knowledge Knowledge base limited to Tank Storage and Shipping
Splitter	1	1	0	0	0	1	No real increase in knowledge base
Eastman	2	1	0	0	0	1	Barely any increase of knowledge, More a strategic decision
Cooperation	2	0	2	1	0	1	linking of knowledge between two units. Increases along the way.
Tank Container	4	1	1	0	0	-	Increase of knowledge
Latin America	1	0	1	0	1	-	Market research kind of knowledge
Tallin	2	0	1	0.5	0.5	-	Little detailling necessary: more of a business concept
	2	0.5	0.8	0.2	0.2	1.0	

Ericsson	Knowledge bases	Common language	Innovativeness	Accent Linking	Interpreting	Integrating	Knowledge Very broad knowledge base. Both Marketing and Research and Development. Much knowledge also present in other subsidiairies.
Strat. Distr. Term.	2	0	2	0	0.5	1	New marketing knowledge generated.
Unisource	2	0	2	0	0.5	1	Increase of coordination knowledge
EDI	2	1	1	0	0.5	1	Little new knowledge generated. Was more an implementation project.
Glass Box	1	0	1	1	0	0.5	New method of codeveloping with client
Cable Dect	2	1	2	0	0	1	Detailling and testing of main idea
Internet	1	0	1	0	1	-	Slow increase in knowledge.
Unax	2	0	1	0	0	1	Mainly technological development
SDH (2nd phase)	2	0	1	0	0	0.5	Sales convincing strategists of wrong strategy
Internet Billing	2	1	1	0	0.5	-	Combination of marketing and specialist knowledge. Once sponsor has been found an increase in detailling specialist knowledge is expected.
Telfort (B)	5	1	3	0.5	0	-	Integration of very different specialisms
	2.1	0.4	1.5	0.1	0.1	0.7	

KLM	Knowledge bases	Common language	Innovativeness	Accent Linking	Interpreting	Integrating	Knowledge knowledge generation tied to new business development.
Cargo info. System	3	1	2	0	0	1	Explicitizing the knowledge present in Cargo in an IT system. Increased along the way. From concept to detailling.
Tracking and Tracing	3	1	2	0	1		Developed knowledge to be tested in pilot.
System Profit Man.	3	0	2	0	0	1	From basic idea to demo and implementation plan Loose elements have been integrated
Product Portfolio	2	1	1	0	1		Limited increase in service knowledge
Jump start SCU	2	0	2	0	0		Knowledge only at the top
NVOCC	2	0	3	0	0		Considered very abstract, still at an early stage
Express	2	1	1	0	0		increase of Express knowledge base based on informal contacts
BU-Logistics	2	0	3	0	0.5		Still more an idea than a worked out plan
E-Status	2	0	1	0	0.5		Still in a conceptual phase
	2.3	0.4	1.9	0.0	0.2	1.0	
	2.1	0.4	1.4	0.1	0.2	0.9	

Common knowledge
1 Common knowledge
0 No common knowledge

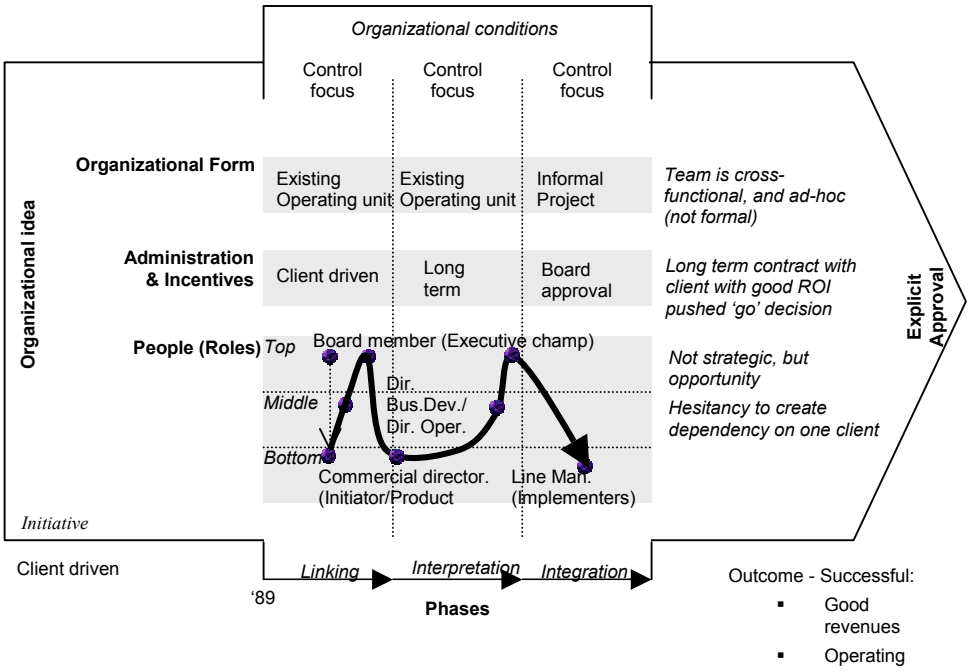
Innovativeness
0 no knowledge created
1 limited knowledge created

Van Ommeren	problematic	Resources Resources granted by the board	Idea before Team	Outcome
Splitter	0	Outside client is taking care of investment	y	success
Eastman	0	Outside partner provided resources	y	success
Cooperation	0	Resources available, more an issue of finding synergies.	y	ongoing
Tank Container	0	Basically an investment proposal	y	ongoing
Latin America	0	Basically an investment proposal	y	ongoing
Tallin	0	Basically an investment proposal	y	Terminated
	0		100%	33.3%

Ericsson		Resources Resources granted by the MT on the basis of achieved consensus	Idea before Team	Outcome
Strat. Distr. Term.	1	Resources were on occasion put on hold for other priorities	y	success
Unisource	1	Previously committed resources were withdrawn for other priorities	y	success
EDI	0	Resources provided by the MT. Main issue was gaining legitimacy	y	mixed
Glass Box	0	Change in working method didn't require many resources	y	success
Cable Dect	1	Costly project which currently depends on client sponsorship	y	
Internet	0	Mainly conceptual	y	ongoing
Unax	1	In need of resources to pay for development hours.	y	ongoing
SDH (2nd phase)	0	Resources were no issue, changing the strategy was	0	mixed
Internet Billing	1	In need of resources to pay for development hours.	y	
Telfort (B)	1	Complex funding structure needed	0	ongoing
	0.6		80%	40%

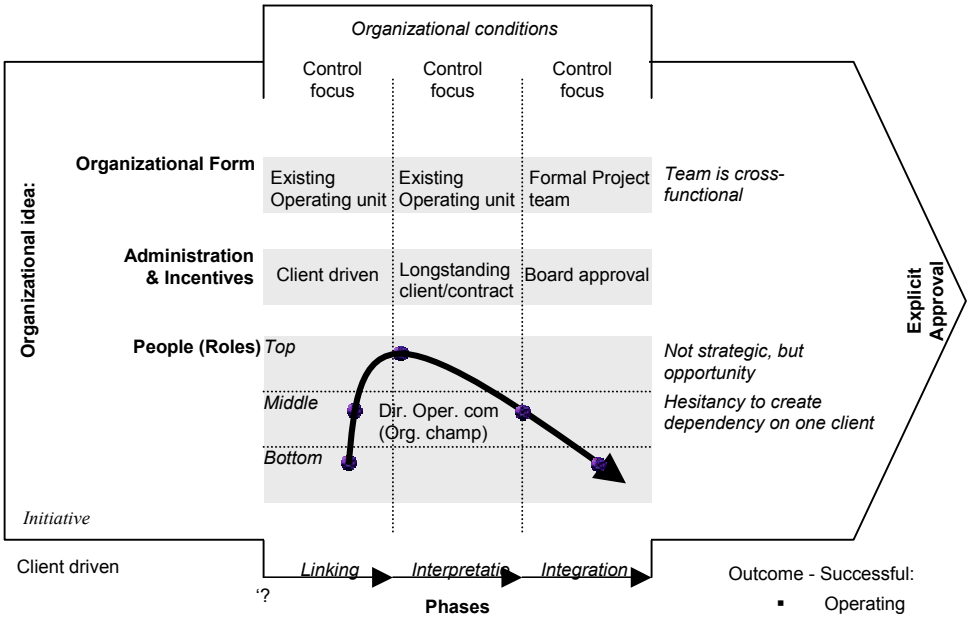
KLM			Idea before Team	Outcome
Cargo info. System	0	MT provides resources for software development	y	mixed
Tracking and Tracing	0	Operations provides resources per time slot	y	ongoing
System Profit Man.	0	MT supplies resources to software development	y	ongoing
Product Portfolio	0	MT supplies the resources	y	ongoing
Jump start SCU	0	Mainly conceptual	-	ongoing
NVOCC	0	Mainly conceptual	-	ongoing
Express	0	Mianly conceptual	y	ongoing
BU-Logistics	0	Mianly conceptual	-	ongoing
E-Status	0	Mainly conceptual	-	ongoing
	0		100%	0%
	0.2		90%	

Appendix D:
The Splitter Initiative



Knowledge	Supply a client's gas condense splitter with the necessary input		
Knowledge bases	Operational/Chemical knowledge		
Common language	Everyone understands the concept		
Knowledge process	No knowledge creation needed (instead outside client for investment)		
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals	Integrative knowledge in team
			Integration
Specialist Knowledge	-	-	Project team of specialists
Resources	Resources are not a problem because it was mainly an investment proposal. Once it got the 'go-ahead' it was the outside partner who agreed to take care of the investment.		

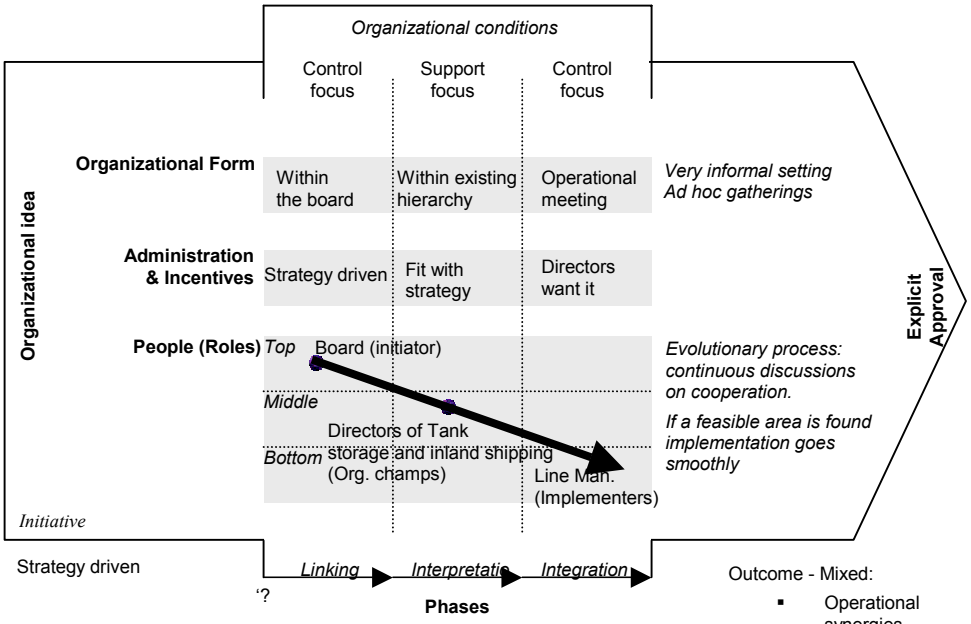
Appendix E:
The Eastman Initiative



Knowledge	Creating a direct link between Van Ommeren's terminals		
Knowledge bases	Operational/Chemical knowledge Environmental Law knowledge		
Common language	Everyone understands the concept		
Knowledge process	Partially sorting out environmental law issues. No real knowledge creation		
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals	Integrative knowledge in team *Integration*
Specialist Knowledge	-	-	Project team of
Resources	Resources are not a problem because it was mainly an investment proposal. Once it got the 'go-ahead' it was the outside partner who agreed to take care of the investment.		

Appendix F:

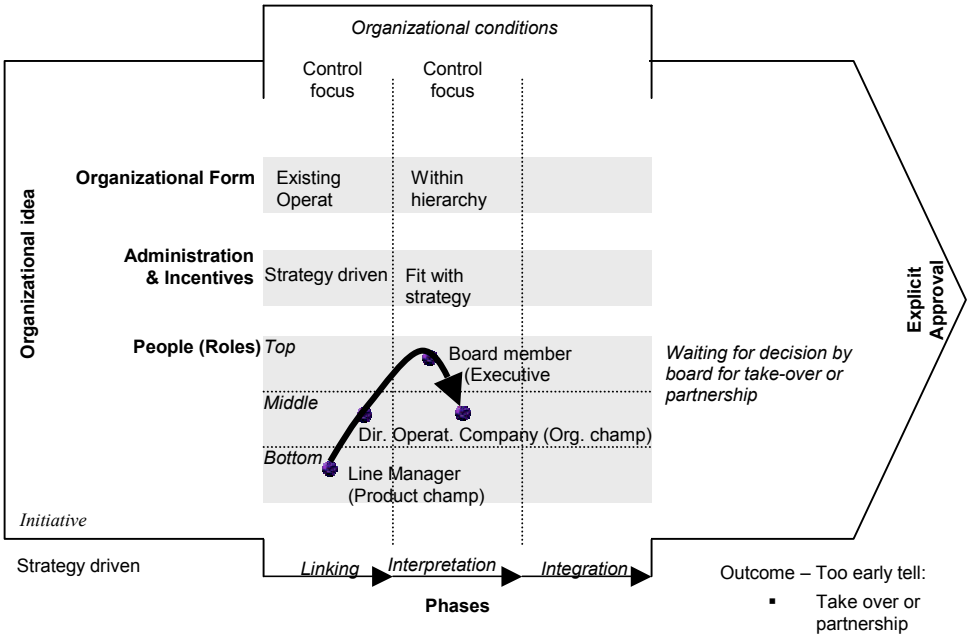
The Cooperation Initiative



Knowledge	Find out ways to create synergies between tank storage and inland shipping		
Knowledge bases	Storage knowledge		
Common language	No common language (storage versus		
Knowledge process	Incrementally discovering points of		
Integrative Knowledge	Desire to create integration	Integrative knowledge in various individuals	Integrative knowledge in meeting members
			Meeting performs integration →
Specialist Knowledge	Storage versus shipping	Storage versus shipping	Meeting members are specialists
Resources	Resources are not a problem. The issue is finding points of synergy.		

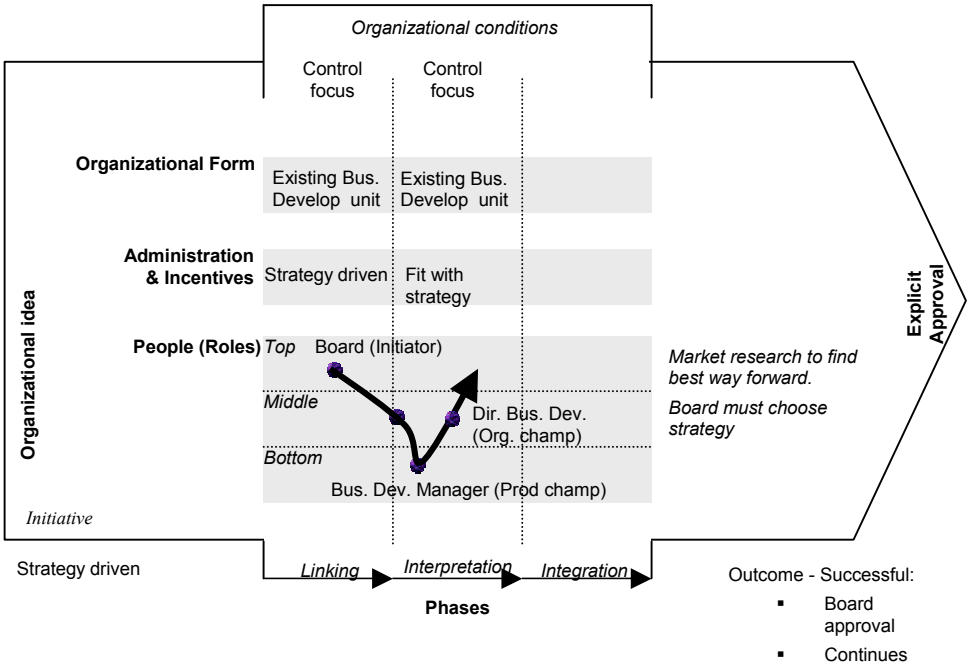
Appendix G:

The Tank Container Initiative



Knowledge	Consist of setting up a business in Tank container shipping
Knowledge bases	Liquids knowledge Logistics knowledge IT knowledge Environmental law knowledge
Common language	Concept well understood because of previous experience
Knowledge process	Previous negative experience forms a hindrance for re-entry into the container business
Integrative Knowledge	Integrative knowledge in various individuals
Specialist Knowledge	- Integrative knowledge in various individuals Specialists scattered in firm
	Integration of specialist knowledge problematic because of: negative prior experiences
Resources	Resources are not a problem. It is still conceptual, basically an investment proposal.

Appendix H:
The Latin America Initiative

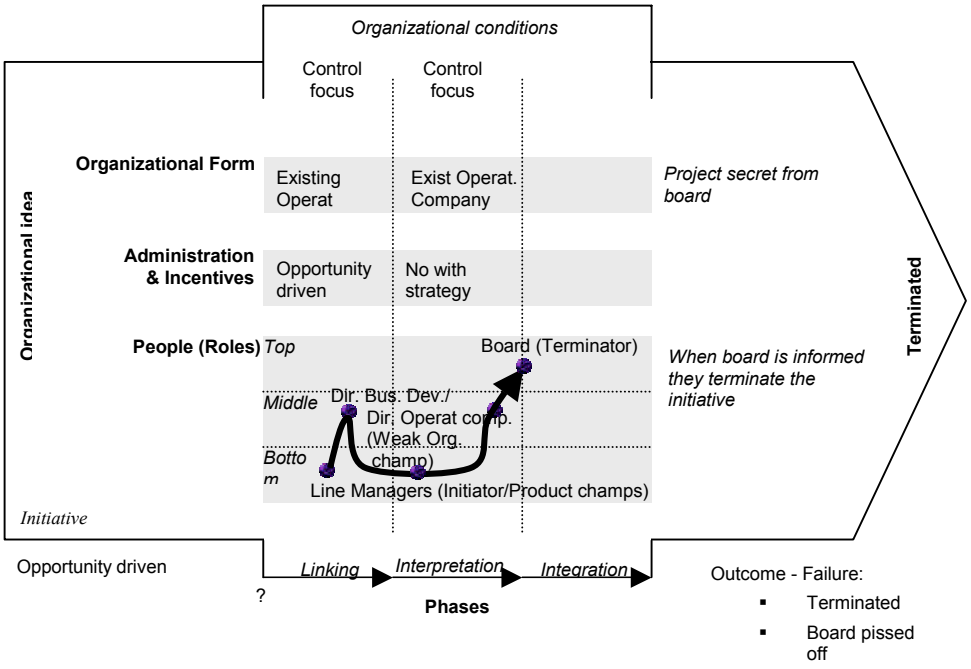


Knowledge	Concerns a geographic expansion into Latin America	
Knowledge bases	Marketing knowledge	
Common language	Only 1 individual conducting market study. Board is still to hear the report	
Knowledge process	Market research to check whether geographic expansion is worthwhile	
Integrative Knowledge	Integrative knowledge in	Integrative knowledge in 1 individual
		Integration by 1 individual
Specialist Knowledge	-	Specialists contacted

Resources	Resources are not a problem. 1 individual conducts the market research. Still an investment proposal

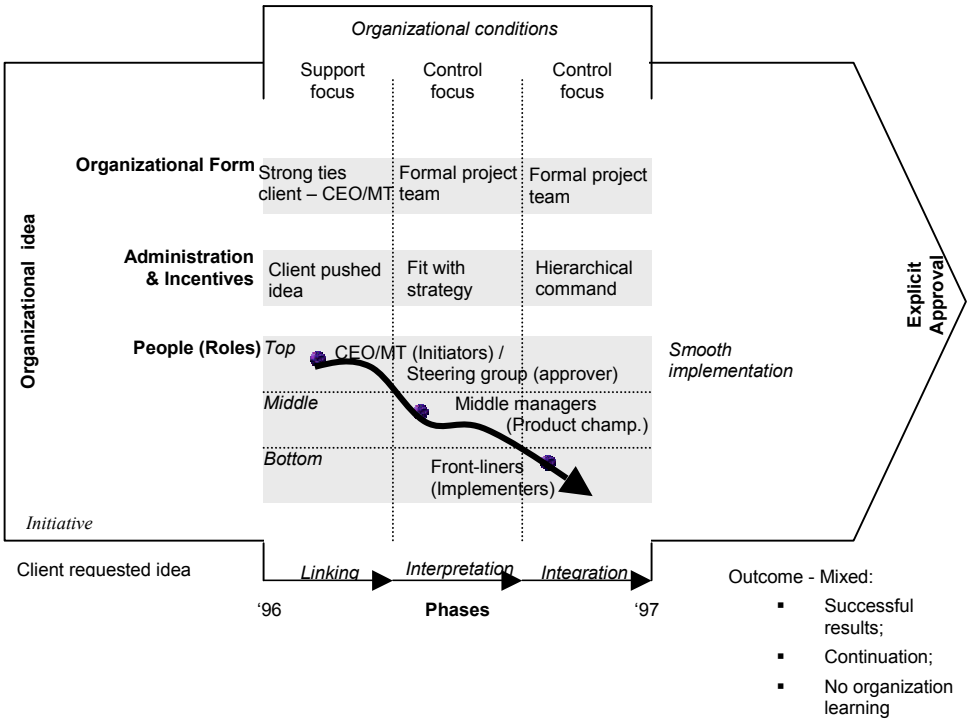
Appendix I:

The Tallin Initiative



Knowledge	Consists of investing in a terminal in Estonia	
Knowledge bases	Logistics knowledge (problematic) Marketing knowledge	
Common language	Few individuals worked out the concept	
Knowledge process	Skunk work of few individuals who got everything ready for an investment project, then terminated when presented to the board.	
Integrative Knowledge	Integrative knowledge in few individuals	Integrative knowledge in few individuals
Specialist Knowledge	Same people are specialists	Same people are specialists
		terminated
Resources	Resources were not a problem. It was basically an investment proposal	

Appendix J:
The EDI Initiative

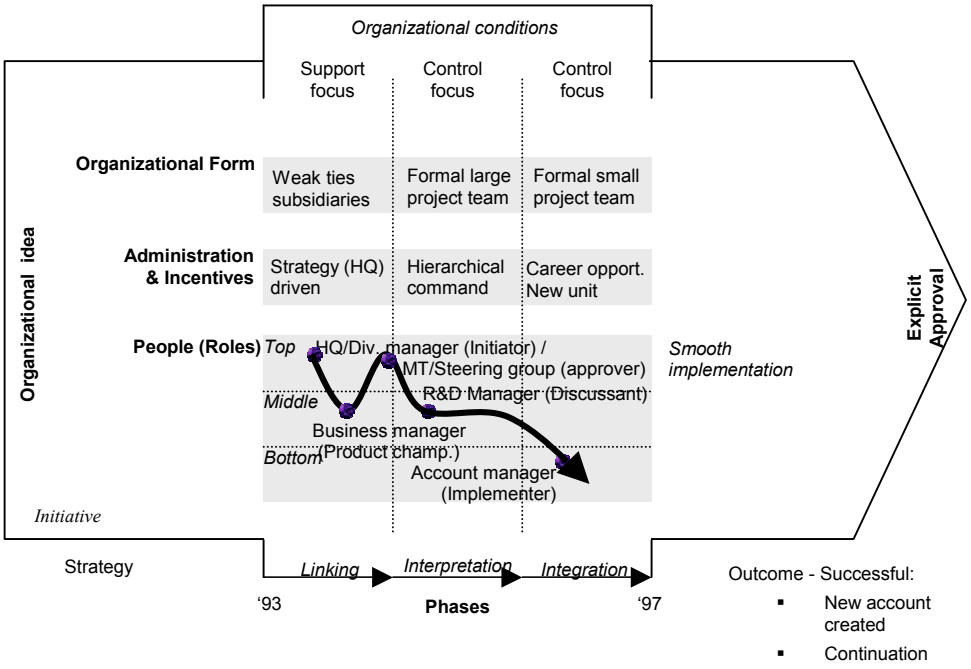


Knowledge	EDI link with client		
Knowledge bases	Logistics knowledge IT knowledge		
Common language	Everyone understands the concept, but not everyone sees its relevance		
Knowledge process	No knowledge creation needed, it is more an implementation		
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals	Integrative knowledge in team
			Integration
Specialist Knowledge	-	Project team of specialists	Project team of specialists

Resources	Resources are not an issue as the MT is the driver behind the project. The isue is to gain legitimacy amongst lower levels.

Appendix K:

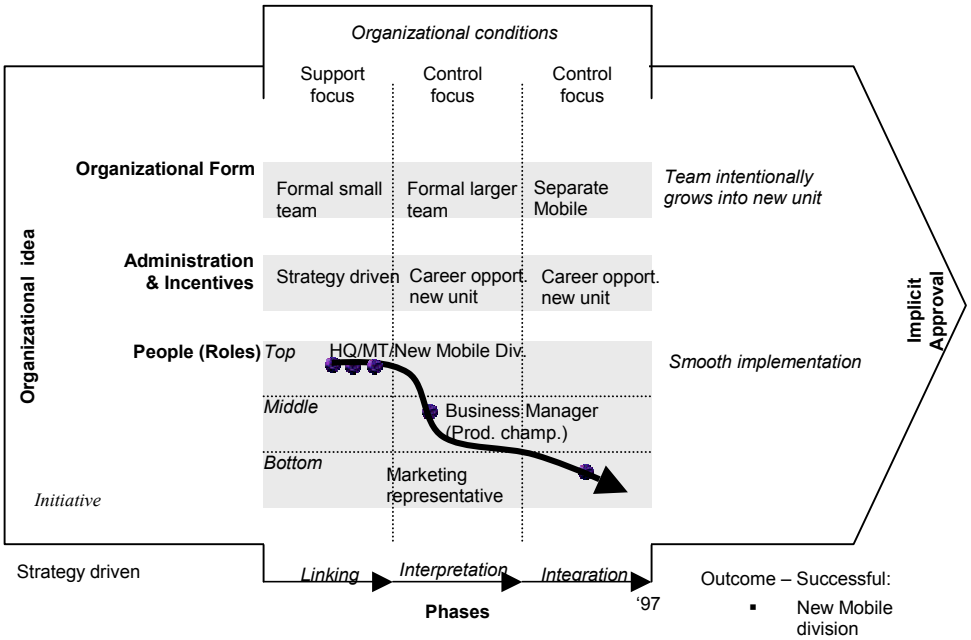
The Unisource Initiative



Knowledge	Becoming supplier for an international alliance		
Knowledge bases	Marketing knowledge (getting to know the customer's alliance) Cross-national Coordination knowledge (amongst Ericsson subsidiairies)		
Common language	Coordination amongst the national subsidiairies was uncommon and a new experience.		
Knowledge process	Coordinating the project across the various national subsidiries was a learning experience that consisted of various alterations		
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals	Integrative knowledge in team
			Integration
Specialist Knowledge	-	Large team of specialists	Team of specialists
Resources	Resources were a problem because resources committed to the project were withdrawn for other things with a higher priority.		

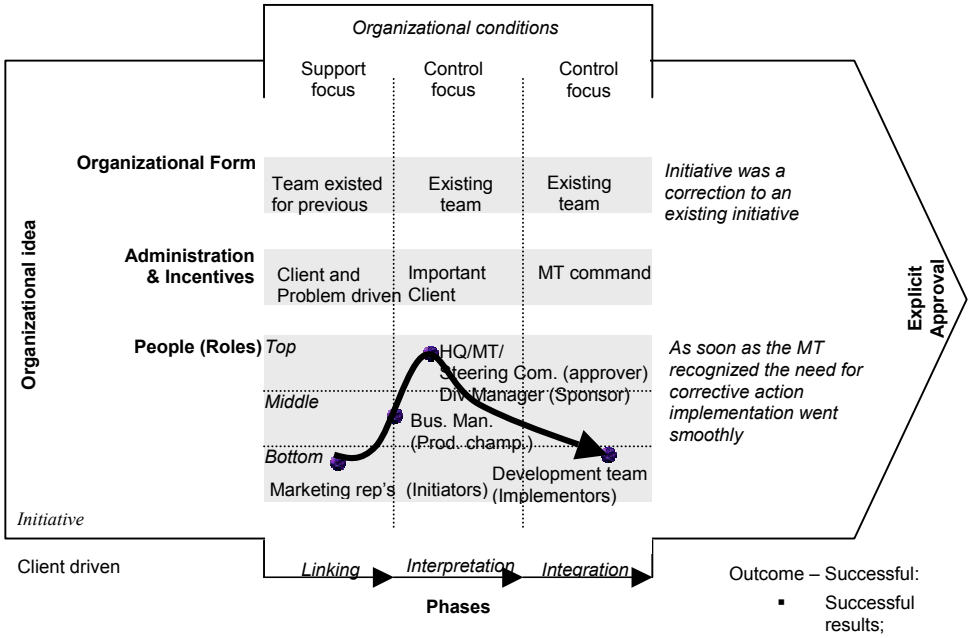
Appendix L:

The Strategic Distribution Terminals Initiative



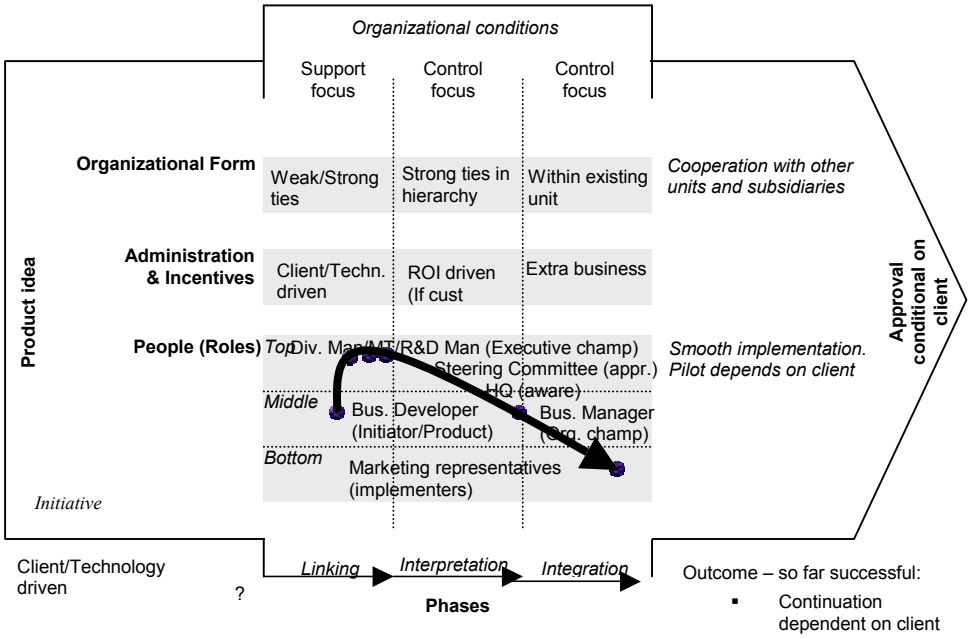
Knowledge	Set up of distribution network for mobile phones
Knowledge bases	Retail marketing knowledge Operational/Chemical knowledge
Common language	The SDT people were specifically hired because they had a different mindset (marketing) than the existing Ericsson people who were used to dealing with firms rather than with end-users.
Knowledge process	Retail marketing knowledge had to be built up quickly, mainly by hiring on marketing people from outside. It also required a cultural change from the diustribution centre which had to move products through much faster than normally because it concerned consumers.
Integrative Knowledge	Integrative knowledge in team Integrative knowledge in team Integrative knowledge in division
Specialist Knowledge	- *Integration* Team of specialists Division with specialists
Resources	Resources were at given times a problem. The MT suppied the reosurces but because of other priorities the resources were sometimes insufficient.

Appendix M:
The Glass Box Initiative



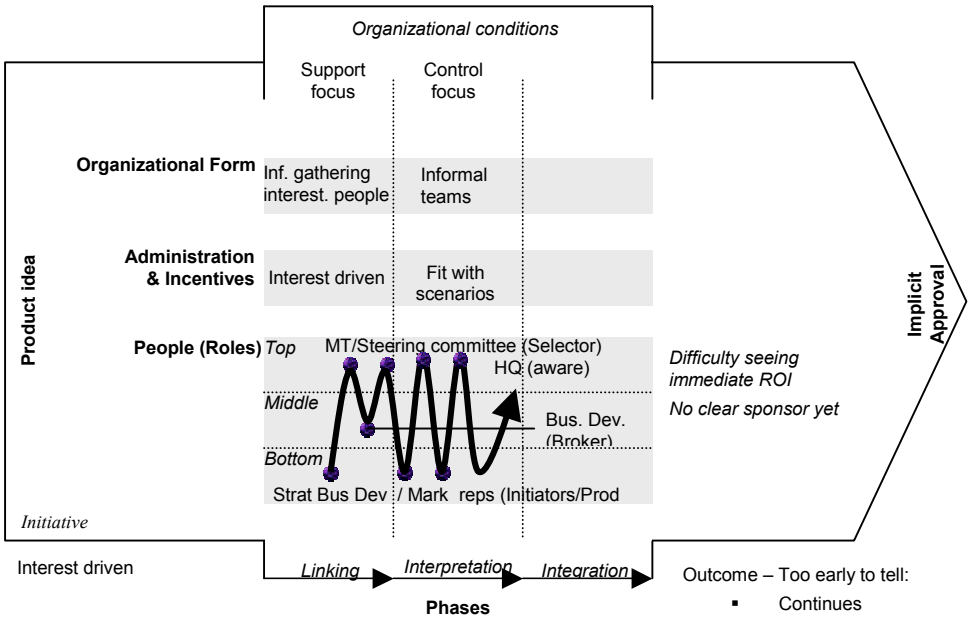
Knowledge	Involve customer in development
Knowledge bases	IT Project Management knowledge
Common language	People were unfamiliar and unaccustomed to the new method of co-developing with the client
Knowledge process	There was quite some trial and error as the concept was totally new for Ericsson.
Integrative Knowledge	- / Integrative knowledge developed by trial & error / Integrative knowledge in team
	Integration →
Specialist Knowledge	Client is specialist on method / Client codevelops with team / Project team of specialists
Resources	Resources are not a problem because it was mainly a method of working that didn't require many resources.

Appendix N:
The Cable Dect Initiative



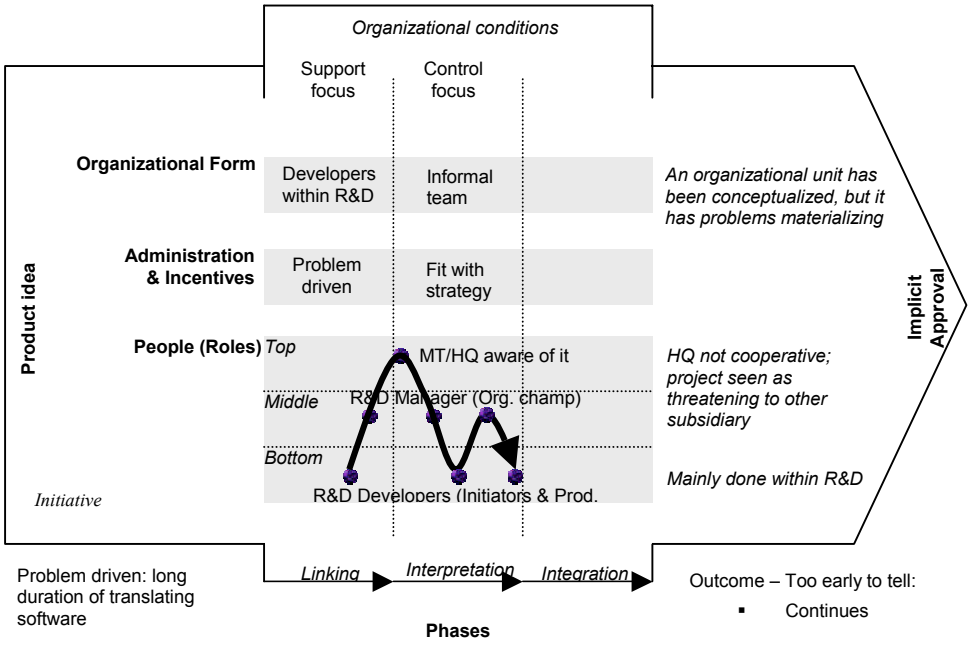
Knowledge	Enable telephony over the cable through air-DECT technology
Knowledge bases	DECT-air knowledge Cable knowledge
Common language	Everyone understands the concept
Knowledge process	Technological development requiring pilots to test if it works.
Integrative Knowledge	Integrative knowledge in two individuals Integrative knowledge in few individuals Integrative knowledge in team *Integration*
Specialist Knowledge	- Project team of specialists
Resources	Resources are a problem because it is quite costly, yet not considered significant enough by HQ for funding. The resource search leads to time delays. Now a division pays, client for the pilots.

Appendix O:
The Internet Initiative



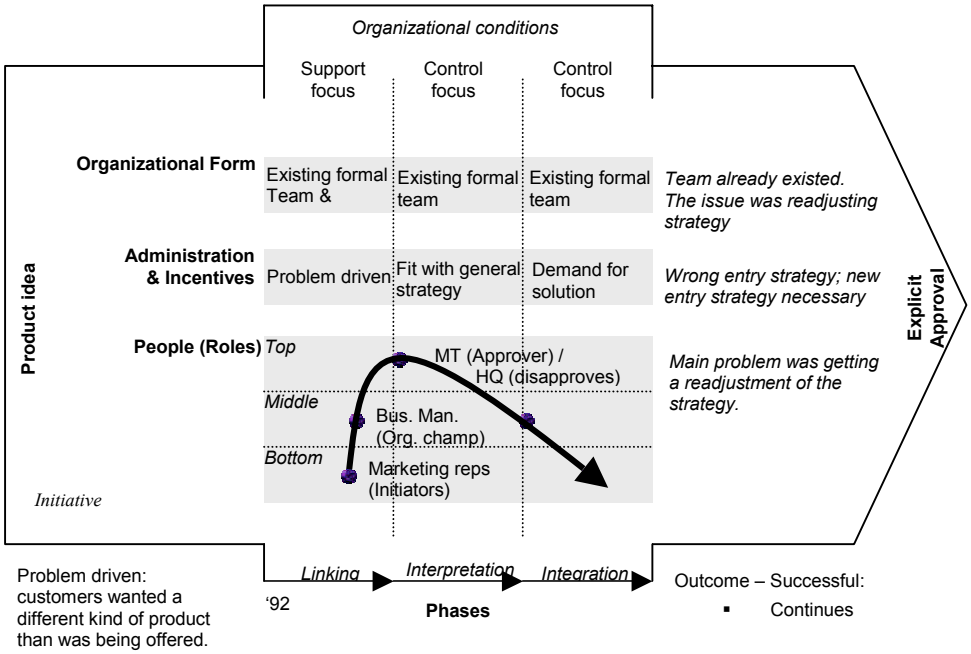
Knowledge	Set up Internet business
Knowledge bases	Internet knowledge Other Ericsson Knowledge bases
Common language	Amongst those that share an interested in the Internet, The rest of the organization was aloof
Knowledge process	Incremental understanding of what the Internet could mean for Ericsson
Integrative Knowledge	Integrative knowledge in various individuals → Integrative knowledge in various individuals
Specialist Knowledge	- → Specialists are consulted
Resources	Resources are not a problem because it is mainly conceptual.

Appendix P:
The Unax Initiative



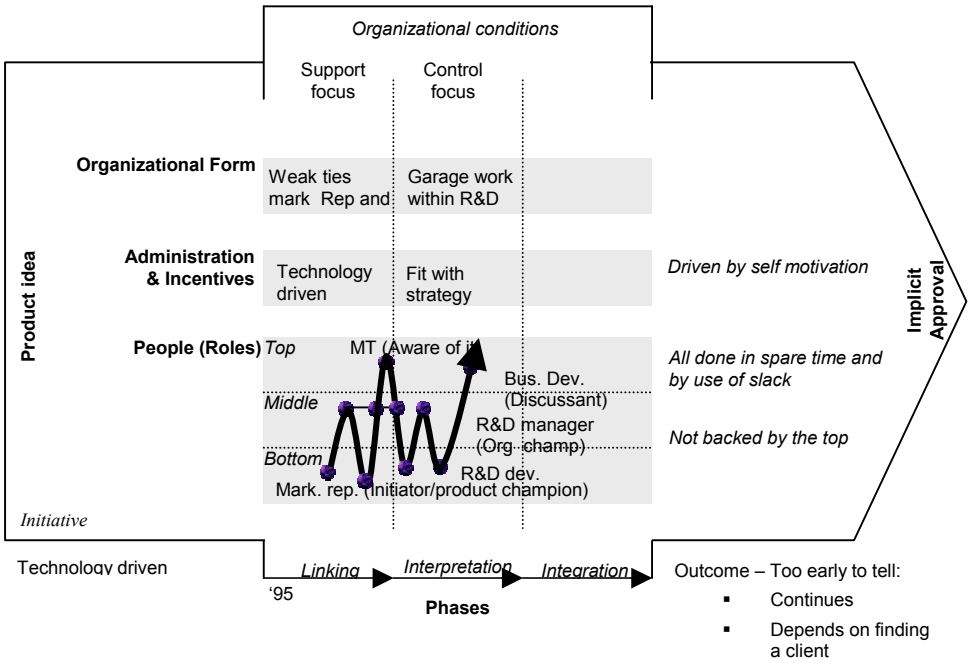
Knowledge	Enabling the use of Ericsson sofdtware on non-Ericsson hardware		
Knowledge bases	UNIX knowledge Proprietary Platform knowledge		
Common language	Some rivalry between experts on both sides		
Knowledge process	Idea downtuned to mini-platform, technological development		
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals	Integrative knowledge in team
			Integration
Specialist Knowledge	-	-	Project team of specialists
Resources	Obtaining resources is a hindrance. Currently sponsored by R&D, but in need of another sponsor.		

Appendix Q:
The SDH Initiative



Knowledge	Reposition portfolio at lower rather than higher SDH technology level		
Knowledge bases	Higher SDH knowledge present at Ericsson Lower SDH knowledge not present at Ericsson		
Common language	Local Sales and HQ Strategists differed		
Knowledge process	Sales convincing strategists that strategy (Higher SDH) was wrong		
Integrative Knowledge	Integrative knowledge in few individuals	Integrative knowledge in various individuals	Integrative knowledge in team
			Integration
Specialist Knowledge	Sales confronted with problems	Sales confronted with problems	Sales with outside partner
Resources	Resources were not the main issue. Changing the HQ strategy was.		

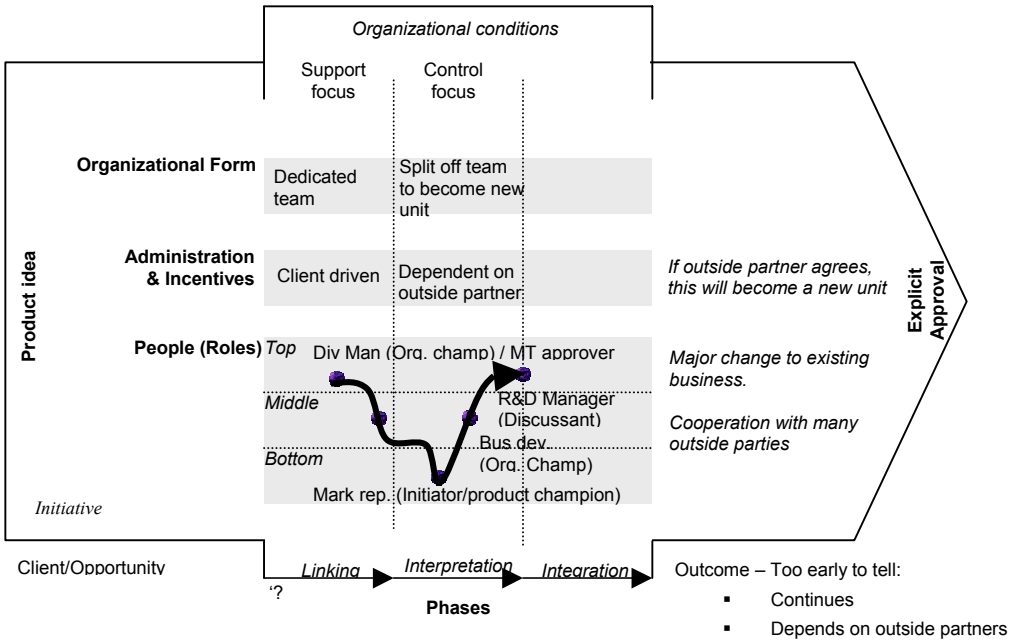
Appendix R:
The Internet Billing Initiative



Knowledge	Enable charging specific Internet usage
Knowledge bases	Billing knowledge IP knowledge
Common language	The people involved understand the concept
Knowledge process	More a technological development project (Focusses on obtaining client sponsor)
Integrative Knowledge	Integrative knowledge in single individual Integrative knowledge in few individuals
Specialist Knowledge	- R&D specialists
	Integration is a question of finding resources
Resources	Resources are the main problem because it is a technological development project for which the development time must be paid. Solution is sought by finding a client.

Appendix S:

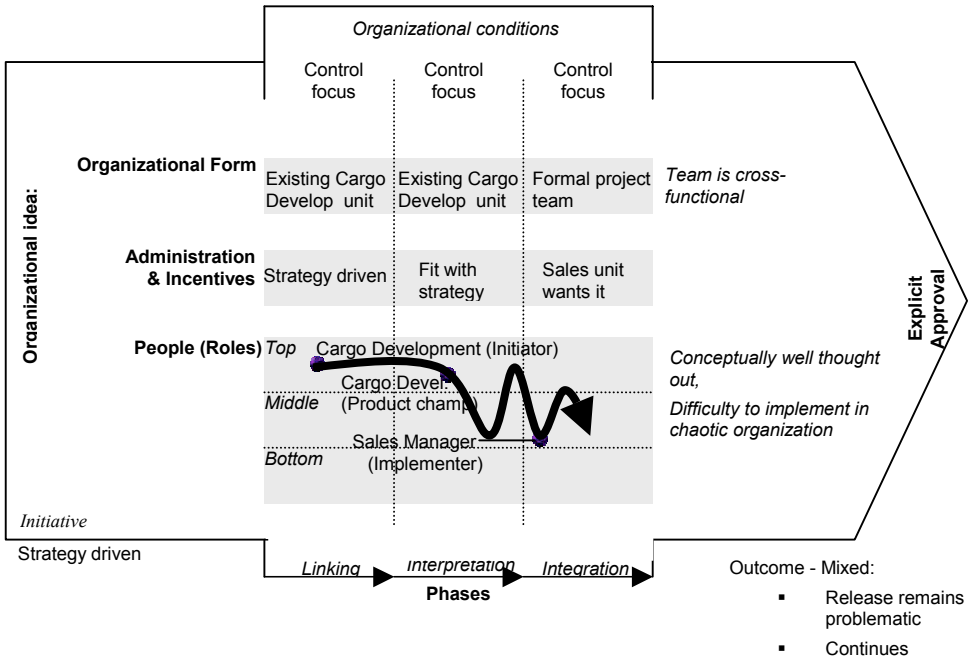
The Telfort Initiative



Knowledge	Smart card for financial transactions over the phone	
Knowledge bases	Financial knowledge Marketing knowledge IT knowledge Telecom-Voice knowledge Project Management	
Common language	People with very different competencies	
Knowledge process	Much knowledge creation along the way Very radical project for Ericsson ETM	
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals
Specialist Knowledge	Specialists solve voice-data	Contacts with all sorts of other specialists
		Integration awaits go-ahead
Resources	Figuring out how to gather all the resources and how the hole financial supportive structure will be set up is an enormous task. Never doen before at Ericsson.	

Appendix T:

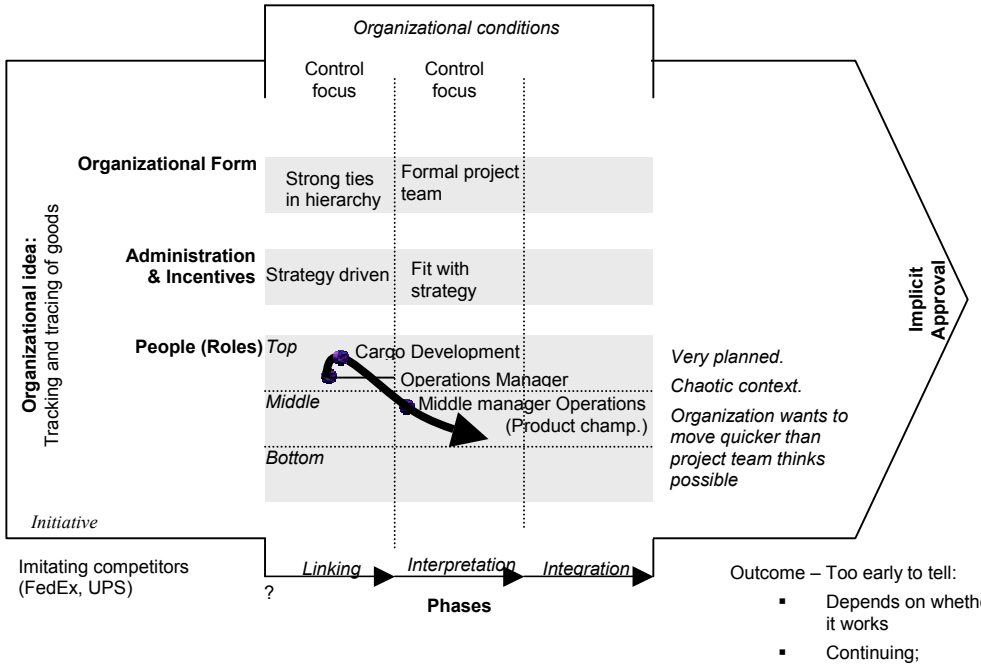
The Cargo Information System Initiative



Knowledge	Present Cargo's offerings electronically: explicate organizational knowledge
Knowledge bases	Administrative knowledge (problematic) Sales knowledge IT knowledge
Common language	Everyone understands the concept Different opinions about who owns certain knowledge
Knowledge process	Locating and explicating Cargo's own knowledge very difficult
Integrative Knowledge	Integrative knowledge in 1 individual / Integrative knowledge in 1 individual / Integrative knowledge in team → Integration of specialist knowledge problematic because of: - administrative chaos - proprietary conflicts - interest conflicts
Specialist Knowledge	- / - / Project team of specialists
Resources	Resources are not a problem. They are supplied by the MT and devoted to programming the software.

Appendix U:

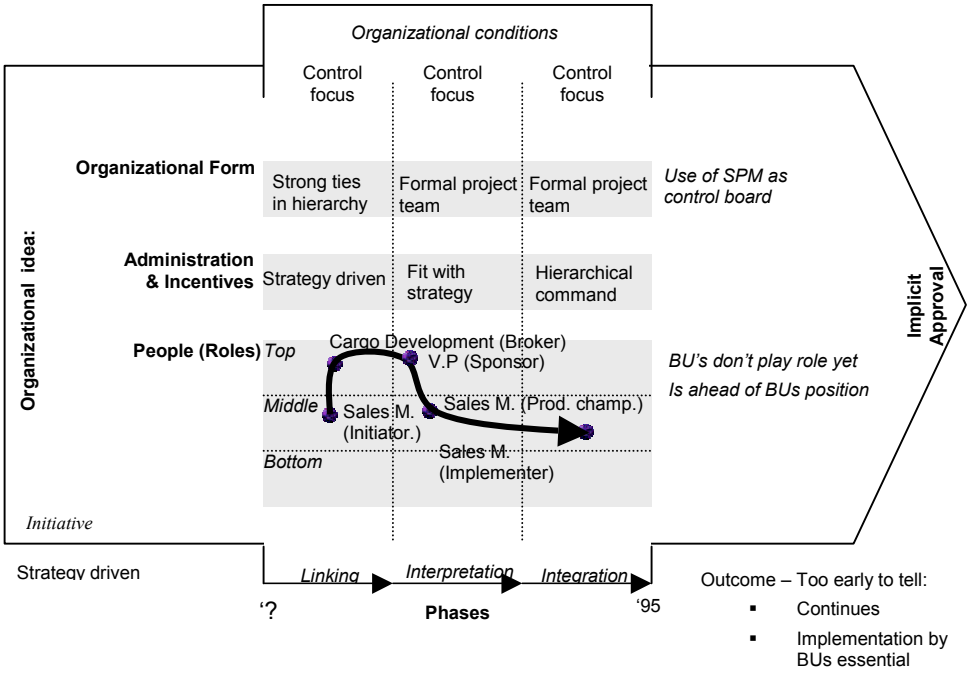
The Tracking & Tracing Initiative



Knowledge	Tracking and tracing of goods
Knowledge bases	Operational knowledge Tracking & Tracing Technology IT knowledge
Common language	Everyone understands the concept
Knowledge process	Administrative knowledge was too problematic thus a shift to tracking & tracing technology (learning experience) Still mainly an investigative rather than developmental project.
Integrative Knowledge	Integrative knowledge in various individuals Integrative knowledge in team
Specialist Knowledge	- Project team of specialis Tracking & tracing specialist to be brought on board
Resources	Resources are supplied per 'time box' and increase over time. They are supplied by Operations and devoted to investigative pilots. The development of a definitive solution still requires approval.

Appendix V:

The System Profit Management Initiative

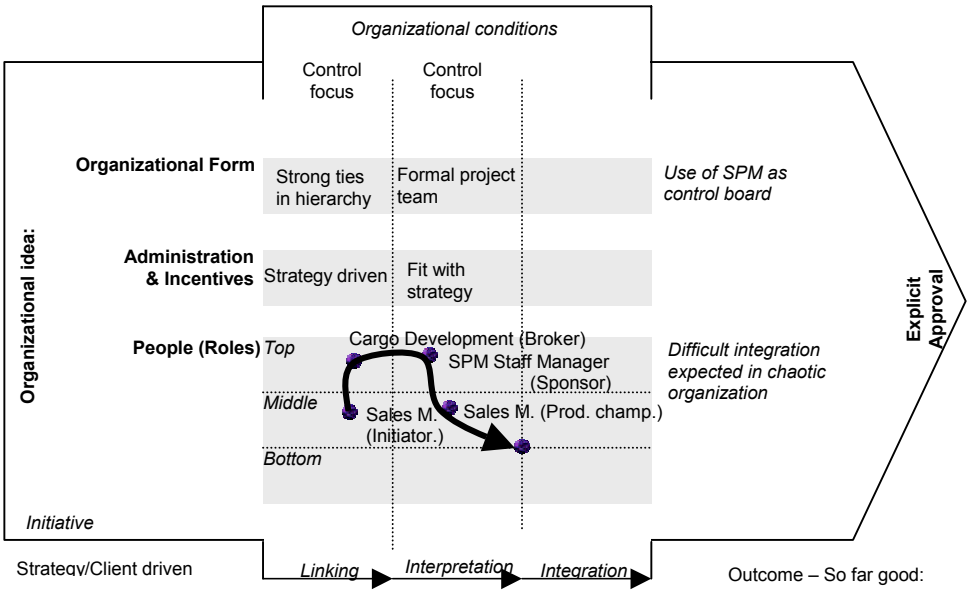


Knowledge	Create Management Decision Support System		
Knowledge bases	Strategic knowledge Organizational knowledge IT knowledge		
Common language	Limited understanding of the concept		
Knowledge process	Explicating the strategic decision process in an IT system		
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in team	Integrative knowledge in team
Specialist Knowledge	-	-	Business units are not involved
Resources	Resources are not a problem. They are supplied by the MT and devoted to programming the software		

Actual integration has not occurred yet

Appendix W:

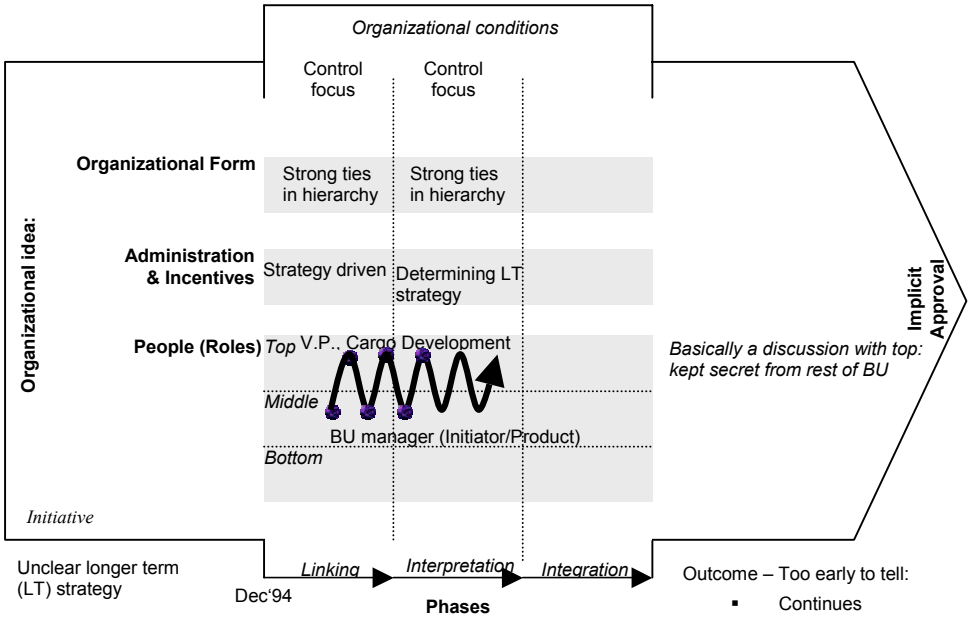
The Product Development Initiative



Knowledge	Develop method for dealing with client requests
Knowledge bases	Sales knowledge Operational knowledge
Common language	Everyone understands the concept (considered a success factor)
Knowledge process	Figuring out the guidelines for dealing with client requests is
Integrative Knowledge	Integrative knowledge in various individuals → Integrative knowledge in team
Specialist Knowledge	- → Project team of specialists
	Actual integration of specialist knowledge still necessary
Resources	Resources are not a problem. They are supplied by Cargo's MT

Appendix X:

The Jump-start SCU Initiative

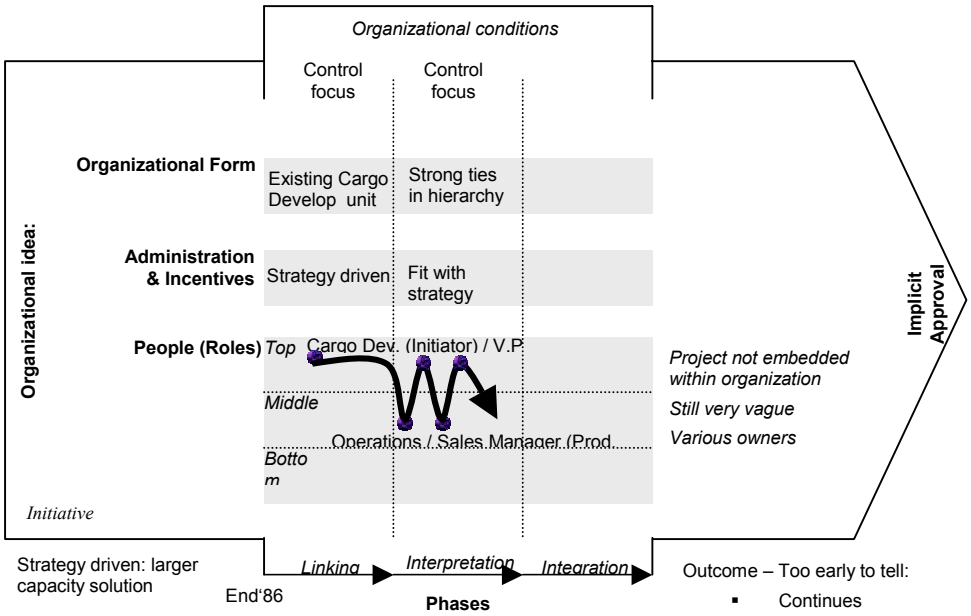


Knowledge	Re(de)fining future position of Business	
Knowledge bases	Strategic knowledge Marketing knowledge	
Common language	Only the top is involved and understands the concept. The middle management is kept unaware of it, in part because it is felt they don't understand it yet.	
Knowledge process	One person is trying to put down a general framework for understanding the future portfolio of a	
Integrative Knowledge	Integrative knowledge in 1 individual	Integrative knowledge in 1 individual
Specialist Knowledge	-	-

Resources	Resources are not a problem because it is basically a conceptual piece that is developed.

Appendix Y:

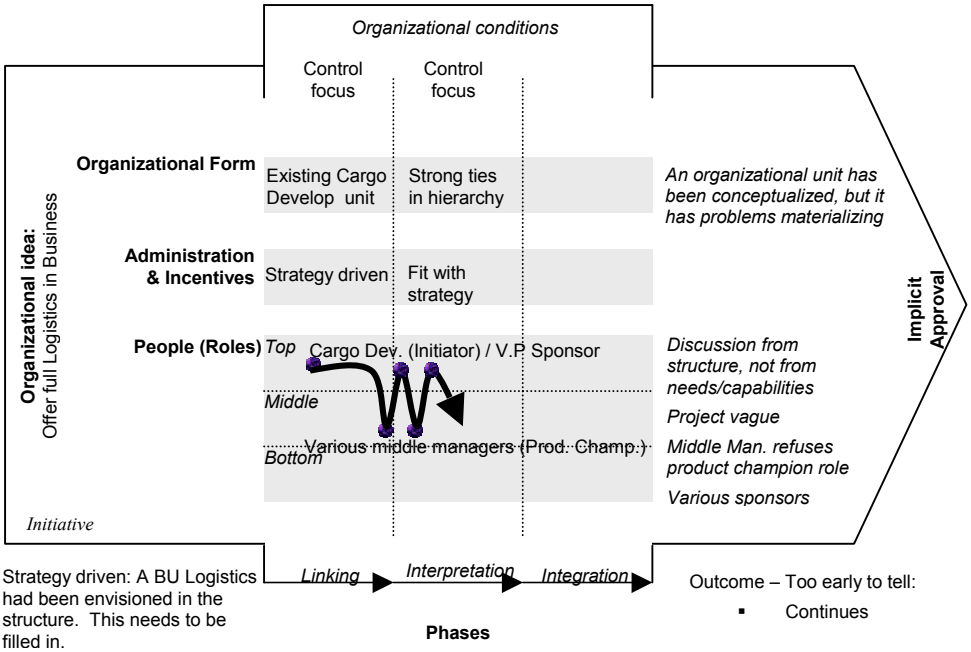
The NVOCC (Non Vessel Operating Common Carrier) Initiative



Knowledge	Decouple Cargo space from flights to get larger capacity
Knowledge bases	Strategic knowledge Operational knowledge
Common language	Concept not well understood.
Knowledge process	Operationalizing a strategic concept that is barely understood other than by two individuals at the corporate level
Integrative Knowledge	Integrative knowledge in 2 indiv. → Integrative knowledge in 2 indiv.
Specialist Knowledge	- -
Resources	Resources are not a problem. This is a Cargo MT initiative and mainly conceptual.

Appendix Z:

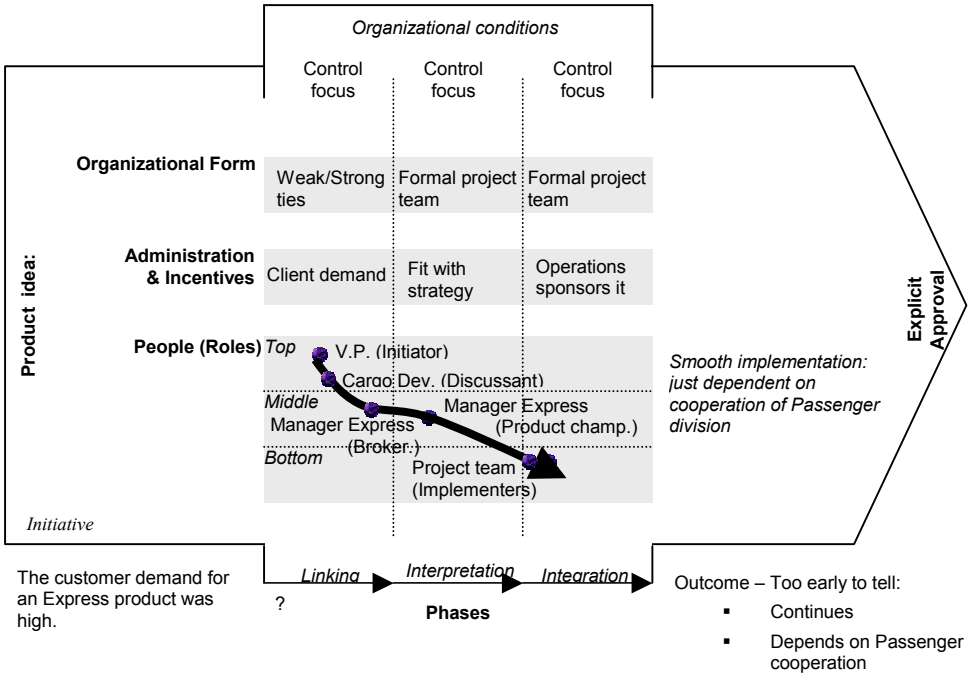
The BU Logistics Initiative



Knowledge	Offer full Logistics in Business Unit	
Knowledge bases	Strategic knowledge Logistics knowledge	
Common language	The concept is not well understood	
Knowledge process	The initiative is still very abstract leading to a call from lower levels to operationalize it more.	
Integrative Knowledge	Integrative knowledge in various individuals	Integrative knowledge in various individuals
Specialist Knowledge	-	-
Resources	Resources are not a problem because they are supplied by the Cargo MT and because the idea is still very conceptual programming the software.	

Appendix AA:

The Express Initiative

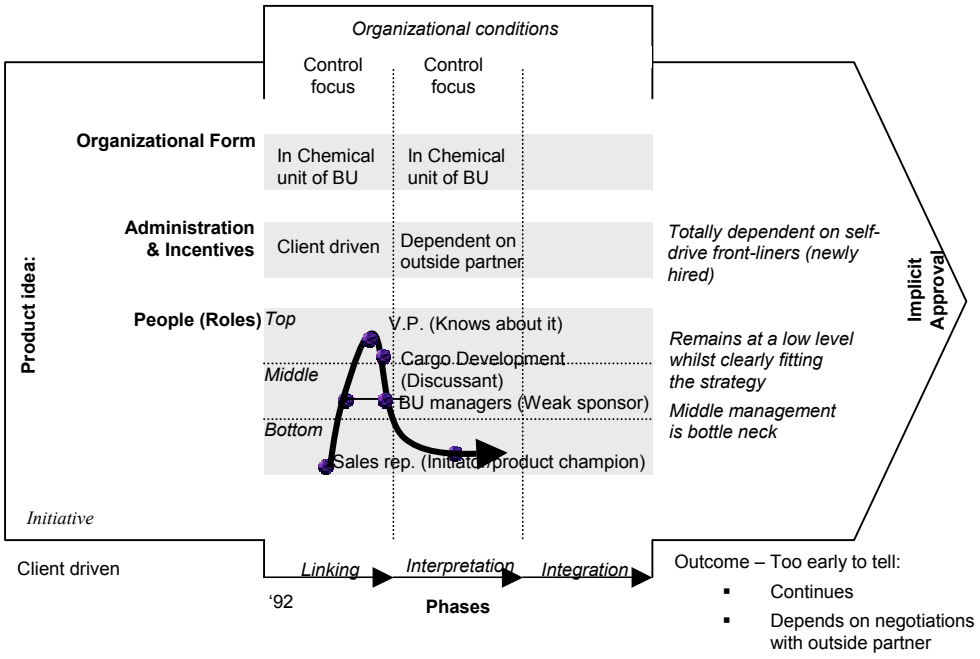


Knowledge	Provide an Express product		
Knowledge bases	Operational knowledge Courier knowledge		
Common language	Everyone understands the concept		
Knowledge process	On the basis of specifications of other units, two people are developing a plan for operationalizing the product		
Integrative Knowledge	Integrative knowledge in 2 indiv.	Integrative knowledge in 2 indiv.	Integrative knowledge in team
Specialist Knowledge	-	Links to specialists	Links to specialists
Resources	Resources are not a problem. They are supplied by the BU Mail and the idea is still mainly on paper.		

Implementation depends on cooperation by the Passenger Division

Appendix AB:

The E-Status Initiative



Knowledge	Obtain license that allows transport of dangerous
Knowledge bases	Dangerous goods knowledge Operational knowledge
Common language	Only front-line employees understand the concept
Knowledge process	Getting the top to make an agreement with outside partner is difficult. Cooperation with this outside specialist (dangerous goods) partner is essential for
Integrative Knowledge	Integrative knowledge in 2 indiv. → Integrative knowledge in 2 indiv.
Specialist Knowledge	- → Same 2 individuals are specialist
	Implementation depends on agreement with outside specialist
Resources	Resources are not a problem. The idea is mainly conceptual.

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NEDERLANDSE SAMENVATTING
(Summary in Dutch)

ACHTERGROND

De exploratie en exploitatie van kansen is essentieel, zoniet cruciaal, voor het overleven van bedrijven. Omdat het competitief voordeel van bedrijven over tijd erodeert, moet deze continu vernieuwd worden. Initiatieven vormen een belangrijke bron voor deze benodigde vernieuwing.

Het onderzoeksveld van ondernemerschap, waarbinnen de studie naar initiatieven valt, is onder te verdelen in (1) studies naar onafhankelijke starters en (2) studies naar ondernemende activiteiten binnen bestaande bedrijven. Deze studie is van het tweede type, ook wel 'intrapreneurship' genoemd. Binnen dit onderzoeksveld gaat onze interesse uit naar het initiatief, dat we kunnen beschrijven als *"een proces waarbij individuen in organisaties kansen om toekomstige goederen en diensten te creeren identificeren en nastreven zonder acht te slaan op de middelen die nu onder hun controle staan, resulterend in een goedkeuring van die kans."* Het kan leiden tot (1) de creatie van nieuwe bedrijfsactiviteiten binnen de bestaande organisatie, (2) de complete transformatie van de bestaande organisatie, (3) een verandering in de wijze van bedrijfsvoering in de industrie en (4) een afscheiding, leidend tot de start van een separaat bedrijf.

De vraag hoe bedrijven om moeten gaan met initiatieven is vooral van groot belang voor grote ondernemingen. Ze zijn vanwege hun grootte vaak traag en daarom hebben ze behoefte aan nieuw initiatief. Door hun schaalgrootte zijn ze, echter, wel zeer goed in staat om hun bestaande competenties te exploiteren. Steken ze dus energie in de exploratie van nieuwe initiatieven dan ondermijnt dat hun exploitatievaardigheid. Het moge duidelijk zijn dat dit veel minder een probleem vormt voor kleine ondernemingen. Vooral grote ondernemingen moeten dus de paradox van exploitatie versus exploratie oplossen. Initiatieven belichamen dit dilemma van verandering versus stabiliteit. Hoe moeten grote bedrijven dan met initiatieven omgaan?

DOELSTELLING EN ONDERZOEKSVRAGEN

Helaas, ontbreekt het aan antwoorden als het erom gaat hoe grote bedrijven om moeten gaan met initiatieven, omdat de ondernemerschapsliteratuur conflicterende bevindingen beschrijft, er een gebrek aan definities is en er onduidelijkheden bestaan over de organisationele context die initiatieven faciliteert. Deze studie stelt dat een gedeelte van de verwarring over initiatieven veroorzaakt wordt door het bestaan van twee perspectieven die nauwelijks samengevoegd zijn: de conditionerings- en kenniscreatieperspectieven.

Het conditioneringsperspectief stelt dat het de organisationele condities zijn die de voortgang van initiatieven bepalen. Het grootste deel van de 'intrapreneurship' literatuur is gebaseerd op dit perspectief. Het wordt bekritiseerd omdat het alleen naar de

organisationele context van condities kijkt die de selectie van initiatieven sturen, terwijl het faalt in het verklaren van hun creatie. De kenniscreatieperspectief stelt dat het de recombinatie van kennis is die de ontwikkeling van initiatieven bepaalt. Een groot deel van de innovatieliteratuur is op dit perspectief gebaseerd. Het gaat ervan uit dat verbanden naar andere kennis worden gemaakt, dat ideeën opborrelen als gevolg van deze kennisuitwisseling en dat deze dan verder ontwikkeld worden door het integreren van specialistische kennis. Dit perspectief wordt eveneens bekritiseerd, maar in dit geval omdat het alleen naar de interne processen kijkt, terwijl het faalt om te onderkennen dat kenniscreatie plaatsvindt in een organisationele context die zich ook met kennisexploitatie moet bezighouden.

Beide perspectieven benadrukken andere aspecten en representeren daarom eenzijdige gezichtspunten van het initiatieffenomeen. Deze studie stelt dat een synthese nodig is aangezien organisationele condities en kennisontwikkeling op elkaar van invloed zijn en zo de ontwikkeling van initiatieven in verschillende richtingen kunnen sturen. Alhoewel er wel studies bestaan die deze kloof proberen te overbruggen, schieten ze tekort omdat ze causaal of conceptueel van karakter zijn. Het is vanwege dit hiaat dat deze studie zich tot doel heeft gesteld inzicht te verschaffen in de invloed van ondernemingen op de ontwikkeling van initiatieven door de conditionerings- en kenniscreatieperspectieven samen te voegen. Daartoe zijn, in hoofdstuk 1, de volgende vier onderzoeksvragen geformuleerd: (1) hoe ontwikkelen initiatieven zich in ondernemingen, (2) wat is de invloed van de organisationele condities op de voortgang van initiatieven, (3) wat is de invloed van de kennisbasis op de voortgang van initiatieven en (4) wat is de toegevoegde waarde van het combineren van beide perspectieven?

THEORIE

Allereerst wordt, in hoofdstuk 2, het conditioneringsperspectief nader bekeken volgens welke organisationele condities het traject van initiatieven bepalen. Deze condities zijn onder te verdelen in (1) de organisatievorm, (2) de planning- en beheersystemen en (3) de management rollen. Deze condities kunnen controlerend danwel ondersteunend van aard zijn. Initiatieven doorlopen verschillende stadia die elk een toenemende mate van absorptie door de onderneming beschrijven: variatie, selectie en retentie. Het initiatief is in de eerste fase vooral exploratief, in de laatste fase is het vooral exploitatief. Dit gegeven vormt de basis voor de eerste twee proposities. *Propositie 1a stelt dat bedrijven die controlerende, in plaats van ondersteundende, organisationele condities verschaffen in de retentiefase van initiatieven een betere implementatie laten zien van initiatieven*. *Propositie 1b stelt dat bedrijven die ondersteunende, in plaats van controlerende, organisationele condities verschaffen in de variatiefase van initiatieven een betere generatie laten zien van initiatieven*. De organisationele condities moeten dus van ondersteunend naar controlerend veranderen voor een succesvolle voortgang van het initiatief. *Dit vormt de basis voor propositie 1c die stelt dat bedrijven die ondersteundende organisational condities in de variatiefase van initiatieven verschaffen en controlerende in de retentiefase van initiatieven, een betere algemene generatie en implementatie laten zien van initiatieven.*

Conflict met de onderneming is dus vooral in de eerste fase te verwachten aangezien het initiatief dan ondersteunende condities benodigt om zichzelf te kunnen ontwikkelen terwijl het bedrijf behoefte heeft aan controlerende condities voor de exploitatie van haar bedrijfsactiviteiten. De condities van ondernemingen zijn, vooral in die eerste fase, niet specifiek ingesteld op initiatieven en werken in veel gevallen beperkend. Om met dit probleem om te gaan kunnen bedrijven (1) de striktheid van hun condities verminderen, (2) een aparte set condities voor initiatieven opzetten of (3) toestaan dat invloedrijke tussenpersonen, zogenaamde 'champions,' initiatieven door de stringente condities heen loodsen als zich conflicten voordoen.

Het kenniscreatieperspectief wordt vervolgens, in hoofdstuk 3, nader bekeken. Deze beschouwt een initiatief als een kennisdeeltje dat zichzelf uit de kennisbasis van een onderneming ontwikkelt tot een separate eenheid. Daarbij doorloopt het initiatief drie fasen, namelijk (1) het verbinden van bestaande met andere kennis, (2) het interpreteren van de nieuw onstane kennis, en (3) het integreren van die kennis. Gedurende dit proces verandert het initiatief van idee, tot concept, tot gedetailleerde aktie en ontwikkelt zodoende een eigen kennisbasis, naast die van het bedrijf. Om dit mogelijk te maken is er nodig (1) een transformatie van brede naar diepe (specialistische) kennis, (2) een transformatie van een losse naar vaste koppeling van de teamleden en (3) een formalisatie van de onderlinge verhoudingen. Het voorgaande vormt de basis voor de volgende proposities. *Propositie 2a stelt dat initiatieven die op brede, in plaats van diepe, kennis kunnen bouwen in hun verbindingsfase een betere generatie laten zien. Propositie 2b stelt dat initiatieven die op diepe, in plaats van brede, kennis kunnen bouwen in hun integratiefase een betere implementatie laten zien. Propositie 2c stelt dat initiatieven die op brede kennis kunnen bouwen in hun verbindingsfase en op diepe kennis in hun integratiefase een betere algemene generatie en implementatie van initiatieven laten zien.* Door de beschreven transformatie bouwt het initiatief gedurende zijn levensduur een eigen vorm, administratie en rollen op, naast die van de onderneming.

Een synthese van beide perspectieven wordt, in hoofdstuk 4, geboden door middel van een zogenaamd co-evolutionair raamwerk. Dit raamwerk verduidelijkt dat de typen condities en kennis bij elkaar moeten passen en met elkaar moeten co-evolueren over tijd. Dit vormt de basis voor *propositie 3a die stelt dat coevolutie van condities en kennis tijdens de verbindings-, interpretatie- en integratiefasen nodig is voor een succesvolle levensloop van initiatieven.* Dit betekent, ten eerste, dat brede kennis vergezeld moet worden met ondersteunende condities en dat diepe of specialistische kennis vergezeld moet worden met controlerende condities. Een brede kennisbasis met ondersteunende condities resulteert namelijk in meer innovatieve initiatieven. Dit vormt de basis voor p*ropositie 3b die stelt dat hoe meer ondersteundend de organisationele condities en hoe breder de kennisbasis in de verbindings-, interpretatie- en integratiefasen des te meer innovatief het initiatief.* De integratie van specialistische kennis, daarentegen, vereist een sterke koppeling tussen de leden alsmede een sterke mate van formalisatie om de complexe kennis uit te kunnen wisselen: controlerende condities dus. Voor een effectieve

implementatie van initiatieven moet er dus een diepe kennisbasis met controlerende condities aanwezig zijn. *Dit vormt de basis voor propositie 3c die stelt dat hoe meer controlerend de organisationele condities en hoe dieper de kennisbasis in de verbindings-, interpretatie- en integratiefasen des te beter de implementatie van het initiatief.* De transformatie van kennis en condities tijdens het ontwikkelingsproces van het initiatief staat bloot aan natuurlijke en door het management gestuurde dempingseffecten. Deze dempingseffecten moeten van een bepaald niveau zijn. Een gebrek aan demping kan tot overmatige chaos leiden en een te sterke demping leidt tot weinig innovatieve initiatieven. Condities en kennis grijpen dus op elkaar in, beïnvloeden elkaar en kunnen daarom als zodanig niet los van elkaar gezien worden.

METHODE EN EMPIRIE

De wisselwerking van condities en kenniscreatie is onderzocht bij 24 initiatieven in drie bedrijven, namelijk Ericsson Telecommunicatie, KLM Vracht en Van Ommeren. De drie bedrijven waren geselecteerd op basis van theoretische 'sampling,' in de zin dat elke van de drie bedrijven een duidelijk andere set aan organisationele condities had. Volgens het flexibiliteitsraamwerk van Volberda was Van Ommeren het meest planmatig, KLM Vracht het meest chaotisch, en Ericsson ETM ertussen in, zijnde flexibel. Hoofdstuk 5 beschrijft deze selectie, volgens welke methodiek de initiatieven onderzocht zijn en bespreekt de validiteit van de verzamelde data

De kenmerkende eigenschappen van de initiatieftrajecten voor elk van de drie bedrijven zijn eerst apart besproken in hoofdstukken 6,7 en 8. Bij Van Ommeren zijn zes initiatieven onderzocht. Hieruit bleek dat de meeste initiatieven investeringsvoorstellen betroffen, die in vergelijking met de andere onderzochte bedrijven niet erg innovatief waren, en waarvoor weinig kapitaal nodig was om ze te ontwikkelen. Het gecentraliseerde beslissingssysteem van het management en de raad van bestuur bepaalden de overlevingskansen van een initiatief. Autonoom gedrag buiten dit beslissingssysteem werd niet getolereerd en leidde tot het beeindigen van het initiatief. Echter, als initiatieven door het bestuur waren goedgekeurd werden ze goed geimplementeerd.

Bij Ericsson zijn 10 initiatieven onderzocht. Initiatiefleden konden makkelijk in contact komen met andere dochterbedrijven, het hoofdkantoor of zelfs andere firma's voor het verkijgen van kennis. Het opzetten van teams ging ook makkelijk bij Ericsson door de vele ervaring die men had met het opzetten van teams voor het acquireren van nieuw klanten. Er waren twee routes voor initiatieven: een 'top-down' en 'bottom-up'. De laatste vond plaats via een process van consensus, dat weliswaar voor veel draagkracht zorgde, maar ook tot veel vertraging leidde en problematisch was voor de goedkeuring van radicalere initiatieven.

Bij KLM Vracht zijn 9 initiatieven onderzocht. De initiatieven zijn vrij radicaal en ambitieus en zijn gebaseerd op een strategie die als verreikend wordt beschouwd in de luchtvracht industrie.. De meeste initiatieven komen van de top via de strategieeenheid, 'Cargo Development'. De ambiteuse strategie resulteert in een extreem brede kennisbasis, maar zonder de benodigde diepgang, resulterend in een chaotische situatie Bovendien

wordt het niet begrepen door de onderste laag en faalt het zodoende om initiatief te stimuleren. Vanwege de grote discrepantie tussen de visionaire strategie van de top en de recht-toe-recht-aan mentaliteit van de onderste laag heeft het middenniveau een moeilijke tijd om de top en onderste laag te verbinden De zwakke controlesystemen van KLM Vracht bemoeilijken de operationalisatie van de zeer conceptuele kennis en maakt implentatie een brug te ver voor de meeste initiatieven.

De trajecten van de initiatieven van de drie bedrijven worden, in hoofdstuk 9, met elkaar vergeleken. Zo zien weinig innovatieve initiatieven het daglicht bij Van Ommeren, dat controlerende condities en een nauwe kennisbasis bezit, maar worden de initiatieven die er zijn goed geïmplementeerd. Er heerst een dusdanig sterk managementgestuurde dempingeffect dat er geen kans is voor de ontwikkeling van een bredere kennisbasis of meer ondersteunende condities. Bij KLM Vracht, dat ondersteunende condities en een brede maar ondiepe kennisbasis bezit, worden de meest innovatieve initiatieven gelanceerd, maar verloopt hun implementatie het meest moeizaam. Er ontbreekt een dempingeffect waardoor de brede kennisbasis en de ondersteunende condities alleen maar breder en meer ondersteunend worden in plaats van te convergeren naar de benodigde diepere kennisbasis en meer controlerende condities. Bij Ericsson zijn er zowel ondersteunende als controlerende condities en een brede en diepe kennisbasis aanwezig, die er voor zorgen dat de initiatieven meer innovatief zijn dan bij Van Ommeren maar minder dan bij KLM, en dat hun implementatie trager verloopt dan bij Van Ommeren maar beter dan bij KLM. Binnen de drie bedrijven zien we voorbeelden van initiatieven die een eigen set aan condities en kennisbasis proberen te creëren omdat dat van het bedrijf niet adequaat is. Deze initiatieven vertonen echter wel problemen as ze weer in het bedrijf geïntegreerd worden, omdat de kennisbasis en condities van het initiatief met dat van de onderneming op een lijn gebracht moeten worden.

CONCLUSIES

De bevindingen ondersteunen de proposities in sterke mate. De studie laat zien dat management een sterke invloed uit kan oefenen op de voortgang van initiatieven door het manipuleren van organisationele condities en de kennisbasis. Te weinig demping, zoals het geval was bij KLM Vracht, leidt tot een situatie waar geen convergentie van diepe kennis en controlerende condities wordt bereikt. Teveel demping, zoals het geval was bij Van Ommeren, leidt tot een situatie waarbij geen divergentie naar een breed genoeg kennisbasis en ondersteunende condities wordt bereikt. De tussensituatie, waarbij management een beperkte mate van demping uitoefent, zoals het geval was bij Ericsson Telecommunicatie zorgt voor een convergentie van een brede naar diepe kennisbasis en voor een transformatie van controlerende naar ondersteunende condities. Soortgelijke tussensituaties zijn eerder beschreven in de literatuur in de vorm van de ‘ambidextrous’ of gebalanceerde onderneming dat een mix aanhoudt tussen exploratie en exploitatie ofwel tussen verandering en stabiliteit. Dit gebeurt door binnen een onderneming bepaalde eenheden zich met exploratie en andere met exploitatie te laten bezighouden. Een andere tussensituatie is die van de duale of oscillerende onderneming die eenheden laat migreren

van een periode van exploratie naar één van exploitatie, en vice versa. Deze studie, echter, laat zien dat er binnen één eenheid op hetzelfde tijdstip verschillende condities kunnen bestaan die werkzaam zijn op verschillende fasen van het initiatief proces: ondersteunende op de eerste fase, en controlerende op de laatste fase. Managers dienen dus een duale managementstijl te bezitten, die zowel exploratief als exploitatief is, leundend zowel op een brede als diepe kennisbasis, en dienen deze over tijd per initiatief te differentieren.

CURRICULUM VITAE

Martin Wielemaker (Santiago, Chile, 1969) obtained a Masters in Industrial Design Engineering at Delft University of Technology in The Netherlands in 1994. After graduating Martin worked as a consultant in product design for various firms in the Benelux. During his years as a Ph.D. research associate at the Rotterdam School of Management at Erasmus University his research output appeared in journal publications and a book. Martin Wielemaker is currently Assistant Professor in Management at the University of New Brunswick in Canada, where he teaches Entrepreneurship, Strategic Management, and Organization Theory. His main research interests include Knowledge Management, Entrepreneurship, and International Business. His background in innovation has culminated in this study on 'Managing Initiatives.'

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