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**Creative SMC in a Norwegian ICT company:
managerial interaction with sources of
realised strategies**

by

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THE ECONOMICS OF TELECOMMUNICATIONS

This report is one of a series of papers and reports on telecommunication economics published by the Institute for Research in Economics and Business Administration (SNF) as part of its telecommunication economics program. The main focus of the research program is to study the deregulation process of the telecommunication industry, and the economic and organizational consequences of changes in markets, technology and regulation. Being started in 1992, the program is now in its fourth period ending in 2005/2006. The program is financed by Telenor AS.

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Preface

This report has been written as part of a project entitled "Strategic modelling and control" which was run under the telecommunications economics programme at SNF. The project has sought to increase our level of knowledge with respect to the dimensions and causalities of strategic control systems by studying the company 4tel.

The report's primary focus is on describing 4tel's Strategic Management Control (SMC) processes. Three other papers under the same project focus respectively on the connection between 4tel's SMC processes and systems, the connection between the SMC processes and the balanced scorecard system, and the causalities of strategic control systems.

The understanding of the SMC processes and systems which is reflected in this report and in the papers drawn up under the project, was chiefly developed through numerous conversations with the managers of 4tel. Throughout the more than 30 interviews and meetings I conducted with the company's representatives, among them the full senior management team, I encountered an extraordinarily open and positive attitude. I would like to thank everyone for this, and particularly Quality Manager Birger Brandhaug and Head of Finance and Administration Kjell Lia. The undersigned is however solely responsible for the report and its conclusions.

Bergen, August 2002

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1. Introduction

In recent decades, knowledge about strategic processes has progressed by leaps and bounds, moving from a naive belief that realised strategies originate from the managers' annual strategy formulation, implementation and control, to a recognition that they may spring from a vast number of heterogeneous processes (Mintzberg, 1978, Cyert and March, 1963, Weick, 1979, Lorange et al., 1986). These sources of realised strategies may be related to product development (Brown and Eisenhardt, 1995); manufacturing processes (Kotha and Orne, 1989); services (Heskett et al., 1997); market-oriented processes such as networking and branding (Lambin, 1997, Christopher et al., 1991); financial processes (Fruhan, 1979); and a large number of other processes embodied in organisations. The processes may involve individuals and individual groups just as much as the management; changes may take place through collective social processes just as much as through procedures and systems (Mintzberg and McHugh, 1985); the processes may take place at an unconscious level just as much as a conscious level (Crossan et al., 1999); minor details may be of greater importance than apparently major decisions (Casti, 1994, Miller and Friesen, 1984); and external processes can be more significant than internal actions (Burns and Stalker, 1961, Lawrence and Lorsch, 1967, DeMaggio & Powell, 1983).

Despite the large number and complex nature of sources of realised strategies, managers are still assigned the responsibility for influencing them to realise desired actions and patterns. (You only need to check a random textbook on strategy, management or control to see that this is correct). Consequently, SMC still appears to be the key to competitive success, but the concept is in the process of gaining a wider meaning. The traditional source of realised strategies, i.e. the management's annual strategy and control process, has been renewed through the introduction of balanced scorecard and a number of similar methods (Kaplan and Norton, 1992, Fitzgerald et

al., 1991, Lebas, 1994, Lynch and Cross, 1991, Heskett et al., 1997). This process is now much more capable of capturing the full range of activities and dimensions within an organisation. Also, an increasing number of methods are being developed which recognise that realised strategies may originate from product development, manufacturing, and other processes, appreciating that managers may influence these by forming the structures, procedures and systems in which they are embedded (Hum and Sim, 1996, Akao, 1990, Monden and Hamada, 1991, Feigenbaum, 1991, Deming, 1986).

The main conclusion drawn in this report is that managers who influence strategically important processes are not at the heart of SMC; that space is occupied by managers who create the processes which influence them. Based on a three-year narrative study of a softwarehouse within the telecommunications sector, during which the company's environment was restructured, and during which the company itself went through major strategic changes, the key steps of SMC can be illustrated as follows:

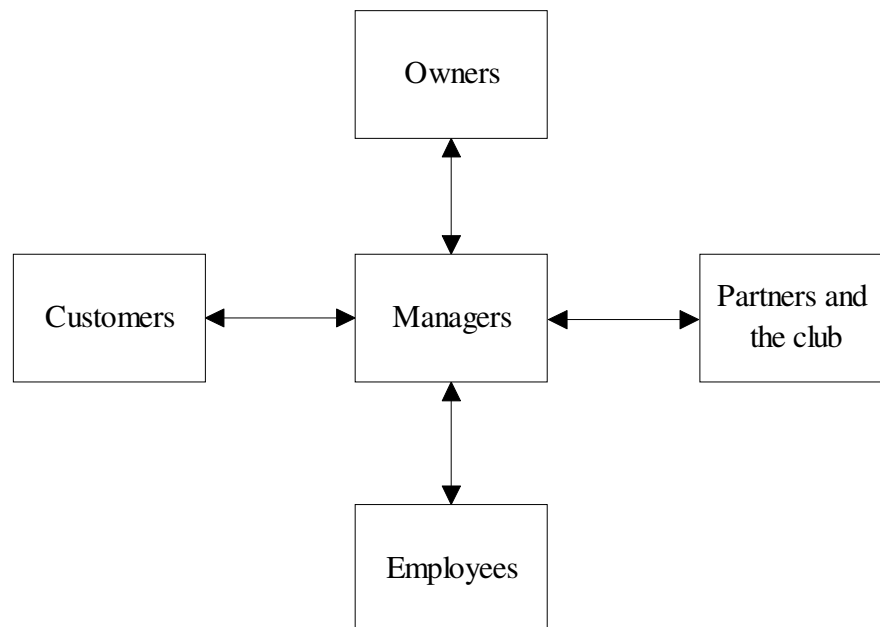


Figure 1 Creative SMC

The company's setting was characterised by the convergence of previously separate markets, industries, technologies and competitive arenas, and its competitive context was subjectively constructed through interaction between the different market players as outlined in figure 1. In this situation, visibility and legitimacy were essential qualities in attracting the attention and resources of other players, and by interacting with these over time, the managers created the network of resources which was required for competitive success. Such creative processes put managers at the very centre of development in businesses and industries. They imply that the main challenge for managers was to attract other players and to interact with these over time so that the perceptions of reality and the networks that were established, positioned the managers in the centre of the unfolding competitive forces. Throughout this process, the managers were using traditional SMC tools, but their make-up and course of procedure differed from conventional assumptions.

The following section of this report will elaborate on existing knowledge about the patterns that exist between managers and various sources of realised strategies. SMC research will be reviewed, and a definition of SMC will be presented which identifies the focus of the study and delimits its scope. The remainder of the report will elaborate on the empirical study of the ICT company. Based on the proposed definition of SMC, the methodology that was used in the study of the company is outlined, and the empirical findings are described. The report ends in an interpretation of the findings and an outline of some important conclusions and consequences for future research.

2. Research on SMC

The strategy of any company is made up of the logic on which the interaction between the company and its surroundings is based (Hofer and Schendel, 1978, Rumelt et al.,

1994, Dent, 1990). This logic can embrace a huge number of dimensions. In an early study of its various elements, Hofer (1975) identified 54 different variables. Also, the substance of this logic can be delimited, structured and dimensioned in a number of ways. For example, at first glance, Porter's (1980, 1985) strategic typologies appear to be essentially different from those postulated by Miles and Snow (1978), yet they to a great extent incorporate the same underlying factors (Hambrick, 1983, Miller, 1986).

The logic of a company's interaction with its environment is multidimensional and complex, and forming such a phenomenon is not an easy task. It may well be that such logics emerge (Mintzberg, 1978) from a company's activities, without a priori being consciously recognised or planned (Cyert and March, 1963, Weick, 1979). Patterns can emerge from a number of different, complex and heterogeneous processes. They may be anchored in the actions of individuals or groups, often when these pursue their own interests at odds with the management's wishes, and then spread via collective, social processes (Mintzberg and McHugh, 1985). The emergence may be conscious or unconscious (Crossan et al., 1999), and may consist of minor decisions or events which through butterfly effects change the patterns that dominate an organisation (Casti, 1994, Miller and Friesen, 1984, Thièrtart and Forgues, 1995). The emergence may also be rooted in the environment, where minor and major events occur, decisions are made and institutional processes take place, thereby generating reactions within the organisation or restricting its course of action (Burns and Stalker, 1961, Lawrence and Lorsch, 1967, DeMaggio & Powell, 1983, Bluedorn et al., 1994).

Managers may approach emerging strategies in a number of different ways. One approach is to try to cultivate them. Staff and surrounding players are then regarded as the main source of strategic knowledge and as initiators of strategic actions, and it is important to observe, understand and develop the patterns that emerge via their individual and collective behaviour. According to Mintzberg and McHugh (1985), this approach means that managers should cultivate emerging strategies much the

same way they would handle weeds in their garden: “A destructive weed, once noticed, is best uprooted immediately; but one that seems capable of bearing fruit is worth watching, perhaps cultivating, even building a hothouse around” (p. 195).

A more ambitious approach is to work on the structures and procedures of the activities that represent the seed of emerging strategies. We now have frameworks available which may be used to engineer activities relating to strategic dimensions, such as product design (Ansari et al., 1997, Monden, 1995, Yoshikawa et al., 1995), quality (Juran, 1988, Feigenbaum, 1956, British Standard 6143, 1992), and time (Stalk and Hout, 1990, Hum and Sim, 1996). If we take product development as an example, this work may be based on Quality Function Deployment (Akao, 1990, Hauser and Clausing, 1988) or Target Costing (Monden and Hamada, 1991, Kato, 1993). These frameworks structure the product development work in a network of cross-functional groups. The first step is to survey and dissect the customers’ needs; then to analyse the relationships between different needs and product functions. The process should end in physical designs which cover the customers’ needs and generate profit. The two frameworks thus facilitate and encourage customer-focused changes in product design via the structures and procedures embodied in organisational activities.

Simons (1995) argue that managers may encourage and align emerging strategies via the links between strategic dialogues, currently seen as important parts of strategic control (Jönsson, 1998, Haas and Kleingeld, 1999), and control systems. He describes several cases (Simons, 1987, 1990, 1991, 1994) in which managers employed selected control systems in their continual discussions on strategic plans, assumptions and underpinnings, and in which the use of control systems turned the attention and energy of the entire organisation towards its most important strategic uncertainties. The consequential organisational exploration generated new insight, ideas and dialogue throughout the organisation, and this process shaped the managers' strategic dialogue and control. Strategies thus emerge and are formed through the interactivity between selected control systems and strategic dialogues.

Normative literature usually postulates that the formal strategic control process is the ultimate source of realised strategies (Mintzberg, 1994). It is normally assumed that managers dominate these arenas, and that they are responsible for formulating a strategic logic through conscious, rational and purposeful analyses of the company and its context, and for ensuring that the cognitive ideals are implemented and controlled (see e.g. Ackoff, 1970, Anthony et al., 1989). The strategy may be formulated in a number of ways; by employing relatively loosely knit conceptual frameworks (e.g. SWOT, Hofer and Schendel, 1978), strictly formalised processes based on a sequence of steps and techniques (e.g. Ansoff, 1965), or tools which have been developed in order to analyse companies' surroundings, value chains and profitability drivers, i.e. the substance of companies' strategies (e.g. Porter, 1980, 1985). Strategy implementation has generally been seen as a process of organisational design, in which the structures, processes and systems necessary for carrying through the formulated strategies have been embodied in the organisation (Schendel and Hofer, 1979, Galbraith and Kazanjian, 1986).

Traditionally, the concept of “strategic control” has been used to denote the monitoring of relevant strategic dimensions and the consequential actions. The process has centred on the monitoring of actual actions and results versus plans and expectations, and on the adjustment of actions, plans or strategies in response to deviations (Schendel and Hofer, 1979, Lorange et al., 1986). The process has a dual function in that it permits the assessment of strategic progress relative to expectations and, if necessary, the implementation of corrective action, while it should help to reveal whether the assumptions on which the company's norms, strategies and plans were based, are still valid or require re-assessment (Argyris and Schön, 1978). Many dimensions (especially external ones, like competitors and customers) are difficult, not to say impossible, to subject to the traditional control loop, e.g. because uncertainty makes the establishment of plans and expectations unfeasible (Ouchi, 1977, Dermer and Lucas, 1986, Lorange et al., 1986). The lack of controllability often means that there is an even greater need to monitor dimensions in order to check the

validity of the strategic presuppositions (Goold and Quinn, 1990, Anthony et al., 1989).

Even if strategic control traditionally has been used about the last phase of the managers' strategic work, i.e. the management's cybernetic control of strategically relevant dimensions and the continual investigation into the company's strategic assumptions, it is also used about the other phases. It has been pointed out that strategy implementation and strategic control are closely linked processes (Schendel and Hofer, 1979:222), and the concept is often used about elements which are normally included in the implementation phase (Green and Welsh, 1988, Ittner and Larcker, 1997). It has also been pointed out that activities which are usually described in terms of strategic planning or formulation, form an important part of strategic control (Lorange et al., 1986), and that the two concepts (strategic planning and strategic control) are intertwined and often interchangeable (Mintzberg, 1994:357). The strategic control concept can thus incorporate all the various elements of strategic management, i.e. "...the formulation, implementation, and control of overall corporate purpose and direction" (Hofer and Schendel, 1978:204).

The strategic control systems which have emerged over the last decade, accentuate a wider meaning of the concept. Methods such as balanced scorecard (Kaplan and Norton, 1992, 1996), performance pyramid (Lynch and Cross, 1991), and performance measurement in service industries (Fitzgerald et al., 1991) stress the links between strategic control and the other two phases of strategic management. In addition, the methods emphasise that managers should control a large number of dimensions. The methods include traditional, financial, and internally oriented dimensions of the management's cybernetic control (Lorange, 1988, Giglioni and Bedeian, 1974, Otley et al., 1995), classic non-financial dimensions such as quality and time (Shewhart, 1931, Skinner, 1969), and they may include relatively new dimensions such as customer satisfaction and various measures relating to competitors and partners (Epstein and Manzoni, 1997, Dixon et al., 1990, Guilding, 1999). The

methods also emphasise that managers should understand the causality embodied in organisations, which necessitates insight into leading and lagging indicators, and that managers should influence factors to increase profitability over time.

Parallel to the emergence of strategic control systems, which are avidly preoccupied with how managers may influence the profitability of organisations by using comprehensive strategic processes and systems, work on a more theoretical level has resulted in ideas and concepts which suggest that the strategic control concept should be extended further. It has been argued that control “...in essence, is causing to happen” (Dermer, 1988:26, see also Tannenbaum, 1968, Boland, 1979), and conventional wisdom says that strategies deal with matters of great importance to organisations (Pettigrew, 1985, Anthony et al., 1989:15, Lorange et al., 1986). If we combine these two ideas, and extend them into the domain of SMC, the result will be “managers instigating matters of great importance”.

This report adopts this wider definition, recognising that managers may try to influence realised strategies by working with and influencing the full range of sources from which they emerge. This definition allows for the approach which is promoted by the normative literature, i.e. that the formal strategy process is the most important source of realised strategies, and that this is used by managers to influence their organisations. However, the definition also allows for managers to recognise that there are other and perhaps more significant sources of realised strategies, and that working with these is important for the process of influencing their organisation. Accordingly, the definition does not exclude the activities and processes which are usually associated with emerging strategies, such as the cultivation of patterns by managers working as organisational gardeners, engineers, or dialogue participants; rather, this extended definition incorporates these activities and processes as potential parts of the management’s strategic control.

3. Methodology

The focus of this report is restricted to the way in which managers influence action patterns of organisations. Neither the sources of these patterns, and consequently the processes with which the managers will need to involve themselves, nor the properties of the interaction between the sources and the managers, are defined a priori. The study thus follows the advice of Eisenhardt (1989), who argues that researchers who try to build theory from case studies should restrict the focus and scope of their study (with reference to existing literature), while trying not to consider or get entangled in specific variables, relationships and theories at an early stage. This study will hopefully avoid the trap that many others have been criticised for walking into, i.e. that their perception of SMC has been too restricted, and that they have consequently failed to capture the most important sources of the realised strategies, and the patterns between the sources and the managers (Mintzberg, 1994, Langfield-Smith, 1997, Dent, 1990).

The open and probing approach of this study does not imply that it captures all aspects of the complex SMC phenomenon. Human beings invariably construct their representations of reality by means of language (in a wide sense), and all use of language involves systematic exclusion, inclusion and framing of parts of reality (Derrida, 1982, Kuhn, 1970, Kahneman, 1986). Consequently, omitted variables and perspectives are inherent in all research projects and papers, and the task facing the researcher is not to capture all aspects of reality, but to identify and use the perspectives and dimensions which are required in order to describe and make sense of a certain phenomenon.

The enacted dimensions of reality are a result of choices made by researchers regarding factors such as overall design, perspective, and methods for collecting and interpreting data (Pentland, 1999, Starbuck, 1994). This study is based on a data-driven approach, and describes SMC through the narratives imparted by the managers

and their staff. These narratives embrace the perspectives, concepts, and language of the agents who were trying to generate such changes in action patterns which they felt were required for competitive success, and they reflect how the managers made sense of this phenomenon. Using Bal's (1985) language, this means that the actors and focalisers are managers who influence patterns of action, and the resulting story is extended through the interpretation that emerged in dialogue between the managers and the researcher during the research project.

The interviews were conducted over the period May 1999 - December 2000. A total of 21 people were interviewed, of whom 17 were managers and 4 were working as controllers or held similar positions within different company divisions. The entire senior management (the President, the Vice President, plus the heads of the various divisions, 8 in total) were interviewed, and in addition, 9 managers from the next managerial level were interviewed. Some of the interviewees were interviewed more than once, and e-mails and telephone calls were used to wind up loose ends and obtain additional information as necessary. Each interview lasted for 1.5 - 4 hours. In total, more than 30 meetings were held between the researcher and representatives of the company. Interviews with controllers were primarily intended to obtain factual information about the company and were conducted prior to the manager interviews. The manager interviews were open-ended, and even if the themes varied according to the interviewee's position and background, the following three questions formed a point of departure for all of them:

- What factors are strategically important to your area of responsibility?
- How does the strategic work take place?
- What information and control systems are available, and how are they used in the strategic work?

In line with Spradley (1979), various types of field notes were used. During the interviews, the interviewer concentrated on writing condensed accounts of the

managers' narratives, endeavouring to use their own language. Immediately after each interview, an expanded account was written up, elaborating on the topics in the condensed accounts. In addition, provisional records of analyses and interpretations were kept on an ongoing basis. Later, the various types of field notes made up the basis for producing this report. Due to the sensitive nature of the questions, no tape recorder was used.

In parallel with the interviews, data was gathered from a number of other sources of evidence, covering the period 1998-2000 (see Appendix for further details). The company's archives and documents were examined, and special attention was given to minutes of management meetings, strategy development and deployment documents, and to all control and evaluation documentation. The relevant annual reports were also studied. In addition, the group's web page, two traditional newspapers and one Internet-based newspaper were monitored, and in the course of 2000 one week was spent studying the business from within - observing activities, taking part in the matter, having lunch with the staff, and spending time in the corporate library.

The story told in this report gradually emerged through the triangulation of the managers' subjective narratives, data from other sources of evidence, and the application of different perspectives. At the start of the project, it was considered important to acquire as much data as possible about the company and its SMC; nevertheless the interviews generated a need for further data and necessitated the use of other perspectives. The data collection process consequently turned into an iterative process, switching between interviews, reviews of other internal and external sources of evidence, and analytical deliberations intended to make sense of the collected data. The managers' story of how they influenced action patterns within the company gradually emerged through this process, and in the last part of the project (end of 2000), their story was transcribed and presented to them in two phases. First, a provisional version of the project end report was presented to the company's Financial Director and Quality Manager, and the ensuing discussion resulted in a number of

changes to be incorporated in the report. The updated version was then submitted and presented to the senior management, provoking a lively debate which indicated broad consensus that the report reflected the company's story for the period 1998-2000.

Narrative studies are often concerned with documenting that the narrated story reflects an underlying reality. The traditional way of doing this is to ensure that the same data will emerge if the study was to be repeated, and to use concepts and language which correspond with the underlying reality (Kirk and Miller, 1986). It can be argued that the reliability of the present study was enhanced by the field notes, which enable us to track and review what happened in the field, and by the ample access to other sources of evidence (Appendix). It can also be argued that the concepts used in the study are valid for the underlying reality, both because the researcher, like in any such project, was scrutinised by "reality" just as much as vice versa, and consequently depended on using concepts which were meaningful in the studied context (Czarniawska, 1998), and because the triangulation of multiple data sources means that the concepts are based on a rich array of dimensions and perspectives describing the company, rather than being a product of the chosen perspective or method (Webb et al., 1966, Jick, 1979). Furthermore, the submission and discussion of the report towards the end of the project showed that the concepts used were meaningful to the company's top experts on SMC, i.e. the senior management (high face validity).

Narratives may constitute and shape "reality" as well as depict it (Weick, 1995, Derrida, 1982, Orr, 1995). The narrative which is conveyed through the remainder of this report will hopefully give readers an insight into the subjective construction of the company and its context which came about through interaction between different market players. Talk of an "underlying reality" would thus become meaningful only once the strategic context and agents have been institutionalised. Efforts to secure the validity of the study were often a matter not of ensuring the correspondence between the narrative and "reality" (parts of the narrative constitute "reality"), but of extracting the story which made sense vis-à-vis all the various sources of evidence, and which

made sense to the management as well as the wider context. Consequently, this study illustrates the post-modern view that narratives often constitute reality, and that the link between a text and some underlying reality may well be a myth (Calás and Smircich, 1999). Nevertheless, this does not prevent us from using traditional scientific criteria in order to develop a narrative which is valid for the participants and context of a story.

4. The company and its context: an outline of 4tel's strategic development

In recent years, the telecommunications industry has undergone radical changes, and the studied company has been through a period of what could be called a strategic revolution. In order to give a better understanding of the study's setting, and in order to facilitate the navigation in the myriad of details which are invariably embedded in such narrative studies, this section will outline the development of the company and its context.

The context

For a long time, the telecommunications industry was dominated by national monopolies and regulations, but at pace with the emergence of trans-border technologies such as satellite communication and the Internet, and the increasing spread of international competition, the industry has gradually been de-regulated in recent years. This liberalisation has paved the way for investments and expansion across borders, and high expectations about future growth and profitability have contributed to creating an industry which is constantly changing and restructuring.

In parallel with this development, the telecommunications, IT and media industries have converged. Traditionally, there used to be a link between service type and

underlying communications network, in that e.g. telephony was provided via the telephone network, while broadcastings were transmitted via the broadcasting networks. These links were based on the development and use of communication protocols which were service specific, and on the fact that different services were using networks with different physical properties and capacities¹. Digitalisation and the introduction of Internet protocols (IP) meant that sound, data and images/video could all be described and transmitted in a standardised way, and the different types of information can now be transferred via various networks (e.g. copper cables, optic fibre, radio links and satellites) and new techniques are continuously being developed to solve the bottle neck problems (e.g. ADSL). In principle, the same networks can therefore be used to transport information for all three industries. Furthermore, the development of multimedia terminals, e.g. in the form of sophisticated mobile telephones or television sets with Internet access, has made it possible to integrate presentation and interaction with different types of information.

The Norwegian Telecommunications Administration may serve to illustrate the development of the telecommunications industry (Televerket, 1980-1993, Telenor, 1994-1999). Up to 1988, Televerket held a national monopoly within all its business areas. Over a ten-year period, this situation was gradually discontinued. Competition was introduced for appliances in 1988, and in 1991 the mobile market was deregulated as competitor Netcom was awarded a licence to build and operate GSM mobile phone networks. In 1993 the government introduced free competition for data transfers and opened up for the resale of free capacity on leased networks, and in 1998 free competition was introduced in all areas of the telecommunications industry throughout the EU and EEA. With the introduction of competition, Televerket gradually became more independent and international. In 1994 it was made a state-owned public company, which in 1995 was renamed Telenor. Since then, the company has invested significantly abroad (e.g. in 1999 and 2000, international

¹ For example, telephony has traditionally been transmitted via copper cables, whereas cable TV broadcasts have been transmitted via coaxial cables (involving a much higher transmission capacity).

investments amounted to NOK 6.2 bn and 36.9 bn respectively). The company's total turnover in 1999 was NOK 33.5 bn, and sales generated outside Norway made up NOK 8.2 bn (Telenor, 1999)². On two occasions the owner has injected fresh equity capital, totalling NOK 4 bn (Telenor, 1996:4, 1997:6), and in December 2000 a public listing and share issue provided NOK 15.6 bn for the company.

Since 1994, Telenor has profiled itself as a telecommunication, IT and media company on the domestic market, while internationally, the company has concentrated on selected areas such as satellite, mobile communication and the Internet (Telenor, 1995, 1996, 1997, 1998). The company incorporates a number of heterogeneous activities across the traditional dividing lines between industries, as exemplified by Scandinavia Online AS, a company set up in 1996 by Telenor in partnership with the largest media company in Norway (Schibsted ASA). In principle, this constituted a mini version of the merger in 2000 between network service provider AOL and media giant Time Warner. According to Telenor's own statements, they have more than 100 competitors (Telenor, 1996:50), among which are companies rooted in the power industry (Eltele) and the railway sector (the Norwegian National Rail Administration). This serves to illustrate the floating nature of the demarcation lines between industries and the dynamic nature of the competition.

The company

4tel's role as an international supplier of sophisticated software to telecom businesses originated in Telenor's development work over the latest decades. The company's forerunner saw the light of day in 1972, when Televerket's internal IT department was set up. In 1995, this was merged with Telenor's research department, and in May

² The latter figure includes Telenor's share of the turnover of affiliated companies outside Norway. In total, these sales amounted to NOK 5.1 bn in 1999.

1998 the IT section of the merged unit was made into a wholly owned subsidiary of Telenor.

The general features of 4tel's strategic development in recent years can be described on the basis of Table 1. In the period prior to 4tel's establishment in 1998, the unit was a relatively independent part of Telenor R&D. Its primary function was to contribute to Telenor's competitive edge by developing the organisation's IT systems. The unit was organised in projects and teams, projects being defined as a time-restricted assignment, whereas a team was a permanent group (e.g. a number of teams were assigned to administrative jobs). Every year, hundreds of projects were carried out, the size of which varied from a couple of man-days to extensive projects with budgets in the range of hundreds of millions.

	- 1998	1998 - 1999	1999 -
Org. setting	Telenor's R&D unit	Telenor 4tel ³	EDB 4tel
Strategy	Competitive Telenor	Transition	Be good to your customer
Markets/products	Telenor's IT needs	?	Create via partners
Organisation	Project/teams	Matrix	Matrix/network

Table 1 4tel's strategic development⁴.

The 1998 demerger was motivated by major upheavals in the telecommunication sector, and by internal matters (Telenor, 1998:12, 86-87, Telenor R&D, 1997/98:4-5). At pace with the deregulation and internationalisation process within the telecommunications industry in general, and within Telenor in particular, the opportunities increased for selling IT systems originally developed to cover Telenor's requirements on the international market. The management of Telenor felt they had something to offer this market; they had been able to develop a customer care and

³ At the time of the demerger in May 1998, the company was first named Telenor Telecom Software AS. Following a naming competition, this was changed to Telenor 4tel AS.

⁴ This table must not be read as a list of distinct periods and elements. It merely gives a simplified picture of some important milestones and developments which in practice have been intertwined.

billing system which they considered to be competitive⁵. They had also found that the development of IT systems was an extremely costly affair, and felt that in the future it would be necessary to share such costs with other telecom companies. Also, it was felt that technological and market-related developments would increase the need for closer interaction with other players in the IT development market.

The establishment of Telenor 4tel put the company's managers and staff in an entirely new situation. The company had been used to operating within a Telenor context. The market had been synonymous with this one company, and products were generated through interaction between Telenor and its IT unit, which was structured and targeted to the company through the project organisation. Once the unit was set up as a subsidiary, this Telenor context was replaced by a context with numerous international telecommunication companies in global competition, where 4tel represented but one of many potential software suppliers. Expertise on the interface between Telenor, IT and telecommunications was thus no longer sufficient; it became necessary to understand the market and the development of the telecommunications industry and its inherent technologies and value chains.

The 1998-99 period was dominated by strategic uncertainty and re-orientation. Even if Telenor was still the decidedly most important customer, the new independent position meant that many of the assumptions on which the company had previously based its future, were now fundamentally altered. The management thus had to reconstruct their perception of the company and its surroundings. They put a lot of work into acquiring insight into factors such as the development of the telecommunications industry, potential customers and competitors, and it was considered important to find out whether the IT systems which had been developed to cover Telenor's requirements, could be converted into products with external sales potential. In connection with this strategic positioning work, the company started

⁵ In 1999 and 2000 Telenor was awarded the World Billing Award for best implementation of a customer care and billing system.

using a new strategic control process and system which was further developed over the following years. Also, the company introduced a matrix organisation, thus complementing the project organisation with an organisational hierarchy which reflected the company's product areas, i.e. Customer Care and Billing (CCB), Network Management (NM), Customer Relationship Management (CRM), Service and Support (SP), and Business Consulting (BC). In addition, a Sales and Marketing Division was also established, and a Finance and Administration Division.

4tel's independent position vis-à-vis Telenor was further accentuated in 1999 when a new company, EDB Business Partner ASA, was established by merging 4tel, four other IT units within Telenor, and the listed company EDB ASA. While working with this merger, the company was also continuously developing its strategy, and the results of this development work were consolidated in the spring of 2000 when it was decided that the company should market itself under the profile "be good to your customer". The company also worked continuously to further develop and sell certain parts of its IT system portfolio. This experience helped increase the company's awareness that sales of sophisticated, critical software of the type developed by 4tel, are not exclusively a question of being able to offer the best functionality, price and quality based on the customers' needs, but that customers and business opportunities are often generated via the network of which one is a part. Based on this recognition, 4tel has increasingly concentrated on developing partnerships and networks.

5. The managerial interaction with owners, customers, partners and the club

Like other companies, 4tel was surrounded by a multitude of institutions with which the managers interacted. Owners, customers and partners were particularly important to the company's strategic development over the 1998-2000 period. These three types of institutions were closely linked through what the company calls "the club effect."

Owners

In terms of ownership, 4tel went through turbulent times over the three-year study period. To start with, the company was part of a state-owned, robust corporation working within a stable industry. At pace with increasing de-regulation, internationalisation and technological developments, 4tel experienced a number of major changes in its ownership.

At the beginning of 1999, Telenor entered into a merger agreement with the Swedish Telecommunications Administration (Telia). At the time, Telia was fully owned by the Swedish state. The merger would have been the biggest ever in Norway, and would have resulted in a company with more than 50,000 employees and a turnover of approx. NOK 80 bn⁶. During 1999, the agreement was submitted to the Norwegian parliament, the Swedish parliament and the EU commission for approval, and after a comprehensive political debate between Swedish and Norwegian authorities, the merger agreement was eventually signed. The work of implementing the agreement progressed in parallel with the work of concluding the formal agreement, so that, to some extent, Telenor and Telia had already merged by the end of 1999. It therefore came as a shock when it was found, as the work of implementing the merger was intensified towards the end of 1999, that there was still considerable political dissent about the interpretation of the agreement. In the end, the merged company had to be dissolved.

For 4tel, the implications of the merger would have been substantial, and some of them were incorporated in the company's strategic plans in the course of 1999. Telia was the larger company, with its NOK 49 bn⁷ turnover compared to Telenor's NOK 33.5 bn. The merger would have made 4tel a supplier to both of these corporations, and the company would have become part of a larger network, along with the business

⁶ Based on the figures published in the two corporations' annual reports for 1999.

⁷ In Swedish currency, Telia's turnover was SEK 52.1 bn.

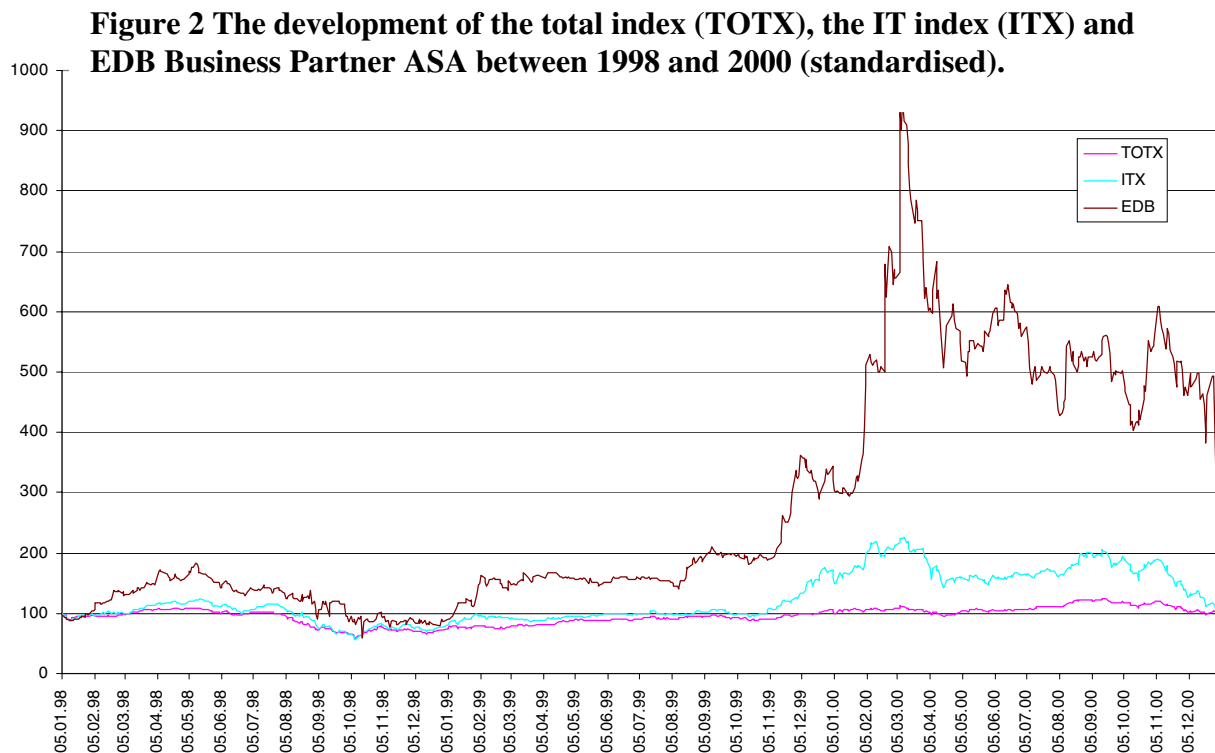
units responsible for the same area within Telia. The merger would also have given 4tel easier access to Telia's network and expertise. The cancellation of the merger meant losing the opportunities represented by a larger domestic market, a wider network and broader expertise, and consequently parts of 4tel's strategy were revised.

In early 1999, work was also progressing on the merger that made 4tel a subsidiary of EDB Business Partner ASA. This merger was approved in May, resulting in a group of companies with more than 2,000 employees and a turnover in excess of NOK 3 bn. This corporation was one of the largest IT companies listed on the Oslo Stock Exchange. The group consisted of ten companies that worked within a number of different industries, although banking and finance, telecom, and the public sector were particularly significant. According to the managers of 4tel, there were few strategic and operative links connecting 4tel with the other subsidiaries of the group. However, it may well be possible that the key to future competitiveness lay in such connections (e.g. between software to telecom and banking).

EDB Business Partner was owned by different shareholders, each of whom brought different interests and opportunities to the company. The majority interest was held by Telenor, whose stake was just over 50%. Telenor also represented 4tel's decidedly largest customer, and the company was an important door-opener vis-a-vis other customers and partners. The other shareholders were generally institutional or private investors looking for a capital yield, and each of them held only a minor stake in the company.

Since the establishment of EDB Business Partner ASA in 1999, experience has told us that there is significant uncertainty regarding the value of the company (figure 2). From the beginning of June 1999 till the peak was reached in March 2000, the share price increased by more than six times its base value, only to fall back to approx. half

the all-time high⁸. The most boisterous fluctuations took place in the beginning of 2000, when IT shares were hyped (cf. the ITX graph in figure 2) and investors were virtually queuing up to invest. EDB Business Partner's fluctuating share price clearly reflects that the market value of the subsidiaries has varied, which applies not least true for 4tel. According to analysts, the market value of this company was in the range of NOK 2.5 - 4 bn, and during the IT hype at the beginning of 2000, its value was estimated to NOK 10 bn, as an all-time high. These disparities reflect the great uncertainty attached to companies within a growth industry in change. The uncertainty further increases when you look at the American company Amdocs, which in 2000 employed approx. 7 times more staff than 4tel, and had a similar range of products. Amdocs peaked at a value of over NOK 170 bn⁹, i.e. more than 17 times higher than 4tel's all-time high.



⁸ In the beginning of June 1999 the share price was NOK 31.3, while at its peak in March 2000, it was NOK 195.72. This is shown indirectly in the chart, as it gives standardised values that were calculated by dividing share prices at different points of time (multiplied by 100) by the share price at the beginning of the period. Similarly, the index values were standardised by dividing index values at different points of time (multiplied by 100) by the index values at the beginning of the period.

Developments in the stock market also show that an assertive will to shape one's environment was appreciated. For example, the price of EDB Business Partner's shares rose from NOK 105 to NOK 140 when the company, following a round of bids in February 2000, was able to purchase Fellesdata for NOK 2.5 bn. Moreover, a number of international corporations that operate in 4tel's line of business have carried out share driving acquisitions of companies with expertise within what is generally believed to become the transmission standard for all types of information, i.e. IP (Karvè, 2000). Such acquisitions were often financed by share issues, and the capability to undertake such initiatives often varied with access to capital and investors (cf. figure 2).

The considerable fluctuation in the share price reflects that 4tel was in a position which lent itself to many possibilities, but which involved a high level of risk. The stock exchange listing contributed to raising awareness with regard to this situation, which can be illustrated by the incident experienced by the President of 4tel and the CEO of EDB Business Partner (Mr. Trondsen) during a presentation for finance analysts in London:

“At one point during this two-hour session we were asked whether it was an option for us to demerge and to have 4tel listed. At the time, no decision had been made in that respect, and we couldn't rule out any thing, which is precisely what Mr. Trondsen answered: “It can't be ruled out”. When we returned home, it turned out that the analysts had taken this as an indication that listing was highly probable, and we were inundated by phone calls from investors”.

This helped generate a discussion concerning 4tel's association with its parent company, involving 4tel's management, the group management, and Telenor.

⁹ Amdocs is listed on NYSE, where the all-time high was reached in March 2000. The exchange rate used for the dollar conversion was NOK 9.2.

Through this process, 4tel's management gradually established a clear stance: 4tel ought to break loose and seek listing on the stock exchange. The management felt that the company would then become more visible as an autonomous supplier, independent of Telenor, and that a telecom-centred software company would find it easier to attract external capital and acquire other businesses than a conglomerate such as EDB Business Partner. The management also argued that 4tel, even if the company was to remain as part of the group, should be able to run at a loss during a build-up period.

Customers

Deregulation and internationalisation have meant that the number of players within the telecommunications sector has increased substantially in recent years. For instance, Telenor held a monopoly in wired and mobile phone networks in Norway until 1991, whereas in 2000 there were more than a dozen providers of such services. Also, the convergence has meant that the dividing lines between telecommunications, media, and IT companies are currently blurred. Companies such as 4tel thus have a potential customer base which is considerably larger and more heterogeneous than previously, and which continuously expands and changes.

The development of the customer base may have a decisive bearing on 4tel's strategic possibilities. 4tel's activities centred on products that helped telecommunications companies to differentiate their customer care and pricing. In an industry characterised by high fixed costs and extremely low marginal costs, this ability to differentiate was essential to profitability. This was reflected in the telecommunications companies' willingness to pay for such products. In recent years, some telecommunications companies have introduced simple, flat price structures, typically exemplified by companies that offer Internet access (which may transmit data, images and speech) at a fixed price. These suppliers may represent a threat to the

relatively sophisticated pricing mechanisms in the telecommunications market, and this may reduce the willingness to pay for 4tel's products.

The choice of customers was decisive to 4tel's strategic position. Potential customers were organisations with complex business processes and technologies, and getting properly to grips with these was both time-consuming and costly. 4tel's customers therefore influenced the company's build-up of expertise, which in turn determined what contracts the company would be in a position to take on. This situation was reinforced by the fact that 4tel's track record had a decisive influence on the company's chances of being awarded future contracts. The company delivered IT systems which were critical to the customers' business operations, and if 4tel had already successfully developed and delivered similar systems, this increased potential customers' confidence that 4tel would have a stable delivery record over time, and that they would be able to solve any problems that might arise¹⁰.

4tel's main challenge was to attract customers who would generate the desired competence and provide references within segments in which the company wanted to be in the future. This was explicitly stated in the company's business plan for 1999 - 2003:

"The development of 4tel will be made in two main stages: 1) by taking existing competence and products into new markets to build the customer base, and 2) by building on knowledge from the customer base and develop and enhance products continuously".

¹⁰ An example may help to illustrate the importance of this point. In 1999 Telenor delivered 18.7 bn minutes over 3.1 million telephone lines (wired networks). Customer Care and Billing provide subscribers with the services they order, the system monitor these services, it records the services and volumes consumed by each subscriber, and it issues invoices. This sort of volume and complexity means that even relatively minor errors would have far-reaching consequences for the telecom companies' systems and their customers' confidence in them.

This strategy meant that 4tel concentrated on using products rooted in Telenor as leverage for attracting new customers, making use of these as a source of learning and for developing new products and customers:

"By having more customers, EDB 4tel will be able to learn and gain new knowledge and experience, which again will enable us to improve our current products and to develop new and better products. This will result in more satisfied customers and references, which is important in our market to get more new customers. This is a circle that will polish 4tel as an uncut diamond.....".

4tel tackled the challenge of attracting new customers in a number of ways. One approach was to buy customers. In 1999, 4tel bought the US company Telesciences for NOK 106 million. Network Management constituted Telesciences' main activity, but even if the company's expertise to a certain extent complemented 4tel's existing competence within this area, the most important aspect of the acquisition was to gain access to the company's customers and market competence.

Another approach was to target traditional sales initiatives at new customers (one of 4tel's largest international customers, Swisscom, was acquired in this way). In 4tel, sales efforts and price levels were dictated not only by short-term profitability, but by the contract's strategic importance. The company typically gave a high priority and low prices to assignments which could open up markets with great future potential (e.g. IP), and which provided an opportunity to build up expertise in areas where there was or would be a high demand.

One particular challenge for 4tel, was that the most important competition parameters often turned out not to be traditional dimensions such as price, quality and time. The Head of Sales and Marketing put it this way:

"The properties of the product, such as functionality and 4tel's lead time, are often of little significance. All suppliers who take part in the negotiations obviously say that they can meet the customer's requirements, and if a certain supplier's product does not already have the functionality the customer is asking for, he will simply reply that this can be developed".

The introductory sale was therefore often reduced to a question of credibility and legitimacy, and the challenge was to establish these sentiments. Below, we will see that this constitutes a core of the interaction processes between 4tel and its partners, and of what 4tel managers call "the club effect".

Partners and the club effect

The players in the telecommunications industry took part in a number of partnerships and networks where the participants and roles were continually changing, and where takeovers and ownership interests constituted an important part of the game. Telia provides a good example. This company started out as Telenor's competitor, but became a close partner through the 1999 merger agreement. Once the merger was cancelled, this situation was reversed, and Telia afterwards took over Telenor's most important competitor on mobile networks in Norway (Netcom).

Another example is the development of the traditional suppliers of business systems. This area was served by a large network of consultancies and system suppliers (Accenture, Cap Gemini Ernst & Young, Price Waterhouse Coopers, SAP, IBM etc). The de-regulation and standardisation within the telecom sector increasingly meant that this industry, which used to be relatively closed, was opened up for traditional suppliers, who gradually become significant players within telecom. For players such as 4tel, these companies represented potential partners as well as potential

competitors. For example, IBM agreed in 2000 to market 4tel's CCB products with some of its own products, while SAP was expected to become a competitor.

Within 4tel, the dynamic networking between market players was considered an important competitive dimension, and in internal discussions and notes the effect produced by network affiliations was often termed the "club effect". Such club alliances offered many, complex, and multi-dimensional values which were consequently difficult to fully understand. However the specific grounds for forming partnerships, as described in the company's business plan, were easy to grasp:

"The main reasons for alliances and partnerships are 1) routes to market, 2) product development and access to new technology, 3) for implementation skills, and 4) offer a complete product portfolio".

In addition, the networks were useful on a more indirect and abstract level in that they were closely linked to matters such as company identity, visibility, and legitimacy. The Vice President of 4tel described it like this:

"Primarily, our customers want a supplier they are confident will be able to solve their problems. This really means that what we sell, is confidence. To a great extent, confidence is generated and made visible through references from previous contracts and collaborating partners".

This suggests that every company was a product of the network of which it was a part. However, the connection between partnerships and the various abstract parameters was of a more complex nature. According to the Head of CCB:

"...the other players' perception of 4tel is important, as this affects the company's relationship with other companies and what actions 4tel will be exposed to. Consequently, the way we define ourselves is important, for

example through the composition of our product portfolio, the story we tell about ourselves, and our branding".

An obvious conclusion is that the company was made visible and was given its identity through its interaction with other network players. The company could influence this interaction by means of its products, markets, and competence, and through the company's perception and presentation of itself. However, to a certain extent the company was also a function of the other network participants: the company was what the other companies allowed it to be.

The networks' role in providing opportunities and restrictions was an ever-recurring theme in my conversations with the 4tel managers, constantly reappearing under different headings:

"We were negotiating with Alcatel, and their sales representative was so good that I hired him myself. It turned out that one of his mates was working for a company called Telesciences, and this is how we first learnt about this company " (Head of Network Management, explaining how the contact with Telesciences arose).

"When we work as subcontractors to major projects, the main contractor is often responsible for similar projects for other customers. In this way the main contractor can work as an entry ticket to many other projects" (Head of CRM).

"One of our most important challenges is to attract more customers and to accelerate our growth. To a certain extent, our strong affiliation with Telenor has an adverse effect in this respect " (President).

"It's easy to get into either vicious or good circles. References and networks trigger new orders, which in turn provides references and partners" (Vice President).

Because the networks influenced ownership and takeovers as well as access to customers and partners, thus restricting the managers' freedom of action, they emerged as an important source of realised strategies in 4tel. In addition, they formed an important framework for the managers' strategic learning opportunities:

"Acquiring strategically valuable information is largely a social skill. In my daily interaction with customers, partners, employees, owners and others, I develop a gut feeling for what is strategically important. I take these feelings and intuitive ideas further and test them through my internal and external networks" (the President, describing how strategies are formed).

"An important part of our strategic work is all about being curious as to what is happening, about networking, and about mediating information" (Head of CCB).

Because the networks delimited the managers' room of learning and action, they were decisive to the company's ability to discern and exploit the strategic opportunities that arose:

"It is important to understand reality, so that you're prepared to seize the opportunity when it arises. Our perception of reality emerges from working with our history, and by engaging in a continuous dialogue with customers, competitors and staff " (Head of NM).

"Our customers, competitors, technologies etc. are in continual change, and opportunities constantly arise which need to be exploited " (Head of SP).

4tel's development shows how the network continually influenced the company's strategic opportunities. For example, the IT hype in the spring of 2000 provided ample opportunity for the company to reconfigure its networks by attracting new owners and seeking an existence independent of EDB Business Partner, which would probably have improved 4tel's chances of buying technology, competence, customers and legitimacy.

6. Employee / management interaction

Ever since 4tel was founded in 1998, the company's managers have been faced with a challenging situation, involving convergent industries and technologies, and complex networks of owners, customers and partners in which the constellations and roles were continuously changing. This section focuses on the challenges that emerged from this situation with respect to the initial structuring of the interaction between managers and staff, and how this interaction developed.

The point of departure - options overflow

At the start-up in 1998, the company was facing a challenge which at the time was typical of the IT/telecom interface:

“The competition for staff is more worrying than the competition for contracts. Our competitiveness generally depends on the expertise of our employees and the networks they're part of, and there are many companies looking for highly qualified staff and well-developed networks” (Head of BC).

The challenge of retaining and attracting staff and networks was handled in a number of ways. The traditional method is to increase the attractiveness of the jobs by ensuring that employees are given tasks they enjoy, good pay, and fringe benefits. In recent years, option schemes have been a popular method. EDB ASA introduced an option scheme in 1997, and after EDB Business Partner was set up in 1999, this scheme was extended to include all employees in the new group.

Labour was also found by contracting out jobs to other independent companies and individuals. In 4tel's line of business this was a relatively usual procedure, and since 4tel was set up as an independent business, the proportion of contracted-out jobs has varied between 15 and 23% of the company's total workforce (see Table 2).

	1998	1999	2000
Permanent staff	510	610	720
Contracted-out jobs	150	140	130
Total	660	750	850

Table 2 Numbers of permanent staff and contracted-out jobs in 4tel¹¹.

Also, the industry was characterised by extensive partnering and networking, and the establishment and internationalisation of 4tel meant that the company had to put greater emphasis on this aspect than previously:

“With regard to our internationalisation efforts, it is an important challenge for us to establish satellites with associated clusters/partners. Breaking into new markets require presence. It is also an assumption that much of the work which is currently undertaken in Norway, will be carried out in other countries via partners. For example, the cost of employing a programmer is four times as high in Norway as in an Eastern European country, and that

¹¹ The figures listed were estimated by 4tel's Human Resources Department (as per 1st June every year). The figures were changing continually.

sort of work will therefore probably have to be carried out locally” (Head of CCB).

This quote illustrates the blurred dividing lines between staff and partners, and that both internal and external structures could represent channels of interaction between managers and labour. This means that 4tel’s internal organisational structures, be they functions, project, product or customer oriented, were closely linked with and shaped by the interaction with external structures and relations.

However, the number of options for 4tel’s internal and external structuring was even larger, because the managers’ interaction with players such as owners, customers and partners was often just as influential as their interaction with labour. For example, the preferences of existing and potential owners in terms of external relations, internal structures and competence varied over time, and companies could exploit such varying preferences by carrying out re-organisations, demergers and mergers¹². By navigating according to the stock market with respect to structural issues, companies could influence their own valuation, which in turn affected their chances of obtaining capital, making acquisitions, attracting customers, and employing expert staff.

The development of 4tel’s structure

Telenor’s reason for setting up the business in 1998, was a wish to make the company’s IT development unit into a professional market player which was better equipped for covering Telenor’s needs, and which would go into the international market. In the first months of 1998 a project was carried through which should set the framework for further IT developments in Telenor. The project focused on issues such

¹² An example is Merkantidata, which was one of EDB Business Partners’ largest competitors (see the *Aftenposten*, 25 August 2000).

as affiliation with Telenor, the units' organisational structure, and the drawing up of a business plan.

This point of departure involved a number of partly implicit assumptions, which meant that many of the potential structural choices were excluded. It was clear that IT developments would take place within a single unit, i.e. there were limited possibilities for distributing the IT development work among a number of units or partners; Telenor would retain its ownership; and the unit would continue to cover Telenor's needs for IT development. This set clear restrictions on the unit's interaction with other potential owners and the stock market, and on the relations to potential customers, partners and clubs.

The outcome of the project was that the project organisation was complemented by a product-oriented organisational hierarchy. Projects and IT systems to be developed for external sales were all brought together in the Product Division, whereas the remaining IT systems, which were used by Telenor only, and now would require further development and maintenance, were brought together in the SP Division. Also, the BC Division was established, the Sales and Marketing Division, and the Finance and Administration Division. At a later stage, the Product Division was split into three different product areas, i.e. CCB, NM, and CRM.

The new structure meant that 4tel emphasised marketing and market-oriented product development. The Sales and Marketing Division was an important tool for 4tel to introduce its products into the market. In addition, when required, selected divisional officers were assigned responsibility for customer contact and marketing. Considerable resources were also put into further development of the IT systems which had originally been designed to cover Telenor's needs, and which would now be sold on the open market. For some of the obvious and important candidates for external sale, the product development took place in separate organisational units set up specifically for the productification. For example, a separate team was set up with

responsibility for making a version of the CCB systems that could run on the platform that most potential customers use, i.e. Unix.

Also, after the establishment, product development progressed continuously in the interface between 4tel and external players:

“Product development often takes place in partnership with potential or existing customers, and it is strategically important to attract customers who are representative of a larger market, and who provide insight into this market as well as an opportunity to develop products for this market. At the same time, it’s important not to take on too great a risk in the product development. We try to invest just about enough in new areas to see what the possibilities are and to have something to rope in new customers with, while we’re hanging on for as long as possible before developing the finished product” (Head of NM).

This procedure means that 4tel’s internal structures were often an outcome of interaction with customers:

“It is extremely important to get access to customers, and to further develop the customer relations. As soon as the relationships have become robust, we move the company’s infrastructure accordingly” (Head of CCB).

Customer relations provided insight into the company’s options. Provided these had potentials and the foundation was good, projects (e.g. the Swisscom contract), or other organisational units (e.g. Telesciences) which were targeting these options, were defined and incorporated in the company’s structure. Consequently, the structure that was set up with 4tel, which reflected the views then held by the management as to which IT systems would have a potential as marketable products, was continuously

updated in accordance with the options that emerged through interacting with the surroundings.

While the organisational structure gave an overview of the company's product options, it was also used to generate higher pressure:

“The organisation currently exerts greater pressure on myself and on the organisation's targets. Each employee is currently part of a group which, to a greater extent than before, shares common interests. The needs, energy and competence of every employee within each group are more focused and forceful, and can be included in discussions and negotiations about future product portfolios, markets, resource distribution, and operative issues” (Head of NM, explaining the effect of introducing the product-oriented structure in her division).

Due to limited resources, this increased pressure was closely linked to increasing competition between the different options, which was what the managers wanted:

“As for new projects, the thinking is that employees will come up with projects if they're enthusiastic about them. The management's role is primarily to select which projects they want to channel resources into” (Head of Finance and Administration).

“If conflicts arise within the organisation, this is an important indication that you've been able to generate pressures. This means that various managers are concerned with achieving their area-specific objectives, and that they fight to get the financial and human resources they feel are required” (Head of CCB).

“Managers should ensure that their organisation is working under pressure at all times, and conflicts are often positive in the sense that they’re an indication you’ve been able to generate pressure” (President).

Competition and conflicts between various organisational units and managers were thus seen as an intrinsic quality of performance-oriented organisations.

7. The formal SMC

4tel’s formal strategic control was based on a standard model which incorporated the three phases traditionally pointed out in the SMC literature. However, the model’s content varied with 4tel’s strategic needs.

The standard procedure of the formal SMC

In the first phase of the formal control process the company’s overall strategy was developed. Strategic analyses and management discussions constituted the cornerstones of this work. The second phase was the deployment process, during which the strategy laid down by management was rolled out down the hierarchy through the establishment of local versions of 4tel’s overall strategy. In the last phase, the evaluation process, the focus was on analysing and discussing activities and events that occurred in and around the company, seeking to understand their impact on 4tel, and how the company might best adapt to and exploit them.

The strategy development work was typically carried out in the first quarter, and most of it was carried out at summits where the senior management (the president, the vice

president plus the heads of divisions) met up and discussed the current and future development of the telecommunications industry, and tried to identify where and how 4tel should position itself. The key support tools in this process were various tools for evaluating the organisation's situation and development (e.g. the EFQM model), as well as various studies and analyses used to understand 4tel's backdrop and positioning (e.g. SWOT). In addition to the internal resources, external consultants were also engaged in this process, which delivered a vision, strategic direction and overall objectives for the entire company.

The strategy deployment built on the ideas of the balanced scorecard, and was a process through which the visions and objectives developed in phase 1 were rolled out throughout the organisation. The deployment often took place in the second or third quarter, and was kicked off at a meeting involving the senior management as well as all managers on the level immediately beneath the Heads of Division. First, the results of the strategy development process were presented. The participants were then grouped according to their respective divisions, and each group discussed and developed the vision and strategies for their particular division. They identified the unit's strategic objectives, the key success factors, what should be measured in order to follow up the implementation of strategies, and some vital activities. Later, this process was carried further down the organisation, where the various units within each division developed the vision, strategies, key success factors, measures, and important activities for their own area.

During the planning and evaluation phase, the accounting system (Agresso) played a central part. A number of other systems periodically produced reports on non-financial matters, such as the punctuality of deliveries and customer-related information. The company had also developed the strategic control system BEST4tel. The plan was for this to become a key tool for the company's strategic control. The BEST4tel system included the information identified during the strategy deployment

processes, and integrated financial and non-financial information from the accounting system and other systems.

The various evaluation tools were used in parallel on a number of different arenas. Managers used them in the ongoing process of evaluation of operative activities, of which project management was of particular significance in 4tel. At regular intervals, management meetings were held at department level, division level and corporate level, and the different tools formed an important premise for discussions at all levels. Within certain areas of 4tel, customers also received regular reports on their projects, in which case customer meetings were generally held regularly. The reports affected the structure and topics of discussion at such meetings.

Variations in the formal SMC

At a conceptual level, 4tel's formal SMC remained virtually unchanged throughout the study period. Every year over the 1998-2000 period, the formal strategic control consisted of the same three distinct phases: strategy development, strategy deployment, and evaluation. This conceptual model was used by managers, in management documents and the control systems.

However, despite the stability of the conceptual description of the formal SMC, the process showed significant variation in terms of content over time (table 3).

	1998	1999	2000
No. of participants	< 10	> 40	< 20
Process	Instrumental	Probing and open	Management discussions
Focus	Establishing the org.	Interaction market / org.	Story telling

Main topic	Business plan Organisational structure	Market development Telia SWOT Visions and objectives Market choice Product choice Technology choice Partners and acquisitions Recruitment	Market development SWOT Visions and objectives Marketing and branding International sales Product portfolio Partners and acquisitions
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Table 3 Strategy development characteristics 1998-2000.

The overall strategy for 4tel's existence as an independent company was developed in 1998. This work was carried out by a group charged with the responsibility of setting up a framework for further IT developments within Telenor. This was a small group of Telenor representatives (mainly from R&D) chaired by the person who was later to become the company's president. The strategic work of this group was instrumental in the sense that it concerned itself with the establishment of the new organisation, and with the development of plans and structures which were essential for its realisation.

In 1999 the strategy development process took place during a period of major transformation. The company's owner and largest customer (Telenor) was negotiating a merger with Telia, and 4tel's management were negotiating the establishment of, and merger with, EDB Business Partner. At the same time, the pace of change in the telecommunications industry was accelerating, and 4tel was beginning to gain experience as a market player. This particular year, the strategy development process constituted a search for the company's role and position within this changing scenario; the focus was widened and many participants were involved. The interaction between the market and 4tel was at the centre of attention, and the questions raised would e.g. concern the envisaged impact on 4tel of the planned Telia merger and the development of its customers, competitors and technology, and on what products,

markets and technologies the company should concentrate. In addition to the management, a number of consultants and external players took part in the process, as did a number of employees from various 4tel divisions.

The open and probing strategy development process in 1999 helped increase awareness of the many and heterogeneous strategic alternatives the company was facing. Later in 1999 and 2000 the need increased for the company to cultivate a narrower range of activities and products. This contributed to the decision to involve fewer participants with the strategy development in 2000, thus making it a more closed process:

"The management wanted less external information and a smaller group. The situation dictated that a series of difficult choices would have to be made, e.g. many products had to be discontinued. Making this sort of decisions would be a difficult and time-consuming process if a number of employees were to be present." (BC representative and strategy development facilitator).

In the work on clarifying and choosing from the wide range of strategic alternatives, the focus was centred on the product portfolio, partners and acquisitions, and international sales. Furthermore, it was considered important to develop a company identity which would give room for 4tel's heterogeneous range of activities and make the company visible:

"We need one story to take into the market - one product, many options - based on competence, resources, history, experience" (agenda and minutes of the strategy development meetings 2000).

This storytelling was anchored in a need to market and brand the company's identity vis-à-vis customers, competitors and potential partners, but it was also related to the

stock market and the IT hype that was progressing in parallel with the strategy development process that year:

"4tel's link with the stock market is important. As of today, EDB Business Partner and 4tel enjoy significant market confidence, and 4tel would probably be able to obtain considerable funds for its international launch. This represented an important topic during this year's strategy process." (Head of NM in March 2000).

"A central topic for the strategy development in 2000 was to make a story for the stock market and other interested parties." (Strategy development facilitator).

The differences between the annual strategy development processes over the 1998-2000 period were reflected in the deployment process. Even if the basic deployment structure was identical for all three years, consisting of an iterative process during which each level of the hierarchy defined its vision, strategies, key success factors, measures and important activities on the basis of similar definitions produced by the previous level, the instrumental focus of the 1998 strategy development process contributed to a deployment process which was

"..... helpful in terms of making the organisation better at what it was already good at, but in terms of changes and innovation its contribution was generally insignificant" (Head of BC).

In the following two years, the strategy development process attached greater importance to understanding 4tel's new life as an independent company and deciding on which changes this required, and the deployment concentrated more on discussing and implementing these changes.

Also, the strategy development steered the deployment in that some of the employees were taking part in both processes. This became particularly apparent in 1999, when many of the employees were involved in an open discussion about 4tel's strategy as part of the strategy development process. This meant that:

"... word was spread about the proceedings and the topics of discussion. When the conclusions were drawn, these differed slightly from what had been read into the process as it evolved, and the organisation's focus thus had to be adjusted twice: first during the strategy development, then during the deployment." (Head of Finance and Administration).

The managers of 4tel considered the deployment process to be a natural continuation of the strategy development process:

"The deployment establishes a good arena for communication, and it develops the strategy in that it is broken down and made specific for different groups." (Vice President).

"Through this process, the employees are given an opportunity to influence 4tel's strategy, and they learn how their contribution may help the company achieve its objectives." (President).

In other words, the deployment was considered to be an arena for employees to discuss, review and further develop the strategies developed by the management.

The last phase of the formal SMC, the evaluation, was also closely linked to the strategy development. Time-wise, the two processes were intertwined and run in parallel. For instance, a number of the evaluation meetings held in the spring of 2000 were conducted in connection with the strategy development summits. Furthermore, the two processes were connected in that there was a relation between the strategy

development's varying focus (cf. table 3) and the different evaluation topics, and the discussions on the two arenas mutually influenced each other. For example, in both 1999 and 2000, the debate about product choice and portfolio ran in parallel in the strategy development and evaluation meetings, and during the spring of 2000 a considerable number of the product choices that were of key significance to the strategy development were in fact passed at the management's evaluation meetings.

8. Interpretation

This report illustrates the abundance of sources of realised strategies that managers are confronted with, while pointing out that these sources are dynamic and heterogeneous. Over the three-year study period, markets that used to be distinct and purely domestic gradually merged into international markets, while the telecom, IT and media industries converged. This development meant that the number and heterogeneity of potential customers, competitors and partners increased, and they were all working to change the competitive context to their advantage. The dynamic property of the market was reflected in the large number of options available to companies regarding technology, competence, and value chains. Factors like these often used to be determined by whether the company was working with sound, data or video, but different types of information can now be transmitted via a number of different networks, and there are numerous technological possibilities for transmitting and presenting information. Also, during the three-year study period, investors preferences changed dramatically regarding technology, competence and markets, and 4tel's managers could have exploited these changes to acquisitions and radical alterations of the various sources of realised strategies.

The myriad of potential sources of realised strategies which were under continuous reconstruction, meant that the managers of 4tel as well as other companies were faced with virtually boundless numbers of potential strategic factors and possible outcomes.

The competitive context was thus not given by an objective reality that managers could proceed with by means of facts and analyses, but was continuously and subjectively constructed through interaction between the various market players. The subjective nature of the competitive context contributed to the fact that major changes could take place in a short period of time, a point which is poignantly illustrated by the IT hype that occurred in the spring of 2000, during which 4tel's value fluctuated between NOK 2.5 and 10 bn. The subjective context represented the land of opportunities in the sense that players who were able to influence the subjective perceptions of reality, could use this ability to generate and exploit perceptions of reality which gave them competitive advantages.

The subjective and temporary make-up of the competitive context required visibility and legitimacy. In order to influence other people's subjective views, and consequently the competitive landscape, it was essential that you were seen and listened to, and that the other players believed in you. The companies' rivalry for attention and credibility was reinforced by the fact that this was decisive to each company's position in the networks that constituted the industry in which 4tel competed. An acutely profiled company with a high legitimacy stood a good chance of attracting the decisive staff, partners, customers and capital, which in total positioned the company at the centre of the industry's most important networks.

Visibility and legitimacy, and consequently the competitive landscape, were constructed by managers and between managers. 4tel's managers jointly developed the identity and story that was used to attract other market players, and in going about their daily business they interacted with these players, using investors as a tool of navigation, searching for customers who could be captured and verify 4tel's position as a confident supplier, expanding the partnering network to include not only Telenor's network, but a cluster of companies and networks that were able to provide legitimacy, and hunting down staff with well-developed networks. This interaction continuously provided possibilities for the management to test strategic thoughts and

actions, to restructure the company's network and legitimacy, and thus to create the network of resources that was necessary for competitive success.

The subjective construction of the strategic landscape was materialised in the creation of organisational options. Opportunities considered by the management to be sufficiently interesting were continuously defined into the organisational structure, which meant that the managers' effort to create the competitive landscape was accompanied by organisational exploration and exploitation. The conversion of subjective patterns and processes into a concrete structure which delimited organisational alternatives, made it possible for managers to investigate the substance and consequences of their various options. Managers could, via the organisational structure, filter the various options' as well as the employees' access to themselves, and by regulating flows of resources and energy, managers could fuel and adjust the competition and conflicts between different alternatives, thus positioning themselves at the centre of information and arguments about the substance and consequences of various organisational options.

Managers created the strategic landscape through interaction with staff and external players. This interaction primarily took place in every-day operative processes, but the formal SMC was also an important arena. In 4tel, this process worked as a vehicle for dialogues that reflected the changing themes and focus of the managers' operative work. The formal control process meant that 4tel's managers, accompanied by whoever they found useful, met at regular intervals. At these meetings, different processes and topics were accentuated according to the strategic situation and needs. The content of the meetings was not dictated by their labels (strategy development, deployment, or evaluation), which were set by the company's traditional and conceptual control model, but was strongly influenced by whatever needed to be most

urgently discussed¹³. For example, 4tel's strategic situation in 1999 and 2000 indicated that product choice and product portfolio were important topics, and product strategies were not only discussed at the strategy development meetings, but at the evaluation meetings as well. Clearly, the formal SMC was thus not made up of three chronological processes during which strategies were first formulated, then implemented, and then ultimately controlled, but by a series of meetings at which these processes often run in parallel.

9. Conclusions and further research

Largely thanks to Mintzberg's pioneering work in the 70s, practitioners as well as academics have long since appreciated that realised strategies may originate from a wide array of sources. Present-day research has shown that the traditional assumption, that realised strategies originate from conscious, rational and purposeful top-down processes, is often not valid. Instead, the most important sources of realised strategies have often proved to be complicated and apparently stochastic processes such as the unconscious actions of individuals or local groups, or minor, chance events (internally or externally), which through butterfly effects or collective social processes determine the actions and resolutions that shape tomorrow's interaction between an organisation and its context.

Managers have been ascribed the responsibility for influencing the processes of strategic significance. The proponents of traditional strategic control argue that this process constitutes the ultimate source of realised strategies, and that managers may use it to formulate, implement and control the logic on which the interaction between

¹³ This was discussed at the summit at which the results of the study were presented to the senior management. It turned out that the management group was aware of the fact that the formal SMC primarily constituted a series of meetings, and they used the meetings to discuss whatever the situation dictated. Nevertheless, they expressed doubt as to whether it would be a good idea to change the conceptual model, because they felt it gave an impression of orderliness, stability and control vis-à-vis their staff, and this increased the management's ability to make changes.

a company and its environment is based. It is also possible that the most important sources of realised strategies are local individuals or groups, and that managers may exert a certain level of influence on them by affecting their focus (e.g. by means of dialogues based on management control systems), shaping the structure and procedures in which they are embedded (e.g. by means of target costing), or by cultivating emergent strategies, working as organisational gardeners.

The challenge that was decisive to 4tel's managers was not to influence strategically important processes, but to create the processes by which they and the organisation were influenced. The ever-changing contextual patterns constantly offered a large number of momentary opportunities that could be exploited in order to create competitive advantages, and the subjective identification and exploitation of these opportunities depended on the continuous interaction between managers and the forces that may become decisive to the company's competitive position. The managers' key to competitive success was thus to attract customers, owners, partners and staff, and through interaction with these players, establish a network of resources that provided opportunities to reveal and exploit patterns of the competitive context.

Managers and their creation of sources of realised strategies constituted the core of SMC in 4tel. This creative SMC took place as an ongoing process in the managers' operative work as well as in the formal strategy work. Future research should further explore the contents and concepts of these processes. The redefined SMC shows how managers orchestrated their own workday through the creation of internal and external processes, which means that the conventional structures, systems and procedures which are usually associated with SMC, perhaps are mere simplified reflections of more profound processes. The findings of the current study thus accentuate the need to carry out further in-depth studies in recognition of the fact that we have little or no knowledge about many of the fundamental processes and constructs within this area, and based on the practitioner's perception of reality, identify and describe the unfolding and creative quality of SMC.

4tel's managers formed the company's centre of gravity. They united the cross-organisational resources which constituted the sources of realised strategies, using conventional tools which structured and filtered the influence of various sources on themselves. Future research should focus on how managers proceed to establish and change structures which unite resources of customers, partners, staff, investors, suppliers, and other players. Also, it should recognise that traditional tools may primarily contribute to structuring and regulating the context's influence on managers, and explore how various conventional tools affect them. This represents a substantial change in relation to the literature on strategy, management and control, which traditionally has focused on the opposite, i.e. how managers may use conventional tools in order to influence the context.

Future research should also explore the creative use of the structures, systems and procedures which have traditionally been associated with SMC, and this research may well change some of the discipline's fundamental ideas. For example, creative use of conventional SMC tools should inspire and motivate managers to seek out, interact with and try to influence forces which appear to be non-controllable, and this would challenge the longstanding controllability principle which is fundamental to organisational structures and evaluation and incentive systems (Demski, 1997). Creative use of traditional control procedures and systems also means that their most important task may well be to assist the management in their work to create subjective, selective perceptions of a complex reality in continual change rather than to depict an objectively given reality. This may mean that the traditional control procedure, during which the management formulates, implements and controls strategies, will change its character and substance (cf. the substance of 4tel's formal SMC), and that some basic SMC ideas will change from "management by facts" and "what you measure is what you get" to "construction of facts" and "what you measure is what you create".

Creative SMC means that managers create their own future by attracting, interacting with and establishing the sources of realised strategies that form companies, and perhaps even through the creative use of conventional SMC tools. For academics, it should be intriguing to see that a decisive point for 4tel's success was its ability to attract attention and resources, something we have been occupied with through acquaintances, conferences, books and articles. Also, it should be noted that the interactive and gradual establishment of sources of realised strategies, is decisive. We are all acquainted with the importance of this point through our work to establish relations and write articles with well-known authors and researchers, establish well-founded projects which provide access to interesting companies or knowledge, and develop courses and teaching which provide an opportunity to recycle our research and engage in discussions that generate input for further research. These apparent similarities between the study of 4tel and our own experience indicate that the conclusions drawn in this report are valid in other contexts and for other organisations, and hopefully the task of checking the external validity of this study will attract numerous researchers working to create their own future.

Unobtrusive data

Key documents from the company's archives

Minutes of management meetings. 4tel was set up as an independent company in May 1998, and from this point until mid 1999, managers met once a week. Minutes were kept of all meetings. In the second half of 1999 and throughout 2000 management meetings were held on a monthly basis, and minutes were kept of all meetings. Weekly status meetings were also held in this period (partly as phone conferences), some of which were minuted in the second half of 1999, none of which were minuted in 2000.

Strategy development documents. Number of participants, procedures, and topics varied from year to year over the three-year period, and this was reflected in the documentation. The agendas for the strategy development meetings constituted the most significant documentation, with the summaries of results and conclusions. These summaries were often recorded in the form of key words for use at the meetings. In addition, there were presentation transparencies, strategic analyses, summaries of internal evaluations and surveys (e.g. EFQM surveys and interviews with the senior management conducted in preparation for the meetings), and some other documentation. The strategy that was developed, was described in "Business plan for EDB 4tel 1999-2003", which was studied with the corresponding document for the 2000-2003 period.

Strategy deployment material. The deployment process was headed by a number of facilitators from the company's staff, and the most important documentation was the transparencies used by these facilitators as they were heading the deployment work.

Documents relating to budgets and evaluation. Miscellaneous documents relating to budget preparations, such as the budget manual and various documents explaining the budget structure and performance targets for the various parts of the company; selected evaluation reports generated by the accounting system for the various parts of the company. The information available in the BEST4tel system was reviewed.

The results of the EFQM surveys that were conducted in 1999, 2000, and 2001. The results were stored in Excel files, which were used to generate a number of analyses, mainly with the assistance of SPSS.

Miscellaneous reports. E.g. at regular intervals the consultancy part of the company submits a research report to the management. These reports are generally about analyses of markets and competitors, technology trends (IT), and business models within the telecom sector. Also, reports drawn up in connection with various development projects constituted significant documentation.

Public documents

Televerket, annual reports for the 1980-1993 period

Telenor, annual reports for the 1994 - 1999 period.

Telenor R&D, annual reports on research achievements for the period 1995 - 1999.

EDB Business Partner, annual report for 1999.

External media

[Http://www.edb.com](http://www.edb.com). The group's home page, which describes the group and its subsidiaries. In addition, it contains news and press releases sent out by the group.

[Http://www.nettavisen.no](http://www.nettavisen.no)

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Dagens Næringsliv (traditional newspaper)

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