

**Impact of the Information Society on the Area of 'STRATEGY':  
An Empirical Investigation**

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## **Impact of the Information Society on the Area of STRATEGY: An Empirical Investigation**

### **1 Introduction**

This paper was prepared in the context of the MACIS project<sup>1</sup> conducted between January 1997 and November 1998 by six top European business schools (London Business School, INSEAD, University of Cologne, ESADE, Copenhagen Business School, and Athens Laboratory of Business Administration (ALBA)). The purpose of the project was to develop an innovative, but general management curriculum for the Information Society. Each school concentrated on a specific management area; the University of Cologne was assigned the area of 'STRATEGY'. This paper investigates the impact of the Information Society on the area of Strategy based on individual research and a thorough analysis of interviews conducted in 1997 with experts from academia, practice and consulting.

In order to cover the whole area of STRATEGY, we do *not* distinguish between business STRATEGY in companies that operate in traditional business sectors with non-digitizable products, and those that are active in new business driven by the availability of new technologies and according service opportunities. While impacts on management processes, legal rules and governance structures will mainly differ on the time axis, it is clear that company missions and policies as well as strategic programs will be more impacted in those sectors where products and services are digitizable and complete business transactions are executed via electronic infrastructures.

### **2 The Information Society**

Technological, cultural, political and social characteristics of the Information Society have been described and predicted in length in both the academic literature as well as in political, business world and societal publications. We think that if everybody sticks to his or her own definition and interpretation, the research results will be more meaningful than if we invest heavily into the terminology-oriented side of the issue. However, we also think that the developments which often are summarized and aggregated under the term 'Information Society' only point to some of the important changes to be observed currently and in the near and medium term future. The developments of new information, communication and media technologies (and the according shift towards the information and knowledge society) are only one of many important mega-trends that have an impact on the business world. Other mega-trends include (1) the boom of national economies in former 'developing countries', (2) globalization and regionalization, (3) deregulation and liberalization, (4) growing cultural and decreasing political impacts, (5) supranational block building, and (6) democratization and decentralization (Szyperki, Loebbecke, 1997). While we tried to focus our empirical investigation on the impact of the Information Society on the area of STRATEGY, we need to stress that - from a business / management perspective - the different, simultaneously occurring 'causes' are hard to distinguish. Most of these mega-trends are considered to be strongly interdependent. Their relevance for a specific STRATEGY issue certainly depends on the selected company / industry or national situation.

### **3 The Area of STRATEGY**

We suggest the following framework to structure the relevant areas from a company's perspective (see Exhibit 1). In each of those four sub-areas of STRATEGY, the three dimensions 'STRATEGY process', 'STRATEGY content', and 'STRATEGY context' (De Wit and Meyer, 1995) may be impacted by or may be subject of adaptation in the Information Society context (Szyperki, Loebbecke 1997).

	<b>Structure-oriented</b>	<b>Action-oriented</b>
<b>Normative Level</b>	Legal Framework / Corporate Governance	Missions / Policies
<b>Strategic Level</b>	Management System	Strategic Programs

Exhibit 1: The area of STRATEGY in a corporate perspective (after: BLEICHER, 1996)

### **4 Approach to Empirical Investigation**

Our empirical research concentrated on in-depth interviews. Based on a set of 46 contacts with whom we verified their current responsibilities and former experiences, in July 1997 we arranged two interview rounds with ten participants each (see appendix). Each of the two rounds was organized as a set of individual interviews followed by a three-hour workshop with all ten participants. During the latter, the participants first were divided into four brainstorming groups according to the four topics outlined in our framework of investigation. Following our overall question, the task for each workgroup was to brainstorm on the changes *caused by* the Information Society in the assigned sub-area of STRATEGY. After the presentation of the workgroup results in the larger group, participants were asked to comment on or complement any of the other workgroups' presentations.

Our basic assumption was that any participant had some idea regarding the meaning of 'Information Society' and STRATEGY. Having whatever definition in mind, our leading question was: How has business STRATEGY changed (will it

<sup>1</sup> For more information on the MACIS project, please check at our Web site at [www.hellasnet.gr/macis/](http://www.hellasnet.gr/macis/)

change) *because of* the existing or coming Information Society, i.e. what is and will be the delta in business STRATEGY *caused by* the Information Society?

## 5 Impacts of the Information Society on the Area of STRATEGY

### 5.1 Impacts on legal frameworks and corporate governance structures

Important challenges resulting from recent and foreseeable IT developments for the design of legal frameworks and corporate governance structures include

- reconsidering decision and responsibility systems,
- increasing social responsibilities by incorporating various stakeholders into Intranets,
- increased social awareness of economic organizations,
- developing legal frameworks for teleworking, telecooperation and telelearning,
- creating telecenters as new type of organizational structure,
- designing manageable rules for virtual organizations (contracts 'versus' trust),
- finding a balanced trade-off between security and efficiency of organizational systems and their activities,
- managing appropriate information and integration (participation) of shareholders ('Should they become partners in the Intranet?'), and
- reconsidering control structures, patterns and types (new rules for corporate communications and internal reporting, e.g. internal conference regarding balance sheets, transparent and easily accessible strategy- and mission statements).

- *The Information Society will increasingly lead to location and time independent organizational structures and according governance structures (often referred to 'virtual organizations').*

Traditionally organizations have been defined on a functional and a geographical dimension. The functional dimension seems to be replaced in many instances by 'process orientation'. The geographical dimension has lost importance due to innovative information and communication technologies. A shift from geographical centralization in headquarters to a centralization of information flows can be observed. Nevertheless, a certain form of 'centralization' will remain valid to keep the phenomenon of organizational bundling, i.e. organizational structures, alive. Without any centralization there would be no difference between inside or outside an organization.

However, even in virtual organizations and in the traditional organization in the Information Society three different flows will remain in existence: information logistics, financial logistics, and physical logistics (Szyperki, Klein 1993). Regarding physical logistics, we have to distinguish between those products that can be distributed electronically (i.e., products which are or can be digitalized and then transported via the Internet) and all other products that will always require some form of physical transport.

The challenge remains to achieve an aggregated optimum of all three kinds of logistics. From a STRATEGY point of view, new approaches to overall optimization need to be found and implemented. The most efficient information logistics do not pay off, if the according material product streams are constrained by physical facts. E.g., certain forms of industrial gas cannot be sold world-wide for physical / transportation reasons, even if the Internet helps to establish customer contacts in other continents.

- *The importance of given governance structures will be reduced.*

Internal legal rules and governance structures will be changed as soon as corporations realize that they are constraints in the effort to adjust to new market environments (e.g., more global activities and internal as well as external information transparency). Furthermore, in virtual organizations, 'center concepts' such as profit or cost centers and the according controlling principles will be outdated.

- *Business STRATEGY activities have to develop new internal legal frameworks and governance structures for virtual organizations, international cooperations / networks, and electronic commerce activities.*

The main issues in this context are

- (1) appropriate accounting principles that reflect on temporary cooperations / organizations / networks,
- (2) adjusted liability principles that provide a sound basis for claims and reclaims with a focus on digitizable / volatile products and services, and
- (3) coping with different national and regional laws whenever the country of origin is hard to determine and loses importance.

While companies have to accept the legal rules given in their specific legal (national) environment, in the short and medium run the challenge will be to develop the 'best' strategy, i.e. the 'best' legal framework and governance structure to cope with the current 'unclear', 'ever changing', and rather 'fuzzy' constraints.

- *The main challenges to achieve the necessary flexibility, and thus to be ready for successfully doing business in the Information Society, will be (1) changing the mentality and (2) adapting the legal frameworks and governance structures. Traditional structures of committees and formal workgroups will be weakened or abolished company-, region-, nation-wide and on international levels.*

Many of the well-known and generally accepted business activities are - practically speaking- already executed against existing legal rules or even against laws. Nowadays we increasingly observe silent agreements on 'breaking existing rules' for the sake of feasibility and mutual benefits. The more business environments change and patterns of doing business are faster adapted to shorter business cycles, the more the value and the feasibility of usually long-term oriented structures and frameworks will be questioned. Phrasing it even more drastically: If the concept of virtual organizations and eventually also virtual institutions will gain importance and be broadly implemented, slow and long-term oriented structures and committees as well as written rules will have to be eliminated or at least be reduced in importance.

- *In spite of positive examples that demonstrate the benefits and increases in efficiency caused by telework, the tradeoff between 'contracts' and 'trust' will still remain in many traditional work environments (see also Habermas, 1981 a and 1981 b).*

Still, it is considered to be difficult not to have employees nearby. Experiences report on company examples where leading managers who changed their location of living have subsequently seen the need to leave their company because of the 'distance' between the company and themselves. This 'distance' is usually considered to be a mental distance that, for a good part, results from a geographical one.

## 5.2 Impacts on management systems and processes

Important challenges resulting from recent and foreseeable IT developments for the design of management systems and processes include

- improving flexible structures,
  - balancing internal markets versus strategic interconnectivity,
  - synergetically integrating (technical) network management and the management of non-technical networks,
  - facing the growing need for creativity (mastering economics of creation versus economics of production [see also Scott Morton (1992)])
  - exploiting new chances for 'virtual coaching',
  - reconsidering styles of leadership,
  - using Business TV as a tool for leadership (managing in knowledge organizations will most likely require managers' TV skills)
  - redesigning control strategies,
  - implementing concepts and processes leading towards learning organizations, knowledge management as basis for both interdependent activities: (1) education and training and (2) problem solving in business processes,
  - mastering implementation strategies (teaching, training, motivating, coaching),
  - building new understanding of model building and inquiring systems, and
  - reconciling rational, emotional, and social competence.
- *Technological infrastructures will mainly be used to transfer 'factual' information to internal and external business partners.*

Recent developments in information and communication technologies permit faster and better targeted transportation of information. However, it will remain difficult and uncommon to develop trust, prove of competence, reliability via technological infrastructures only. Any efficient and effective relationship marketing will require a specially designed mix of face-to-face meetings and the application of information, communication, and media technologies. For instance, a growing number of companies primarily use face-to-face meetings, such as annual company-wide Christmas parties, weekends in the mountains, or walks through the tropical forest, to establish and strengthen social contacts and trust within the company or business network. Once contacts are re-established, the actual 'factual' business discussions can be executed via technological infrastructures.

- *New technologies will only in very rare cases replace more traditional means of communication.*  
Instead of new infrastructures replacing older ones, the overall extent of using the available technologies will increase. For example, the introduction of fax has led to increased usage of phones. Neither phone, nor fax, nor e-mail or video-conference have decreased traveling. Interestingly enough, the amount of communication via all means (including face-to-face) has clearly grown over time.
- *The actual and future role of personal contacts and relationships needs to be reconsidered.*  
While information and communication technologies allow various forms of 'tele'communication, opinions differ, if the according relationships will be desirable, sufficient, or insufficient for doing business in the Information Society. Some experts see the desire of face-to-face, direct contacts as an example of sticking to old traditions, "Why can we not develop a personal relationship and trust based on 'screen meetings' (via computer, TV, or video screen)? The necessary adjustment has to take place in our brains, not in the technology or business processes." "'Out of record' communication can also take place via picture phone." Others believe that communicating via technologies reduces any communication to the rather formal part of any conversation.
- *Innovative approaches have to be developed to master creativity.*  
Fundamentally creative processes are difficult to be replaced. The possible degree of technological support for creativity is questionable. While most business and economic (micro and macro perspective) theories and concepts are targeted towards the design, production and sales of physical products, these business activities account for a diminishing percentage GNP in most industrialized countries. However, creative products have not yet become the focus of our business thinking. Examples for the need of new approaches to business and STRATEGY include (1) economies of scale lose importance, (2) the trade-off between capital and labor needs to be reconsidered, and (3) traditional accounting principles do not reflect the true value of software oriented companies.
- *The current re-engineering efforts towards 'process orientation' need to be reconsidered, especially in case of 'non-physical' or non-digitizable products.*  
The concept of process orientation as basis for innovative corporate structures and management systems seems to reach its limits in the case of non-physical products. Examples from the telecommunication sector report on the questionable value of organizing a medium size company (telecom operator) according to predefined processes. One of the main pitfalls is that almost every activity can be grouped under the overall process customer service.

- *Embedding life-long learning in traditional and new company structures needs to satisfy a company's requirements regarding innovativeness, but also needs to fulfill security and efficiency requirements.*

In the era of the Information Society, and particularly of fast changing business environments, the need for continuous learning, both on the individual and the organizational level, has been widely accepted. Currently, enterprises face the challenge of deciding from whom and where to learn and what to offer to employees as well as partner organizations as a basis for learning. While there seems to be agreement that security concerns should and cannot stop learning initiatives, practical implementations of learning structures are often hindered by justified or unjustified security concerns. This issue gains further importance, if employees structures, are expected to become even more volatile. Finally, the gains from organizational learning should outweigh the additional expenses that such initiatives cause.

- *Knowledge management will become and needs to be managed as a core business process in many companies and business networks.*

Consulting companies, large multinationals and business networks have started to establish knowledge management as a core process. Some have already created the position of a 'Chief Knowledge Officer'. These initiatives are considered to be major steps to prepare a company in any business sector to successfully competing in the Information , i.e. Knowledge Society.

### 5.3 Impacts on corporate missions and policies

Important challenges resulting from recent and foreseeable IT developments for corporate missions and policies include

- rethinking of the role of corporations in the information society,
  - (creating and) abolishing 'ad hoc corporations', / 'stand-up corporations', which are established for 'new tasks' on a temporary basis,
  - redefining a company's own industry position,
  - triggering IT-based business transformation,
  - accepting that almost all companies are becoming heavily IT-based,
  - realizing that software will - in terms of value added - reach 50% of traditionally material products ('Will this trend lead to new concepts of firms?'),
  - new positioning and shifting towards new markets,
  - benefiting from globalization and designing strategic alliances, and
  - redefining shareholders' roles.
- *The Information Society will lead to drop outs and new members in traditional inter-company value chains.*

Drop outs of value chain members will primarily occur in two instances:

The end-customer can be integrated into the value chain. When the customer starts doing a good part of the work / the service himself (and even appreciates the fact that companies let him work for free), traditional service activities will be eliminated. Well-known examples include financial services on the retail level (e.g., home banking), travel agencies, or special support in selecting information (e.g. book stores).

Increased costs of physical transportation are outweighed by saved margins of eliminated retailing members in the value chain. An example are books sold directly from the wholesaler. However, the phenomenon that several players in the chain who used to strive for their shares of the overall profit margin are eliminated, provides the end-consumer with the opportunity to buy the book cheaper via the Internet than in the traditional system.

Other kinds of products need delivery faster than traditional mail or express mail services can offer. Examples include hot food, various forms of groceries, and actual services like hair cuts, massage etc. In these cases, increased customization will lead to new players, i.e. those that deliver the goods and services to the home or office. It remains to be seen, if those services will primarily be offered by separate companies or by selected employees of established companies,.

- *The Information Society will encourage corporations constituted in 'traditional' industry sector to enter new markets in addition to their established activities.*

Examples include the Metro AG, the largest German retailing company, that is building competence centers in the areas 'Information Logistics' and 'Media', and large European steel companies like Mannesmann AG or Thyssen AG that have moved into the telecommunication sector (operator and value added services).

- *It is still an open question if managing and taking advantage of the new opportunities in the Information Society will require a new generation of people in organizations.*

While many start-up companies are run by 'representatives of the new generation', most large companies and multinationals still do not want to operate without the expertise and experience of managers who began their careers in the 'Pre-Information Society'. Fairly often it is considered to be more likely that these 'older experts' will learn and start to appreciate the changes that come with the information and communication technologies faster than youngsters who grew up with those 'tools' will become experts in particular business field and in the way of 'doing business'.

### 5.4 Impacts on strategic programs

Important challenges resulting from recent and foreseeable IT developments for corporate missions and policies include

- exploiting and benefiting from companies' competitive advantages in the society,
- reconciling business fields,
- benefiting from electronic opportunities,
- managing changes in value chains (outsourcing versus insourcing, horizontal versus vertical cooperation / integration),
- re-evaluating R&D activities with growing IT-components in a company's own intelligent products,
- balancing competence driven versus market driven strategies,

- developing customer relations and new logistic strategies,
- developing and implementing change strategies from manufacturing to service organizations (e.g., the case of IBM), and
- applying data-mining, search models and intelligent strategy development tools.
- *The usage of technology should and will primarily be used to strengthen a company's customer orientation.*  
Fostered customer orientation will be expressed via improved market research as well as more targeted public relations and marketing activities. Furthermore, concerning product customization two aspects may be distinguished: a) Digitizable products can be specifically designed upon demand and according to a small customer group's or individual needs; and b) for non-digitizable products, the overall product packaging and thus the product design can be customized to a rather high degree. Product packaging includes financial services, delivery arrangements, guarantee commitments, etc.
- *The willingness to experiment with new business areas will have to be fostered.*  
If the application of information and communication technologies becomes a new major competence, companies need to find out which new business sectors they could afford to enter. It would be most helpful if the political and social business environment supported a 'try and error' approach so that companies can get new chances after a failure. Otherwise, the willingness to try innovative services etc. will be limited, and important market opportunities will be missed. While business STRATEGY should foster the harvesting of advanced information and communication technology applications and expertise, the environment needs to 'permit' mistakes and provide the necessary venture capital.
- *Management will need to be able to do business via new media.*  
New (Internet-based networks) offer voluntary and involuntary contacts with 'new' people. These contacts require new communication skills that have traditionally not been part of management education. Managers need to learn the usage of the new media, especially they need to learn presentations and interviews in front of cameras. With Business TV as a new medium that has rapidly gained importance, it becomes clear that not only the content of business TV programs is important, but also the way a manager presents him- or herself in front of colleagues, employees, customers, and suppliers.  
The new 'video generation' ('gameboy generation') has grown up with expressing themselves in hypermedia, visually driven environments. Not only in consulting reports, also in company internal documents, longer texts are replaced by several transparencies including pictures, drawings and text components in exhibit form. The sequential order that has dominated any country's (written) language, only plays a minor role in these hypermedia / visual presentations. Any limitation to a single form of communication and expression seems to be narrow-minded and wasting opportunities.

## 5.5 Impacts on general issues relevant to the area of STRATEGY

- *The general demand for increased in flexibility will require increased mobility of persons, goods, and minds.*  
The demand for 'mobile' persons will not be reduced due to location independent communication technologies (see above). Mobility of goods will be required wherever non-digitizable goods are produced and sold across large regions, may these be city districts or continents. Mobility of minds will probably be the hardest to achieve in one's effort to get ready for the Information Society. While the need for mobile minds is widely accepted, the 'know-how' on how to create them is still missing (or a well kept secret).
- *Uncertainty will remain the main challenge in developing and implementing business strategies.*  
While new information technologies provide access to an enlarged set of information, the traditional challenge for strategy makers, i.e. deciding under uncertainty, can and will not change. A large amount of historic data allows for 'statistically better' predictions, but cannot foresee the 'unpredictable'. Moreover, once existing information allows to 'predict' future events, the value of the according strategic decision will be much lower. The overall benefit in any market environment lies in knowing more or acting earlier than competitors.
- *Virtual organizations MAY NOT be considered as 'organizations' in the sense of the traditional business and management literature. In that perspective, concepts of management systems and processes developed in the organizational literature and practice can barely be applied to virtual organizations.*  
If 'Virtual Organizations' are one of the more dominating 'visible aspects' of the Information Society, and if STRATEGY is about a strategy for organizations, one has to ask what characterizes an organization. While we stated earlier that organizations are defined via a geographical and a functional dimension, another well-established body of literature focuses on organizations as social groups.

## 6 Summary and Outlook

It seems to be obvious that legal rules and corporate governance structures will lose practical importance and need to be adapted in order to allow for larger flexibility, customer orientation, international coordination and mastering the creativity. In those business sectors that are based on 'digitizable' products and location-independent services, the Information Society will bring shorter product cycles with high requirements concerning customization and price-sensitive service quality. The application of innovative information and communication technologies will change the way management systems and processes are implemented. Faster and better targeted internal and external communication will allow for new market opportunities and business partners.

In order to be prepared for management requirements in the area of STRATEGY, students need to develop a holistic and integrative perspective. Strategic thinking will continue to require the ability to recognize perspectives and recipes, the mental flexibility to shift between paradigms, an analytical and critical mind that can see the limitations of simple recipes, and a culturally adaptive mind (de Wit, Meyer, 1995). None of these requirements is new, but in many instances the demand for such qualifications may even be stronger and harder to achieve in the Information Society.

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## Appendix

The interview and workshop participants (listed by company / institution and position in alphabetical order) were:

- ATKearney, Project Manager Telecom Strategies	- Mannesmann Roehrenwerke, Director Marketing
- Cognit GmbH, CEO	- Mediagate GmbH, Thyssen Telecom, CEO
- ExperTeam GmbH + Co., CEO	- Pallas GmbH, CEO
- Genes GmbH, CEO	- PreNatal, Strategy Manager
- Gerling AG, Director Organization and Communication	- QSC Service GmbH, CEO
- Gregor Consulting, CEO (former global HP product manager)	- Ruhrgas AG, Chief Controller
- GMD, Manager International Affairs	- University of Cologne / BIFOA, Senior Project Manager
- Höring Consulting, CEO	- University of Dresden, Prof. of Applied IT
- Kaufhof AG, Manager Innovations	- University of Kassel, Professor of Business & Applied IT
- Linde AG, Chief Manager Organization and Planning	- University of Muenster, Professor of Business Informatics