

The Role of IT Systems in the Strategy Process: A Case Study

One primary purpose of the strategy process is to establish consensus among managers and employees on a clear direction for the firm's business (Ocasio and Joseph, 2008). It is therefore a central aim of the strategy process to channel attention and distribute it to areas of special importance for the firm's competitive strength (*cf.* Ocasio, 1997). Today researchers are largely agreed that management control can and should be an important element of the structure for this discussion on strategy. The development of new IT systems (ITS) in the last decade, primarily in the form of various enterprise resource planning systems (ERP systems), has helped to open up new possibilities for strategically oriented management control (*cf.* Piccoli and Ives, 2005).

Almost all ITS are intended to facilitate the collection, analysis, and distribution of large quantities of data. Automation of transaction processing, which requires considerable resources, frees up resources for analysis of internal and external information of strategic and tactical significance (Davenport and Harris, 2007). Although these systems have considerable potential for making management control more strategically oriented, and above all for supporting and facilitating the efforts devoted to strategy, there are few empirically oriented studies on the use of ITS in this important part of the control process. The purpose of our work, therefore, is to increase knowledge and understanding of the role of ITS in the strategy process.

We have chosen to study a globally involved enterprise that has undergone, and continues to undergo, major strategic changes. At this point, six interviews have been held with key participants in the firm's strategy process – primarily controllers, IT executives, and their equivalents. These individuals represent the corporate group and one business unit. In addition, written materials in the form of newspaper articles, annual reports, and internal presentations have been studied. Based on these sources, there is a description and analysis of changes (1) in the orientation of group and business strategy, and (2) in management control, highlighting the strategy process and the role of ITS in it.

Our findings show that the company has been moving away from a corporate strategy characterized by portfolio management toward one that seeks increasingly to capitalize on synergies through transfer of knowledge and to some extent through activity sharing. At the business unit level there is a clearly growing emphasis on product differentiation, while continuing to give low production costs high priority. The strategy process appears to play a significant part in the changes currently under way. In this endeavor, management seeks to call attention to the following strategically important changes in company operations: (1) a new group perspective, from part to whole; and (2) a new business perspective, from costs alone to both costs and value. The findings show that ITS have played a part in the effort to focus attention on the changes in strategies and management control. It may be noted, however, that the design and use of ITS lag to some extent behind the visions and models communicated by management. For example, many of the routines in the changed strategy process are still manual. Widespread underutilization of the possibilities opened up by ITS is probably one of the main reasons why a more strategic form of management control is a vision rather than a reality in many organizations today.

Key words: strategy process, management control, IT system, enterprise resource planning system.

Background and Problem Area

Globalization has sweeping consequences for the competitive situation of firms. Markets are integrated, customers are more demanding, new competitors appear, etc. These developments change conditions for control in companies (Sutton, 2006; Rom and Rohde, 2007). For this reason, the subject of strategy has acquired greater importance and attracted the interest of many scholars in the field of management control (see for example Bhimani and Langfield-Smith, 2007). For a long time research focused largely on studying how the design and use of management control affect implementation of strategies. In recent years, there has also been a growing interest in examining the role of management control in the strategy process (Langfield-Smith, 2007). This is a welcome expansion of the focus of research in the area, for the primary function of the strategy process – as well as other central processes in management control – is to get managers and employees to agree on a clear orientation for the operations of the organization (Ocasio and Joseph, 2008). The purpose of the strategy process is to channel attention and distribute it to the areas of special importance for making the firm a strong competitor (*cf.* Ocasio, 1997).

The strategy process, which is central to dealing with the many questions raised by globalization, is affected by the possibilities offered by new IT, one of which is the use of so-called enterprise resource planning systems (ERP systems). Granlund and Mouritsen (2003, p. 77) summarize the high expectations that ERP systems will permit integrated planning and follow-up:

It has been suggested that the new technologies such as ERP systems make it possible to model the details of the firm's operations in computer technology and make a highly integrated mode of management possible (Davenport, 1998). The prospect of an intense mapping of organizational processes in computer representations is there, and therefore the management of the firm can be made real time.

New IT solutions thus appear to have potential for being the link which – better than before – will connect the formulation of strategy with tactical and operative planning and follow-up (*cf.* Anthony and Govindarajan, 2007). Although considerable research has been done on the strategy process, knowledge on this subject is fragmented, and there has been no significant interest in certain areas of importance (Hambrick, 2004; Hutzschenreuter and Kleindienst, 2006). In management control, as previously mentioned, there has been a strong focus on studying the implementation of strategy, whereas the formulation of strategy has not received the same attention (Marginson, 2002). Nor have attempts to introduce a more outwardly directed form of management control in order to improve analysis of markets and competitors, or so-called Strategic Management Accounting, left any clear imprint either on the literature or in practice (Roslender and Hart, 2003). As for the role of IT in the strategy process – for example, the possible use of information from an ERP system for strategic analysis – research in that area is quite limited. Moreover, there is a need for further studies on how the strategy process actually works and on the role of central participants in it (Hutzschenreuter and Kleindienst, 2006; Whittington, 2006).

In light of the above, the purpose of this paper can be expressed as follows: to obtain greater knowledge and understanding of the role of IT systems in the strategy process. By IT systems, subsequently abbreviated ITS, is meant the computer-based information systems that support the management control of an organization in a larger sense. The definition includes both ERP systems and independent system solutions (such as accounting systems, data warehousing solutions, and project control systems) that support processes of planning and follow-up in

management control. The data that can be processed by an ITS may be monetary and/or nonmonetary in nature and historical and/or future-oriented, and should be intended to facilitate strategic decisions.

The starting point for our discussion is based on reviews of the literature, the results of which are presented in the next session. The presentation reveals a considerable need for in-depth case studies of the role of ITS in the strategy process. This section is followed by one on method, and one devoted to description and analysis of the change process at the case study company. Particular emphasis is placed on the contribution of the strategy process to focusing the attention of leading participants on strategically significant areas of change, and on the role of ITS in this regard. Finally, the paper offers a number of overall conclusions.

Previous Studies

Research on the content of strategies, and on their formation, development, and implementation, is extensive and has led to the emergence of several large and influential schools of thought (Mintzberg, 1994). This tendency may be one explanation for the fragmented nature of the broad field of strategic management, and the limited degree of integration among different perspectives in this field (Hambrick, 2004). For example, there is still a tradition of focusing on the content of either corporate or business strategy, despite studies showing that congruence between these strategies is also of great importance to the competitiveness of the organization (Nilsson and Rapp, 2005; Anjou, 2008). Another example is that researchers often tend to focus either on the content of strategies or on the process by which they emerge (Hambrick, 2004). Above all, knowledge of what organizational decision-makers actually do within the framework of the strategy process appears to be limited – despite the fact that these are the individuals who determine what the strategies should be. Whittington (2006) is one of the researchers who contend that we therefore need more knowledge about the actions and practices of organizational decision-makers within the framework of the strategy process. Based on a literature study of a full 227 studies on the research on the strategy process, Hutzschenreuter and Kleindinst (2006), argue along similar lines. One conclusion from their review is that greater interest should be devoted to determining and analyzing how the work of the strategy process is actually conducted. In the authors' opinion, research on strategy has not sufficiently investigated how the attention of decision-makers is channeled and distributed within the organization (*cf.* Ocasio, 1997; Ocasio and Joseph, 2008).

It would be desirable if studies on channeling and distributing the attention of decision-makers in the strategy process were devoted to the significance of formalized structures in that process. Today there is substantial agreement that management control provides an important structure for the strategic discussion within the firm. The development of new ITS in the past decade, primarily in the form of various ERP system solutions, has helped to enhance conditions for strategically oriented management control. Almost all ITS are intended to facilitate collection, analysis, and distribution of large quantities of data. Through automatization of transaction processing, which requires considerable resources, resources can be freed up for analyzing internal and external information of strategic and tactical significance (Davenport and Harris, 2007). The following section treats the research on the use of management control in the strategy process, and particularly its importance for channeling attention and directing it toward areas of strategic importance. Thereafter, the paper considers the research especially focused on ITS and their use in management control.

Strategy and Management Control

In the 1980's there was growing interest in studying the relationship between strategy and the design and use of management control. This contingency-theory research has continued to attract considerable notice, as is evident not least from the many survey and case studies that have been published (Langfield-Smith, 1997; Langfield-Smith, 2007). Certain overall tendencies are discernible from this extensive research (for an overview, see Nilsson and Rapp, 2005). At the same time, it may be noted that the findings are not entirely unambiguous; some are even conflicting. As for studies of the relationship between business strategy orientation and management control, one explanation, according to Kald et al (2000), is that the concept of strategy has been operationalized in different ways, making it more difficult to compare the results of the studies. Another explanation has been offered by Gerdin and Greve (2004), who maintain that the ambiguity of the findings is due to existence of several different types of matching, or "fit," and that it is important to understand whether, and if so how, these may be interrelated. In a subsequent article this reasoning was developed further; it was underscored that many studies are also flawed in regard to understanding the link between the theoretical content of the concept of fit and the choice of statistical method (Gerdin and Greve, 2008). An additional shortcoming typical of these classical, survey-based, contingency-theory studies is that they shed little light on changes in strategies and control systems over time, but furnish only a snapshot of the relationship between strategy and control at a particular point in time (Chapman, 1997). Similar criticism of contingency-theory studies was advanced by Otley back in 1980 in a call for longitudinal case studies on how control systems change and the reasons why (Otley, 1980).

One area that was explored through case studies rather early on was that of strategic changes and the role of control systems in the processes involved. Roberts' (1990) case study shows how a conglomerate making acquisitions uses management control to implement a corporate strategy with short-term monetary objectives as primary targets. The description illustrates how a new decentralized form of organization is complemented by a strong emphasis on a few monetary key numbers. It is less clear, however, what role the management control system has in the development of these strategies, i. e. how the management control system is used in the strategy process. Archer and Otley (1991) adopted a similar focus in studying a middle-sized British manufacturer of animal feed and other agricultural products. Their investigation shows that the management control system had an important role in implementing and refining the company's existing strategy. But this study, too, provides little information on the use of management control in choosing between different possible strategic alternatives.

More recent studies, as well, often focus on implementation of strategy and on the question how strategic change can be supported by appropriately designed and used management control (see for example Nilsson and Rapp, 1999, Nilsson, 2002). In the 2000's, however, a growing number of studies were devoted to the role of management control in strategy formulation. One scholar who developed an interest early on in possible uses of the management control system – not just to implement strategies, but also to formulate new ones – is Robert Simons. In one of his early articles, based on three case studies and 16 in-depth interviews, he shows how the control system can be reshaped to focus on areas of strategic uncertainty. Through an exchange of information between senior management and the operative level – on the current progress of the firm in relation to plan and on threats and opportunities in the business environment – the organization can continuously adapt to changed conditions (Simons, 1990). This kind of interactive use of management control systems is discussed by Simons in several other studies (for a summary, see Simons, 1995).

The work of Simons has inspired many researchers to investigate how management control affects the emergence of new ideas. One of them is Marginson (2002), whose study of a British telecommunications company shows that the strategy process is affected primarily by the so-called system of values (the articulated fundamental values of the organization). The routines and processes for planning and follow-up (administrative routines) are used primarily to support the implementation of strategy. Another instance where the work of Simons is used as a starting point is Tuomela's case study on the introduction of a new system of performance measurement at a subsidiary of ABB (Tuomela, 2005). That article provides a relatively detailed account of how the new system is used for both formulation and implementation of strategy. The conclusion is that the system serves as an excellent tool of communication. Through the interactive use of the system, the quality of the strategy process was enhanced, and decision-makers felt more committed than before to the targets that had been set. Moreover, the longitudinal study by Kober et al (2007) of a laboratory operation shows that interactive use of the management control gives rise to discussion and awareness that facilitate strategic change.

In addition to a number of case studies, there have been surveys to determine the role of management control in the strategy process. From a resource perspective, Henri (2006) examines how systems of performance measurement support both the formulation and the implementation of strategies. The study focuses on the question whether diagnostic or interactive use, respectively, of the management control system affects four strategically important capabilities – market orientation, entrepreneurship, innovative capacity, and organizational learning. All told, 383 Canadian companies took part in this survey-based study. The results show that interactive use, where strategic dialogue is important, calls attention to the four capabilities. Finding the proper balance between innovation and stability is a challenge; at the same time, it explains the authors' position that the control system affects the firm's competitiveness. A further example is the survey study of 51 major British companies by Bhimani and Langfield-Smith (2007), including supplementary interviews with representatives of five of these companies. The study shows that both the formulation and the implementation of strategy are relatively well structured and based on formal processes. Both monetary and nonmonetary information are used in the formulation of strategy, whereas monetary information predominates in the implementation.

In summary, the review of the literature shows that the area of strategy and management control has attracted growing attention. A previous strong focus on the relationship between the chosen strategy and the design and use of the control system has been supplemented by a growing interest in how management control can contribute to the strategy process. From the review of the literature, it is apparent that management control may serve as an important channel for distributing attention. Most studies, however, do not provide a closer view of how the strategy process is actually conducted. Nor has the manner in which information is collected, analyzed, and distributed been given a more detailed description. The role of ITS in this activity is not even touched upon, a finding that must be considered surprising in view of the potential of these systems for giving control a more strategic orientation (*cf.* Sutton, 2006; Davenport and Harris, 2007). The next section treats the relatively limited research explicitly focused on the role of ITS in management control.

ITS and Management Control

An ITS of great importance in management control is the ERP system (see for example Davenport, 1998). But the interest of researchers in the relationship between management control and ERP systems remained modest for quite some time before beginning to increase

in the 2000's. This development, long overdue according Chapman (2005), is in line with a strong general trend toward focusing attention on the meeting between IT and management accounting (*cf.* Orlikowski and Barley, 2001). It is probably even more important that ERP systems are considered to have the potential to establish integrated control for large and complex organizations. At the same time, there is doubt about whether these systems can really live up to expectations as an instrument of strategic control or should be viewed only as transaction systems (Granlund and Mouritsen, 2003). Regardless of the answer to this question, there is agreement that ERP systems affect management control and the work of centrally placed decision-makers. For example, greater automation of the task of accountants can be expected to release more resources for activities where economic analysis and active decision-making are emphasized. Hunton (2002), among others, contends that this development calls for knowledge of both IT and management control. In his opinion, it is important to understand both the opportunities offered by the new technology and its impact on the work of those in central positions in the organization.

An ERP system affects the work of many individuals in various positions; this is apparent, for example, in the study by Lodh and Gaffikin (2003) on the process of implementation at a large Australian steel producer. Their study shows, not surprisingly, that in addition to the technical design, it is also important how the change process is conducted. Caglio (2003), as well, highlights the individual participant, with special focus on how the ERP system alters the role of accountants. In a case study of an Italian pharmaceuticals company, she shows how a large portion of the accountant's knowledge is transferred to the system. In that way such knowledge can be made available to other participants and spread elsewhere in the organization. The accountant thus assumes a broader role that extends to other functional areas. Such a tendency may offer an opportunity, but also pose a threat. Chapman and Chua (2003, p. 91) summarize this development as follows:

...it is worth considering that for those interested in the study of accounting, it is increasingly unclear that making accountants and their work the focus of research is appropriate. ERP-type technologies enhance and support the structured representation and management of activity, and so would seem to increase the organizational significance of accounting, however, at the same time these technologies raise serious questions as to whether or not such accounting activity will be carried out by accountants in the future.

So far, however, the accountant's position does not appear to be in danger. This is apparent, for example, from the study by Granlund and Malmi (2002) of how ERP systems impacted management control at 10 companies in Finland. The authors describe and analyze how ERP systems affected techniques such as performance measurement (including the balanced scorecard), strategic management accounting, and budgeting and forecasting. One conclusion is that the introduction of ERP systems was accompanied by relatively minor changes in management control. At the same time, many routine tasks disappeared, enabling accountants to spend more time on analysis. Similar conclusions are drawn by Dechow and Mouritsen (2005) in their study on the role of the ERP system in the process of integration at two companies. One of these is a world leader in the manufacture of pumps; the other is one of Denmark's largest industrial corporate groups. As a major effect in both enterprises, financial accounting improved in regard to both promptness and precision. The authors note that management control does not necessarily become more sophisticated – but it does provide a good basic order and enhances transparency in the company. One interesting conclusion is that the ERP system helps to involve more participants, and not just accountants, in the

establishment and reshaping of management control. In the opinion of Dechow and Mouritsen, this situation tends to undermine the power of accountants over management control.

A paper by Quattrone and Hopper (2006) has a similar focus; it treats the paradox between the ERP system requirement of homogeneity and the heterogeneity of users. The authors conducted a longitudinal study on implementation of an SAP (System Application and Products) at a large US manufacturer and distributor of building materials. The authors describe in detail how the system is constantly changing – there is a tension between stability and flexibility, between heterogeneity and homogeneity, but the ERP system also appears to have several partly inconsistent qualities at the same time. Bhimani (2003, p. 5 ff) shows similar thinking in speculating on how a number of established contingency-theoretical relationships can be changed by an ITS. He summarizes his thoughts as follows:

What is becoming clear is that contexts where the contingencies between cost objects, structures of information capture, and the attributes of economic engagements submerge, decouple, or become reformulated, the basis for information systems design reflect changed notions of balance. Ultimately, certain features of management accounting systems may come to transcend past conceptualizations of rational linkages and appropriate novel contingencies in predicating formulations of organizational reality.

In two studies, Hyvönen et al (2006, 2008) demonstrate that ERP systems form complex structures that are not necessarily stable. The first paper provides a description and analysis of how an ERP system, together with an ABC module, can help to spread knowledge about management control in a large multinational firm in the forest products industry. The results show how this type of system can be useful not only in providing decision-makers with many opportunities for data processing, but also in helping to reduce resistance to change. The system gave divisions a clear standard for ABC (activity-based cost) calculation – important for transferring knowledge in management control. The second paper, which appears to be a continuation of the 2006 study, describes and analyzes a so-called “virtual integration” that above all would improve strategic decision-making. The study shows how the system affects the logic on which the accounting and management philosophy of the organization are based.

In summary, the review of the literature establishes that ERP systems have had an impact on management control even though the changes may not actually measure up to expectations (*cf.* Hunton, 2002). One explanation may be that many of the studies focus on processing transactions, with less emphasis on how ERP systems can be used in strategic and tactical decision-making. Research on the role of IT in the strategy process – for example, how management control information from an ERP system can be used for strategic analysis – is limited, if not virtually nonexistent. These tendencies are confirmed in the comprehensive literature study by Rom and Rohde (2007), which shows that research on ERP systems is heavily oriented toward transaction processing. One reason for this may be that many researchers adopt a narrow definition of the concept of ERP system, where neither BSC (Balanced Scorecard) nor SEM (Strategic Enterprise Management) solutions are included.

Another conclusion from the review of the literature is that research so far has focused only on the role of the ERP system in management control; other types of ITS are not treated at all. This emphasis is not surprising, as ERP systems have enormous potential for changing management control from the ground up. But it is also apparent from the literature that the potential of ERP systems is seldom fully realized (see for example Granlund and Malmi,

2002; Dechow and Mouritsen, 2005). Unless other types of ITS are considered as well, the use of the new technology in management control will be insufficiently understood. Our assessment is that the development of new accounting systems, data warehousing, computer-based project planning systems, etc. also has a substantial impact on the strategy process. Consequently, a broad definition of ITS – one not limited only to ERP systems – has been chosen as the starting point for this paper.

Methodological Considerations and Conducting the Study

From the preceding sections it is clear that there have been very few studies on how management control can contribute to the strategy process. As for the role of ITS in the development of new strategies, virtually no studies have been published. In a survey-based study, it is difficult to learn more about the structures designed to support the strategy process, about what central participants do and how they reach decisions. This is particularly so when interest is focused on the use of management control and ITS to channel and distribute attention. We have therefore chosen a research design based on an in-depth case study with an exploratory orientation. Since co-ordination is an important activity in the strategy process, it is desirable to study a large and complex organization. The organization chosen was a world-wide enterprise that has undergone, and is still undergoing, sweeping strategic change. Without a doubt, this company is actively engaged in changing its strategy, control, and organization. For these reasons, the company is considered, overall, to represent the type of innovative organization that is especially interesting to study for the purpose of determining and describing good practice in management control. Since depth and multiplicity of aspects have been accorded priority, resources do not suffice for studying more than one organization.

By this time, six comprehensive interviews have been held with centrally placed individuals at the group and business unit levels. The persons interviewed were selected because they can influence, and also are affected by, the conduct and content of the strategy process. Specifically, they are the following: the manager responsible for the strategy process, the group controller, some executives responsible for different areas of IT, and a controller in a business unit. There is an ambition to interview an additional 6-7 centrally placed decision-makers. Priority has been given to identifying a limited number of key people and conducting longer and interviews rather than to hold a large number of shorter interviews. The choice of interviewees is thus critical to the validity and reliability of the study. One important criterion for selection is that the decision-maker should be thoroughly familiar with the strategy process and the role of the ERP system in it. In particular, the decision-maker must be able to describe in detail how attention in strategically significant areas is channeled and allocated. The interviews have been open-ended in nature, on themes – such as “the Strategic Orientation of the company” and “the role of ITS in the Strategy Process” – up for discussion, rather than consisting of highly detailed questions on the design and use of the strategy process. A valuable complement to the interviews is written material in the form of annual reports, internal presentations, and newspaper articles. The interviews and the written material have been compiled and used to provide an initial tentative description of (1) the orientation of corporate and business strategy, and (2) the company’s management control, with a focus on the strategy process and the role of ITS in that process.

Emergence of a New Strategic Orientation

The next two subsections describe and analyze how the strategies have changed and how the elements of a new strategic orientation have emerged. The first section treats the changes in

the orientation of corporate strategy. The second is devoted to changes in the orientation of business strategy, with a special focus on one business unit.

From Portfolio Management to Activity Sharing

If anything, the company is associated with an international growth strategy based on acquisitions. A large number of companies were acquired in the 1980's, all for the purpose of rapidly gaining market share. There are data showing that the aggregate number of companies acquired up to the present is roughly 500. During the initial phase of this expansion phase, production was conducted by numerous companies located in many countries. Often the companies concerned were nationally strong, and later on also independent from the company.

The prevailing management ideal at the time, and thus at the company, was that acquired companies should not be integrated. This view applied to all areas of the business – from production facilities to information systems and language used. The fragmentation was reinforced by the CEO's own management philosophy, expressed as letting "a thousand flowers bloom," with minimal formalization of the company's management and control. In many respects, the company was characterized strategically by portfolio management based on a philosophy of "the bigger the better". Through an ever-increasing volume of production, it would be possible to achieve economies of scale and reduce costs.

One effect of the portfolio strategy described was far-reaching decentralization of major strategic decisions to the business unit level. Consequently, there was very little co-ordination of the total product offering, and as a result an extremely wide-ranging sprawl of products. There was an engineer- and technology-dominated group culture – the company exemplified what is sometimes referred to as a "heavily production-oriented company," where the technical properties of a product were important to its positioning on the market.

For a new generation of CEO's, comprehensive streamlining of the group's production apparatus has therefore been an important strategic issue. Often this has been expressed in terms of major restructuring programs initiated by group management. In recent years, for example, a global "Manufacturing System"¹ program has been launched. It includes a number of tried and proven common standardized methods intended to improve production efficiency through increased knowledge- and activity-sharing within the corporation. The program has now been established at almost all plants and is an important element in the realization of a corporate strategy which to a greater extent than before is based on knowledge- and activity-sharing. This strategic change is described graphically in Figure 1. Note that the figure shows only tendencies and is thus a simplification.

¹ It is called something else by the company.

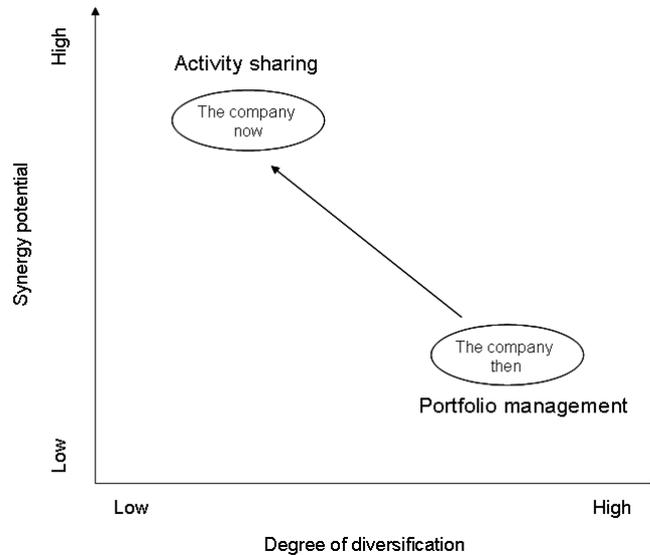


Figure 1: Change in Corporate Strategy.

From Cost Leadership to Greater Emphasis on Differentiation

Although Levitt explained 25 years ago that the future belonged to the global firm, which ... *sell the same things in the same way everywhere* on a global market, such a position is not easy to achieve (Levitt, 1983). Distinctive national and cultural features cannot always be ignored; often they are also difficult to change.

The company tries to take differences of this kind into account, but without lowering its level of ambition for developing global solutions. This can be seen, for instance, in the organization of operations into geographic regions. One justification for subdividing operations along geographic lines is that for certain products there is a need for physical proximity, since these items are expensive to transport.

Nearly 25 years after Levitt's article, the opportunities offered by globalization remain an important strategic issue for the company. If rapid expansion was stressed earlier, today it matters more to seek co-ordination of product assortment and work methods on relatively mature markets. Operations are focused and concentrated, and the linkages to other remaining operations are strengthened. This is the overall driving force in the current process of change at the company, where in recent years these efforts have been aimed at transforming the enterprise...*from a production-focused industrial company to an innovative, pro-active market-driven group* (Annual Report, 2005).

Within the framework of this overall transformation, a combination of factors – primarily changed customer preferences and growing global competition – has led to a market polarization that the company must now confront. The polarization means that an increasing number of customers are willing to pay more for products with advanced design and functioning, whereas another large category of customers are looking for functional basic products at a low price. In strategic terms, one might say that the customer market is increasingly characterized by requirements of simultaneous differentiation and high cost effectiveness.

At the business unit level, strategy used to focus on competing through low costs “Cheap products in high volumes”. But as can be seen from the reasoning above, this strategy became increasingly hard to follow with success when competition from low-cost countries intensified. Management’s assessment was that the company, based on its historic situation, was in no position to compete with these new producers. The production structure was regarded as fragmented and also located to some extent in the wrong places, with too heavy a presence in high-cost Western countries. But with the emergence of qualified global suppliers and innovative strategic thinking that recognized the potential for outsourcing and global purchasing, new opportunities opened up for the company.

To prevail against competition in the lower-end segments, but also to create profitability elsewhere, it was considered necessary to relocate production capacity to countries with a clear low-cost profile. Much of management’s strategic attention in the past five years has been devoted to this question, and the level of ambition is high. At the same time, it has become increasingly clear that the brand name and building the brand are now totally central to putting the company in a position to charge the premium price sought by management.

Consequently, a significant part of the company’s strategy process has involved building up a uniform brand profile. These endeavors are aimed at overcoming a legacy of the many acquisitions: the sprawling diversity of brands. One problem in this regard is that in many countries the company brand has not been “visible” on the local market. Even though much of the current business remains in the mid-range price segment, there is a strong ambition to move up to higher-end segments, where customers are more prepared to pay for differentiated products. In all segments the driving forces for the business are still to be innovation, design, and strengthening the brand.

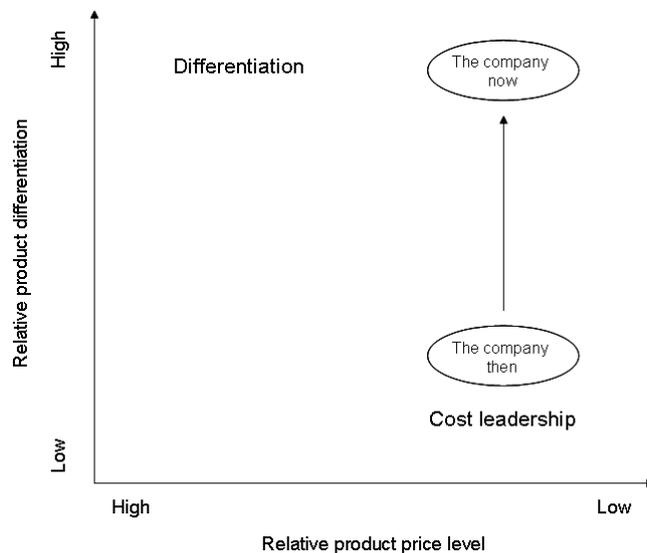


Figure 2: Change in Business Strategy.

In other words, the customer is to occupy center-stage, and product development is to be governed by customer needs. In this way the company intends to create profit margins and growth in sales. At the same time, the company must also seek to be highly cost effective; otherwise profit margins will not be high enough to finance brand building through product development. Future shareholder value is to be created through a successful process of innovation. This strategic change is described graphically in Figure 2. Note that the figure shows only a tendency and is thus a simplification. Despite greater strategic focus, however, the company will still have some strategies directed only at enhancing cost effectiveness and other strategies directed only at differentiation.

Change in the Strategy Process

The strategic changes discussed in the previous section are a result of a partly new approach to planning and follow-up of operations. The strategy process in particular has been given a new design and orientation under the leadership of the new CEO. As a practical matter, previous CEO's ran the corporation as a holding company. They set clear financial targets for all businesses, and a high rate of return was given priority. Somewhat simplified, their message was: *You are to meet these targets, and we don't care how you do it.* The corporate group was characterized by far-reaching decentralization, where the various businesses were run like largely independent companies.

Even today, there is considerable decentralization, and group management seeks to avoid detailed control. Operations are organized into business sectors. As a practical matter, the head of each business sector controls the entire value chain, and the system of rewards is based to a considerable extent on the financial performance of the sector. It is therefore important to have clear structures to ensure that the company's new group and business strategies extend to all sectors. This is true not least in regard to the importance of being a leader in innovation and product development.

One part of this endeavor is the "Innovation Program",² a staff function that is heavily involved in operations. It is intended to provide support for the group's innovation efforts, which have included establishment of a standardized product development process that starts with a strategic market plan and ends with the phase-out of the product. One responsibility of the staff is to ensure that the different sectors and their businesses act in accordance with the intended purpose of this process: to pursue cost-effective and customer-oriented product development. The staff is to support the sectors by providing advice, participating in workshops, etc.

Another element of the strategy process, and one closely related to the process of innovation, has been the establishment of "Product Councils"³ for each product area. Previously there was no co-ordination of the various regions, partly because of a corporate strategy oriented toward portfolio management, but also because of substantial differences in the traditions and customer preferences of the various markets. At the company it is said that their market is not global and that the group should therefore be regarded as a global, multiregional company. Nevertheless, there is an ambition to increase the degree of co-ordination, in the generation plans of the various product areas, for example. In regard to purchasing, too, group management has sought to improve co-ordination by setting up a global purchasing group.

² It is called something else by the company.

³ They are called something else by the company.

However, purchasing decisions are still largely decentralized and are made by the local plant manager.

Financial planning has also changed. It used to be based on clear financial targets for each sector; these would then be broken down by product line. The result was a three-year financial plan, fully in line with the portfolio-management mentality that characterized the company at the time. There was not really any discussion of strategy, just a mathematical exercise in which the figures for the preceding year were raised by some percentage. As previously noted, group management was not particularly involved in the process of preparing plans; instead, there was far-reaching decentralization. Another feature of planning was that the formulation and planning process was largely governed by targets with strict requirements of precision in the financial plans submitted. This approach has now been abandoned; now it is emphasized that the procedures established by group management are intended primarily to support the strategy process at the sector level.

At present there is greater emphasis on so-called "strategic issues," where sectors are asked to describe their strategy in words rather than in terms of monetary key numbers, although corporate financial targets – such as growth in profit margins and the rate of capital turnover – are of course important as a starting point for the discussion on strategy. The targets are communicated in late February or early March; they extend five years into the future and are kept up to date. Among the questions that should be treated in the strategic plan, and that relate to how the company is to meet its financial targets, are what is happening on the market, what strategic initiatives are planned, etc. Not infrequently, group management adds a number of more specific questions for the sectors to investigate. The areas identified in this process are then linked to specific activities with measurable and clear critical success factors, some of which are general and refer to the entire group, while others are sector-specific. It is particularly important to be able to describe the rationale, the thinking, behind the courses of action chosen or proposed by the sectors.

The process may be termed interactive, with considerable variation in how sectors prepare their plans. In other words, there is no clear mandatory planning format. In some cases, planning is an activity for the president and the chief financial officer; in other cases, all senior executives are involved in one or several workshops. In the very largest sectors, co-ordination is an extremely comprehensive process where generation plans are important as a starting point for the discussion on strategy. Identifying possible synergies, and determining, when appropriate, whether they should be exploited, is a central task of Product Councils. Another area where co-ordination is needed is sales; that is, given a certain product range, the sales companies estimate possible prices and volumes. It may be noted, however, that the plans of one sector are not available to other sectors (although they are stored in the ERP system database for financial plans). Here group management chose in favor of trying to prevent the spread of sensitive information, rather than facilitating co-ordination through the sharing of strategic information.

In the next step, the sector plan is discussed with representatives of group management (the CEO and the Chief Financial Officer). The purpose is to ensure that the plans are consistent with group targets and strategy and to determine whether they are consistent internally and with each other. Admittedly, the representatives of group management can provide a considerable number of detailed comments during these discussions, which are normally held in so-called "Sector Boards," but they cannot be regarded as deeply involved in preparing the plans. One of the interviewees described the CEO as both a "reviewer" and a "preacher". The

CEO's "sermon," which is constantly communicated, concerns how the company should handle different threats and opportunities. Consequently, the CEO's views on various issues seldom come as a surprise by the time the strategy process has reached this point. It is almost a form of religion, where the CEO is very clear about how the sectors are expected to proceed and where various structures, such as the Innovation Program, have been put in place to support the process. By virtue of these structures, achieving a coherent whole has become much more important than before, when the group consisted *de facto* of a number of independent parts.

When sector and senior management are agreed on general orientation, the verbal plans of the sectors are translated into a financial plan. When the work has come this far, the group controller's staff determines whether the plans are consistent internally and with each other; in other words, they check the plans for financial and industrial logic. What will be the financial consequences of the strategic plans? They do not consider it their function to question the content at a detailed level; on the other hand, they may have views that relate to the group as a whole. One example is to check whether the sectors are actively seeking to reduce the number of product platforms. Another example is to determine what volume of investments the group can sustain over the next three-year period.

The company was formerly characterized by follow-up with an extreme financial orientation. Today follow-up – which is described as comprehensive and tight – focuses on both financial results and nonmonetary key numbers tied to specific activities and initiatives. Considerable emphasis is placed on ensuring that plans are adhered to and that the company is on the right track and can meet its targets. As for the bonuses of senior management, they are still based primarily on group results for the latest three-year period. As a complement to nonstop follow-up, group controllers conduct a major on-site review of each sector once a year. In this review, strategic and financial plans and outcomes are examined in detail. These meetings are intended to provide support and a discussion partner for sector management.

Adapting ITS to New Strategies and Planning Processes

The extensive changes in the strategy process at the company are reflected in the adjustments already made in group ITS, but above all in the adjustments currently in progress. The following sections discuss how management designs and uses various ITS to call attention to changes in strategies and strategically significant changes in management control. The report shows that the company has come a long way in the process of change but that the design and use of ITS lag somewhat behind the visions and models communicated by management. For example, many routines in the changed strategy process are still manual. Another observation is that the company has a fragmented system environment where several different – but not integrated – ITS are used to focus attention on the new and emerging strategies.

New Group Perspective: from Part to Whole

From earlier sections it is apparent that the company is changing its corporate strategy. This means that the group is moving from a strategy based on portfolio management and decentralization to one that more heavily emphasizes knowledge- and activity-sharing (see Figure 1). Such a strategy is appropriate when the degree of group diversification is low and synergy potential high (Porter, 1987). One central task of group management will then be to create favorable conditions for co-ordination, i. e. to facilitate the continuing effort to identify and exploit synergies. How operations are organized and controlled then becomes critical to achieving the desired degree of knowledge- and activity-sharing (Goold et al, 1994). It is

essential for effective strategy formulation and co-ordination that group management as well as business and functional management have access to relevant information on their own operations and those of others. Put differently, information must be both transparent and based on a common conceptual framework (Nilsson and Rapp, 2005). A well-designed ITS is an important structure for ensuring transparency and uniformity.

The changes in strategy process implemented at the company to improve co-ordination of group operations are supported by several different ITS. Product development – a pivotal element of the strategy process – is conducted largely at the sector level (at the business unit level as a practical matter). There comprehensive and group-wide systems support has been in place for some time in the form of a "Product Management System" (PMS).⁴ This ITS, which is discussed in greater detail in the next subsection, makes it possible to follow developments over time in regard to innovation and new thinking for particular product lines and geographic regions. However, co-ordination of product lines, such as major appliances in Europe and in the US, is not handled in PMS, although senior management can obtain reports showing the entire portfolio of development projects and their financial potential. Previously this was not possible without extensive manual processing. The introduction of PMS has thus helped to increase transparency in product development. For the specific task of co-ordination, group management has created a special organizational solution – "Product Councils". This function for co-ordination across sectors is intended to prioritize the global dimension of business; in other words, it is designed to increase co-ordination of generation plans for product areas and to improve co-ordination of purchasing.

Product development and other important initiatives and activities are co-ordinated at an overall level in the group strategic planning and budgeting process. This process, as shown in previous sections, has undergone many changes. Perhaps the two most important changes are that the degree of interactivity and the degree of iteration have increased in response to the need for far-reaching co-ordination in the new corporate strategy. It may be noted, however, that the strategic planning process is still based in many ways on manual routines. These are intended to support and encourage strategic discussion between all organizational levels in the group. However, even if the different activities involved in the strategy process receive systems support, for example in preparing financial forecasts and in the aforementioned process of product development, integration between various ITS is limited. This means, among other things, that transparency is not sufficient, that key concepts are used in different ways, and that it takes too much time to extract information of strategic importance. The greatest problem and challenge, though, is in the on-going follow-up of the implementation of corporate strategies. Without prompt and efficient reporting, it is hard to know how well the strategy process is advancing. Primarily for these reasons, a large ERP-project project ("The Project")⁵ was initiated in 2007.

One principal purpose of The Project is to resolve many of the problems associated with the fragmented systems environment at the company. During the period 2008-2011, a fully integrated ERP system will be installed throughout the group. This means that implementation will take place in many countries. According to several interviewees, the project is a way for group management to speed up the process of strategic change. Today management does not have full control over financial reporting. Since virtually every sector has its own ITS for financial follow-up and reporting, uncertainty arises at the highest level of management. For

⁴ It is called something else by the company.

⁵ It is called something else by the company.

example, are the results or the costs reported consistent and comparable between sectors? This uncertainty complicates both planning and follow-up, and thus also makes it harder to highlight the vital areas of strategic change at the company. For this reason, processes in sales and purchasing, accounting, and logistics and inventory management will be co-ordinated and made uniform within the framework of The Project. The former Chief Financial Officer describes the ultimate objective of the project as follows (internal information folder on The Project):

The Project is about allocating resources in the most efficient way possible based on a state of the art and global information gathering system that covers sales order processing, administration and financial processes, and finished goods processing like inventory management.

The primary aim of The Project is to allow faster, better, and more cost-effective decision-making than is the case at present. More efficient transaction processing, the possibilities of a shared global service center, and lower costs of licenses and maintenance are expected to enhance cost-effectiveness in decision-making. As for the rapidity and quality of decision-making, the new solution will permit day-to-day monitoring of gross profit by product line. With the current solution, which is based on reporting of results by all units via a joint system of group consolidation, follow-up must wait 4-6 weeks after the end of the month. The possibilities of obtaining detailed financial analyses will also be enhanced by The Project. Today that can be done only in certain parts of the group where a special ITS has been developed (see the next section for a more detailed description). For follow-up of corporate strategy, it must be possible to analyze the degree to which synergies are exploited. One point emphasized by interviewees was the need for better analysis of the financial consequences of co-ordinated purchases. Greater transparency and sharing of information within the group are also required if the sharing of knowledge between sectors is to be improved. Being able to compare and analyze why certain activities are developing better or less well than others is essential if the sectors are to learn from each other. As underscored by group CEO, The Project is intended to facilitate the knowledge- and activity-sharing essential to successful change of business strategy at the company (internal information folder on The Project):

Bear in mind that we operate in an industry of increasing global competition where innovation is key to success. The profit potential from efficient manufacturing alone is not sufficient. We need to capture the benefits from the entire value chain. This is the difference between creating superior value and competing on price alone. To do this we need to use best practice in the group within all areas. With real time information at our fingertips we can act fast and in line with what we foresee. This will be provided by The Project.

New Business Perspective: from Costs to Both Costs and Value

As described in previous sections, the company is changing its business strategy, a shift where sectors continue to emphasize cost effectiveness while also increasing the degree of product differentiation (see Figure 2). Such a strategy features costs of production that are among the lowest in the industry, while a wide range of innovative products is offered. Other typical characteristics are high-quality products, good service to customers, and a strong brand (Porter, 1980). Both the extensive product range and the dependence on successful development of innovative and exclusive products expose businesses with such an orientation to a high degree of uncertainty. This is manifested primarily as greater difficulty of forecasting customer demand compared to the more stable demand patterns typically found

with a cost-leadership strategy (Govindarajan, 1988; Shank and Govindarajan, 1993). Consequently, to succeed with a strategy containing clear elements of product differentiation, the organization must be able to respond quickly to changes in its environment. One central task of management is therefore to create favorable conditions for a high degree of flexibility – for being proactive rather than reactive – while at the same time maintaining a high level of cost effectiveness (Nilsson and Rapp, 2005).

The change in strategies and logic of control – moving from a clear orientation toward production to an emphasis on both customers and production – has posed considerable challenges. After previously emphasizing costs and internal efficiency, management now wants the sectors to focus on value, i. e. to seek both internal efficiency and external effectiveness. According to several interviewees, at the "old" company the sales companies and plants were very strong and therefore focused far too little on customer needs. At this point, however, the company has put in place a formalized and centralized strategic planning process that clearly emphasizes customer needs – fully in line with the change in corporate and business strategies. It has been a considerable challenge for management to create the conditions that would make it possible to implement the strategic plans that have been developed. For this purpose a number of new positions have been established at the group level to support the strategy process and to serve as "catalysts" in it. One of the interviewees remarked that these individuals may be regarded as central change agents who work very closely with operations and with the sectors and their managements. Particularly during the period when the group was undergoing strategic change and introduced a partly new model of control, it was of great advantage to have personnel at the group level who could support this effort. Moreover, the sectors realized early on that the new strategy process had come to stay. But even more importantly, they understood that the new structures, through a common set of concepts, actually facilitated the work of the sectors and made their plans more relevant.

The ITS designed to support the new strategic orientation of the sectors must be capable of quickly providing readily accessible information in areas that affect revenues as well as costs, i. e. the value created by the product for customers. Jaguar⁶ was developed for this purpose. Jaguar is an ITS that supports analysis of profitability by product and customer. According to one interviewee, it is a valuable strategic instrument that facilitates decisions on which products to withdraw and replace. In this way renewal of the product range can proceed more quickly and with greater precision. Jaguar generates comparable and consistent financial reports, as The Project is also intended to do at present. But Jaguar will probably be replaced in time by a data warehousing solution. Together with the ERP system solution implemented by The Project, it will be possible to provide even faster and even more reliable information to the customers – for example, whether a particular product is in stock and if so when it can be delivered – thus permitting further improvement in customer service.

Another example of a locally developed ITS can be found at the studied business unit. This system, like Jaguar, is intended to improve financial follow-up of profitability and value creation for different products. If the local product company could previously decide what range of products to offer the sales company, the situation is now different. The product range is decided to a greater degree by business unit management. The starting point for this determination is the various product families of the sector and the models offered within each family. Each product is assigned a centrally determined standard cost based on the latest sales statistics and information from subcontractors. Each month the sales company then reports its

⁶ It is called something else by the company.

sales at the product number level. These statistics can be compiled so that profitability for entire product families can be calculated. In time this ITS will also be replaced as a consequence of The Project.

PMS, which was previously mentioned, is yet another ITS that is web-based and a very important part of the strategy process for the sectors. Since company management seeks to establish a much stronger customer orientation, it is essential to detect and respond quickly to customer needs. PMS was developed as support in the product development of the sectors, where the preparation of new generation plans is the core of the process. This ITS is partly a tool of project management for supporting the development of new products, and partly a tool for follow-up by senior management that makes it possible to obtain reports on the entire portfolio of development projects (see also the preceding sections).

The system is designed to control the innovation process from beginning to end. It thus provides a central framework and a common language for discussions on business strategy. The design of the system follows the overall process of product development as defined by the company. For each phase, there are a number of checkpoints and delivery commitments. Through management of all development projects in a consistent fashion, transparency and comparability are enhanced, thus facilitating analysis – in regard, for example, to which investments in product development should be carried out at all. It is especially important to be capable of demonstrating more clearly that analyses of the volume and price of various products, for example, are fairly realistic. PMS is also intended to ensure that the aggregate skills and knowledge of the group are clearly identified and utilized through documentation of all activities and steps in product development. It is worth noting, however, that the system does not compel that data be submitted nor require that all development projects be managed in a totally uniform fashion. Thus, to some extent the local unit or product line may decide on its own what is to be reported in the common group system. Examples of required information are "market message" (what message is to be communicated to the market, such as that related to the brand name) and "target measure" (what financial targets have been formulated for launching the product, such as what cost of production is sought). The spaces for these mandatory items must be filled in to permit generation of meaningful reports that cover the entire operations of the group. One interviewee summarized as follows:

Everywhere the system is forgiving. You can do almost anything – even illogical things. The system won't stop you, but is rests on the assurance that there is a process that actually works.

Although PMS was developed primarily as support for project managers, there were initial doubts about the system, one reason being that it required more reporting by project managers. The explanation for the increased reporting is that PMS is an independent system and that all information must be entered manually. Integration with other ITS is not currently on the agenda, as the data used by PMS are not uniformly formatted and are largely nonnumeric.

We try to find a balance so that it is usable for project managers – otherwise we won't get information. And if we don't get information, the reports will not be good. If they feel that management is asking for information and reports, they are pushed to actually enter things in the system.

Gradually thereafter, and through a comprehensive training program, but also as a result of the project managers' own experience with the system, the initial doubts have been replaced by positive evaluations. One of the main explanations for this development was that project managers, with the aid of the system, tend to find more meaning in operations, more of an "aha experience". Not least, they are helped because the system gives more order and structure to the complicated task of updating, renewing, and co-ordinating generation plans.

Concluding Thoughts and Suggestions for Further Research

We have sought to show the importance of modern ITS in the strategy process of a global enterprise. This process is one in which financial information, but also other business information, is or can be essential for attracting the joint attention that is one of the primary determinants of what the company does. Such attention is often difficult to capture, but it is even harder to retain very long among the many people who work for the company. In today's complex, information-rich, and world-wide firms, the struggle for attention is therefore important as a control issue. To what – and how – can control call attention to what is strategically important for the company and ensure that it gets done? The strategy provides the framework for answering this question and the content of the answer. Since the strategy process is an activity rich in information, our initial assumption was that modern ITS are important in the strategy process.

From our empirical study, it can be seen that ITS play a significant part in the strategy process of this world-wide enterprise. Their importance is not evident in extensive use of ITS at every step – measured in time, the use of ITS in the strategy process would probably be limited – but lies in its consequences. In the strategy process of the firm, ITS is a nonlinear resource, like many other human and knowledge-related resources (*cf.* Boisot, 1998). The availability of technology that is integrated (better opportunities for communication) and powerful (better possibilities of storing and processing large quantities of information) creates opportunities in the strategy process that previously were too difficult or impossible to exploit.

But to obtain a better understanding of the consequences of the technology, it is important to describe the current strategy process of firms at three levels: an abstract conceptual level, a concrete level of models, and the most practical – often physical – level of information. This broadens and expands the concept of strategy, particularly when compared to other literature, where strategic thinking and concrete action are often regarded as one and the same. This literature also appears to be based on the assumption that if a strategy is formulated, it is also applied in operations.⁷ Another view – more realistic and perhaps more commonly held – is represented by the classic conceptual framework of Anthony and Govindarajan (2007). There strategy is one given element, and implementation – through the existing management control system – is another. This view resembles that of Gavetti and Rivkin (2007, p. 420) on the emergence of strategies:

First, strategy exists in managers' minds – in their theories about the world and their company's place in it. Second, strategy is embodied in a firms' activities, rules and routines.

We see that particularly in the case of strategic change, it is necessary to clarify the need for an intermediate level of analysis. Modeling at this level gives concrete form to the initial

⁷ What is referred to here is primarily the literature in the so-called "planning school".

abstract strategic thinking, while at the same time elevating and providing continued intellectual meaning to the many specific and practical questions related to the implementation of strategy.

On the abstract conceptual level – where strategic thinking originates and is formulated – the principal changes for the company relate primarily to an increased customer orientation and closer integration of operations that used to be highly fragmented. Such thinking is not unique to the company. In an initial simple overall form, many other global firms express the same thoughts on a similar situation: in an increasingly competitive global environment, it is important that every step in the business can perceive and identify customer needs in order to meet them quickly and flexibly. What distinguishes one firm from another is *how* the desired customer orientation and integration are realized. This difference between *what* is to be achieved (attention focused on customers and the situation of the entire enterprise), and *how* it is to be achieved, is the basis for the frequently repeated view that formulating strategy is simple and takes little time, whereas implementing strategy is difficult and time-consuming.

In research on strategy, it is also one of the explanations for the increased interest in "strategy as practice" – how does the strategy process actually take place? In much of previous research, strategy is viewed solely in terms of its market positioning, in the form of differentiation or emphasis on greater cost effectiveness, for example. It is less common to study the development leading up to, or proceeding from, an established position. As for our case company, in most studies the company would be considered as either production- and cost-oriented, or customer- and value-oriented. In our study, it has been more relevant to regard the situation as an on-going movement between strategic positions, a path of strategic conversion, where strategy is an on-going activity. This is more a matter of "strategizing" than of "strategy". It is about the evolution of a large, complex firm from an existing position toward a desired new position. This task is sweeping and takes time.

With such significant change, the language and particularly the concepts used are of central significance (see for example Tsoukas, 2005). Through language ideas are formulated and attention is defined, and language provides the vehicle for the communication essential to control. With strategic change it is therefore natural for new language to precede practical realization. Language is intended to help create the new reality. It is important that the ideas and the new language can be realized in practical action with relatively little delay.

One example of new strategic language at the company relates to the "Innovation Program," a general concept that was launched at an early stage and is supported by senior group management. It refers to focusing attention throughout the business on customer needs. With the set of concepts developed for this purpose and communicated with the aid of a new ITS, senior group management seeks to help the firm to break free of its historically entrenched view of itself as composed of largely independent businesses with little integration and more of a production orientation.

At an intermediate level, which could be called the level of the financial strategic model, strategic ideas are given further concrete form. "Nebulous" ideas from group management materialize here in various kinds of supporting models, from very simple to highly sophisticated. The models may serve, for example, as "Boundary objects" that bring together and transmit important knowledge from portions of the business to a larger whole (*cf.* Carlile, 2004). With a link to strategic management control, for example, this could refer to models for activity-based customer calculations or multidimensional performance measurement in the

form of a balanced scorecard. These models, in their basic version, were conceived as strongly connected with strategy.

An important general feature of these models today consists of the analyses and presentations provided for *visualizing* and *making visible* the work that goes on in the business (see for example Overby, 2008). The need for such visualization has generally grown with the increasing service content of many businesses. Only after making visible what is going on will it be possible to control this process and take necessary action. Visualization of the business is intended to identify “existing” situations on the one hand, and “desired” situations, on the other – often as a basis for designing the business and its ITS in a better way.

After an initial period with a customer orientation and a holistic perspective as the leading concepts for the introduction of a new system of control, the company has increasingly come into phase – reduced the gap – in the internal development of its own models. This is the case primarily in the visualization of the critical process of customer innovation. The process describes how the company should proceed in order to direct attention to customer needs and meet these needs with new products. This simple process description is used today both for internal guidance and in external communication. It also provides a “map” for the company’s own actions and is an object of recurring reference in internal communication. It was around this process, and in parts of it, that ITS were initially developed.

In other areas relevant to the new strategy, the development of control models has not come so far. Admittedly, there are discussions on important related concepts, such as customer value and customer profitability, and with some additional work, it will be possible to retrieve information both concerning customers and on overall aspects. Nevertheless, there are no more formalized intermediate models. For example: it is possible to speak of increased customer profitability when discussing control; it is even possible to obtain information on the profitability of specific customers, but there are still no specific group-wide models for on-going analysis of individual customers, for example in the form of an ABC calculation. This situation can complicate both the production and the communication of information of importance for control.

The ultimate purpose at the most practical level is to make possible what is strategically desirable in regard to information and action related to it. To a substantial degree, this is a matter of establishing – in consistency with the strategic ambitions at many companies – effective vertical and horizontal integration of the organization’s flow of information. Vertical integration means that formerly independent systems are integrated, thus making it easier and simpler to go from a highly aggregate level to a detailed level. Horizontal integration is about facilitating communication and linking together different parts of the business. Such a linkage is ultimately intended to result in better and faster information processing and thus in better decisions.

The existence of common basic definitions is a precondition for achieving depth (following up individual customers), breadth (comparing and communicating across different organizational units), and flexibility (enabling speedy and reliable delivery as required by changing customer needs). One example is the need for a common coding plan where the same kinds of transactions are classified in a similar way. Some of these definitions are simple both to develop and to apply, with no personal prestige attached to using them, for instance. Other definitions are much more difficult to use as differences between parts of the business are considerable and a common solution involves a costly compromise that few are

prepared to make right away on their own. A recurring problem is that these strategically important details do not receive the attention they require. One reason is that previously, in another systems environment, they were more operative in nature. Even a purely technical link-up – getting different systems to “talk” to each other – is often complicated and time-consuming.

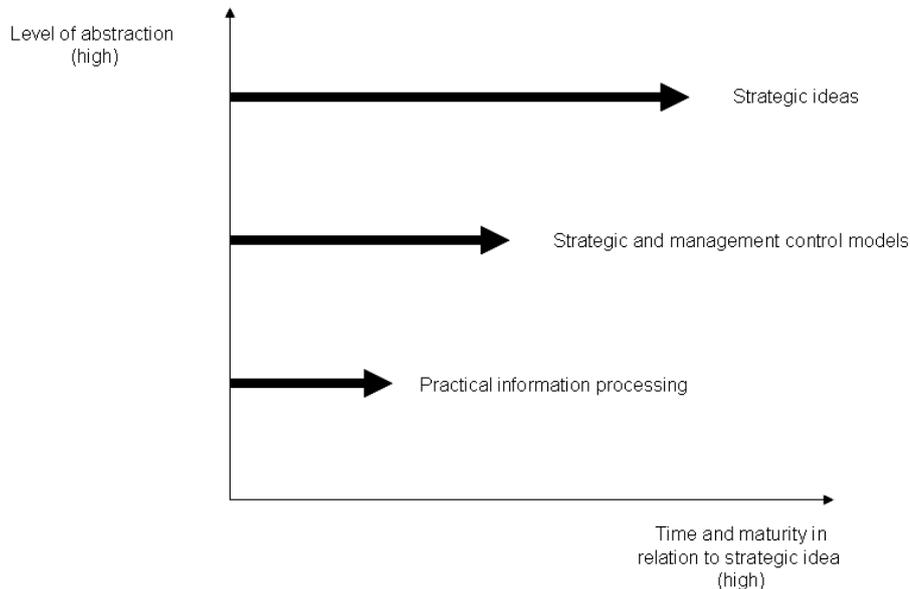


Figure 3: Strategic ideas, models and practical information processing at the company.

Both technically and organizationally, integration at the company is extended successively farther and deeper down in the organization. First, individual functional areas (such as sales) are linked together; thereafter, they are joined in larger geographic areas (such as Europe). In the future, with the new integrated ERP system in place, they can be used in designing global solutions. On the basis of the discussions described above, it is clear that company’s involvement with its strategy is on-going and follows a course in which ideas are transformed into control models and ITS; this process is one where different aspects are in different phases in relation to time and maturity (see Figure 3).

Figure 3 shows that strategic ideas have a major impact on the way the business is controlled and the role of ITS for that purpose. Thus, to a high degree, the thinking, or mental map, for the new customer-oriented, integrated, global enterprise is already in place. In the current ERP project, there is a substantial likelihood of a major step forward in practical information processing. The Project permits information processing both in-depth and on a broad front – a necessity if the strategic ideas are to be fully realized. One danger in such situations – a general one not related directly to the company – is that the increased wealth of information due to the integrated solution may lead to severe attention failure; our attention can be disrupted by volumes of available information. To avoid this hazard, the financial and strategic models of the organization should be developed concurrently. These models provide the support that makes it possible to assort the company’s wealth of information and transform it into valuable knowledge. These models also serve as key “boundary objects” that link the company together and transmit essential knowledge – about customers, for example – between different parts of the business.

The new strategic role of the accountant should be viewed in light of this endeavor. The development of models called for in the discussions above requires a link both to a more abstract level (here: knowledge of the company's strategic idea) and to a more concrete, practical level (here: knowledge of the business). At many companies there is the concrete practical problem that this development may be difficult to realize because many potentially applicable models are considered "worn out" in some sense. People have been talking for a long time about the need for new models of control, but since there has often been no connection between these models and an ITS, they have lacked concrete form. In our opinion, here is where strategic management control can go wrong – the link between the levels of strategy is absent, and there is often insufficient awareness that the different levels can develop in diverse ways over time. Here more research is needed, particularly on the importance of individual participants and groups of participants in the strategy process (cf. Nordquist and Melin, 2008).

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