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Ulf Lindqvist, Niels Bjørn Andersen, Gudbrandur Örn
Arnarson, Caroline Huusko, Jukka Hyvärinen, Arne
Krokan, Jens Nicolaisen, Christian Persson, Timo
Siivonen, Riku Soininen, Ragnar Thorgeirsson, Erik
Wallin



Technical Research Centre of Finland; Ulf Lindqvist, Timo Siivonen



STFI-Packforsk AB; Christian Persson



Arne Krokan



Copenhagen
Business School
HANDELSHØJSKOLEN

Copenhagen Business School; Niels Bjørn-Andersen



ICEPRO; Ragnar Thorgeirsson

Adaptlogic

Adaptlogic Intressenter AB; Erik Wallin

^{borsen.dk}
Børsen

Dagbladet Børsen; Jens Nicolaisen



Edita Sverige AB; Caroline Huusko, Ulf Dubois



EJS hf.; Jón Viggo Gunnarsson



GAN Gruppen; Håvard Grjootheim



Kesko Oyj; Jukka Hyvärinen



Oy Veikkaus Ab; Riku Soininen



365; Gudbrandur Örn Arnarson

Contact Forum between Nordic Media Industry and e-Business Operators, e-FORUM - P 05018

- Christian Persson, STFI-Packforsk AB, Box 5604, SE-114 86 Stockholm, Sverige, Fax: +46-8-411 55 18
- Arne Krokan, NTNU, Høgdaieveien 44, NO-1482 Nittedal, Norge, Fax: +47-9189 7473
- Niels Bjørn-Andersen, Copenhagen Business School, Njalsgade 80, bld. 16, DK-2300 Copenhagen S, Danmark, Fax: +45-381 5 2401
- Ragnar Thorgeirsson, ICEPRO, Kringlummi 7, IS-103 Reykjavik, Ísland, Fax: +354-893 7102
- Ulf Lindqvist, VTT, PL 1000, FI-02044 VTT, Finland, Fax: +358-20722 7052
- Timo Siivonen, VTT, PL 1204, FI-02044 VTT, Finland, Fax: +358-20722 7052
- Riku Soininen, Veikkaus Oy, Hämeenpuisto 44 C, FI-33009 Tampere, Finland,
- Jukka Hyvärinen, Kesko Oyj, PL 135, FI-00016 Kesko, Finland, Fax: +358-9-674378
- Ulf Dubois, Edita Sverige AB, Box 49031, SE-100 28 Stockholm, Sverige, Fax: +46-8-508 828 01
- Caroline Huusko, Edita Sverige AB, Box 49031, SE-100 28 Stockholm, Sverige, Fax: +46-8-508 828 07
- Håvard Grjøtheim, GAN Gruppen, Peter Møllers vei 8-10, NO-0585 Oslo, Norge, Fax: +47-22-799 501
- Jens Nicolaisen, Dagbladet Børsen, Møntergade 19, DK-1140 København, Danmark, Fax: +45-3312 2445
- Jón Viggo Gunnarsson, EJS hf., Grensávegi 10, IS-108 Reykjavik, Island, Fax: +354-664 3221
- Gudbrandur Örn Arnarson, 365 - Media, Skaftahlid 24, IS-105 Reykjavik, Island, Fax: +354-515 6717
- Erik Wallin, Adaptlogic Intressenter AB, Tjärhovsgatan 5, SE-116 21 Stockholm, Sverige, Fax: +46-8-55 60 24 91

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Abstract:

The scope of this preliminary study was to establish a forum between the most important Nordic players in e-Business, presenting them an inventory of the research work performed on national levels and the most important results, identifying the main tasks and obstacles for adaptation and utilisation of e-Business in Nordic media companies, and to specify basic needs for training and further research. An effective integration of e-Business and media require new business models, which are applicable to totally new value chains. The Nordic strength lays in new, intelligent and innovative media products, such as hybrid media and e-media, and services. For this reason future research should focus on identifying new such products and services, and on developing business models for the new value chains on a global market.

Executive Summary

The adaptation of e-Business in media is a key question both for the further development of the media sector and the future of e-Business itself. The media companies can utilise e-Business in their information service and thereby enhance the customers' value proposition. The media sector also acts as a catalyst for other industries to reach out to its customers in their e-Business activities. e-Business is much more comprehensive concept than e-Commerce and includes both trade of goods and services via computer networks, enabling the transaction to take place and also extending far beyond the trading itself. Correspondingly, there are several stages of growth for a company in e-Business from "static on-line presence" to "ambient organisations".

The Nordic countries have been forerunners in applying e-Business. The main players in this field are the media industry itself, the vendors offering software and hardware for e-Business, the providers of service and the end users, which are also the media consumers. The scope of this preliminary study was to establish a forum between the most important Nordic players in e-Business, presenting them an inventory of the research work performed on national levels and the most important results, identifying the main tasks and obstacles for adaptation and utilisation of e-Business in Nordic media companies, and to specify basic needs for training and further research.

The performance started with an inventory of national research in the e-Business and media area. The results achieved were presented at a seminar and are included in this report. The further development was analysed in a separate workshop utilising established methods like megatrends, weak signals and Delphi studies.

The Nordic Council of Ministers has adapted a strategy for the promotion of e-Commerce within the area of trade and industry policy. The most important elements in such a strategy are ICT skills, standardisation and interoperability together with the demand and role of the state. The recommendations for the consumer area are primarily aimed at providing information for consumers and business operators about their rights and obligations, with particular emphasis on children and young people. Increased skill in ICT is of importance especially for business managers in small and medium size companies, since they make the investment decisions. The lack of standardisation and interoperability between various systems and programs are a particular problem for these companies. The state, and the public sector, has an important role as a model for the use of ICT and e-Business.

The future challenges for companies are concentrated to six areas: increased speed, customisation, user friendliness, interactivity, ubiquitous computing and mobility. e-Business, when appropriately applied utilizing modern technology, can bring a solution to all these challenges. The challenge for the media sector is to become an integrated part of this value chain. At the same time the media itself has been totally digitalized and the content, once created and accessible, can be distributed practically anywhere without extra costs.

Examples of such new media applications with new earning logics are Wikipedia (a free public encyclopedia), Weblogs or Blogs (individual web publications), Epic video (evolving, personalised, information construct). This has led to a tendency among newspapers in U.S.A. (The New York Times, Atlanta Journal, Los Angeles Times) to offer content for free and only to make advertising income. However, banner advertising is a declining business model. Therefore, the media sector faces a shift in

paradigm and need to find totally new business models offering services that the consumers are prepared to pay for.

The impact of e-Business on the value chain varies between branches. In new forms of business (like media, banking, publishing), where the product or service itself is in digital form, e-Business may restructure the entire industry. In traditional manufacturing (like car and paper industry) e-Business has a strong impact on marketing, selling and customer service, but only a marginal one on the delivery itself. Between these extremes there is a third category (like healthcare, energy), where e-Business also has an impact on the delivery structure.

The role of the traditional media company is changing rapidly. Media has become a part of the Information and Communication Technology (ICT) sector besides the electronic suppliers and network operators, and competes with them in providing new contents and services to the end users in the attention economy. New players, like energy companies, retailers and finance houses, enter the field. The value chain is restructured and in the new horizontal industry structure the same company may have different roles. So is Microsoft at the same time acting as a provider of operating systems, application software and network services.

To meet the new challenges also the media companies have restructured their organisations, mostly horizontally. This enables outsourcing of parts of the process, which are not part of the core business or of strategic importance to the company.

The media use varies strongly from one country to another but also between different consumer groups and with the time of the day. However, the Nordic countries have rather similar profiles of media use. The total media use in Finland is 9 h 20 min, but the overlapping and passive use of media is significant. Also regarding advertisement, which is the other standleg of media companies, the Nordic countries are rather similar. About 70 per cent of the media ads go to printed media. The corresponding figures for printed media are 30 per cent in USA and even lower in South Europe.

The future volume of media, measured in total turnover, is expected to remain rather constant or to show a moderate increase in the Nordic countries during the next decade. However, the position of the different media may vary strongly, depending of which scenario is chosen. In the future without surprises the turnover of electronic media rises from 14 to 30 per cent of the total media turnover, whereas in the rapid electronic media growth scenario it reaches 60 per cent and overhauls the volume of printed media. The media remain extremely important, since it has a catalyst effect on many branches – like the forest industry, manufacturing, equipment, telecommunications, electronics, software, advertising, e-Business, hybrid media, entertainment and games – which is decades above the turnover of the media branch itself.

Since the early days of Internet development the question of convergence has been central for the effects of diffusion and adoption. A range of new services are introduced every year and the growth is exponential resulting in an explosion of content. This will result in “publish and perish”, since most of the content will never reach an audience outside the author’s own networked links. One of the maindriving forces in the development is the convergence of technology, devices, services markets and organisations.

The convergence of the business sectors leads to a new range of services and an increasing amount of “professional” tools will be available for what we used to call “amateurs”. This may be seen in the growth of blogging services, where ordinary people’s texts are integrated in traditional media services. There will be a shift from a clear division of work between producers and consumers to a blurred distinction and a customer centric adoption of traditional media.

The possibility to co-ordinate services across different sectors by means of the Internet gives room for new business models and a migration from push to pull business models. The blurring of borders between the industries in the ICT sector, different types of knowledge and competence is another important phenomenon calling for more research. The media sector need more knowledge to establish durable business models to withstand the pressure from large, global actors like Disney and the broadcasters' networks.

In the Nordic media sector interesting media integrations have occurred during the last years, where new application of e-Business services play an important role. 365 media is an Icelandic company created in a merger between a newspaper publisher and a broadcasting company owning various TV and radio stations but in dire financial straits. During the merger a series of acquisitions and spin-offs became part of a massive reorganisation of these two media companies. The core objective of the reorganisation was to turn the new company into a lean and focused market driven organisation. The diverse vertically integrated companies became horizontally integrated, whereas printing, distribution and production were spun out as independent companies. Today the company has a lean and agile organisation structure and very low overhead. The company culture is based on projects rather than departments.

Edita Sverige AB has successfully changed from being a traditional printing company to e-Media. This involves a transformation from being a printer to become an information provider and a part of the value chain from customer to consumer. The e-Media company must understand the customer's customers and enlarge its strategy from Business-to-Business to Business-to-Consumer. An example of this is the new service "do your own book", where the customer in fact does the main work, becomes a part of the production development and also acts as a salesman. The main factors to success in this model are to control the customer's database, personalised endproducts, standardised templates, 24 hours system access, automatised production flow and minimised administration.

Dagbladet Børsen has had a double on-line strategy a growth strategy since 1998, where news and marketplaces are offered for free (financed by advertising) and archives tools, company information, personalisation and surveillance are for subscribers only. The company increases the value of the reader by offering B2B subscriber sales, focus on core business, segmentation ant top down, push and pull personalisation. The main success factors based on the experiences so far are: focus on core business, optimisation of media use, new and focused thinking, identificatio and utilisation of your advantages, do what you do to 100 per cent, only the results are the license to operate also on the net.

Several Nordic companies offer e-Business service on-line or via media. An example of e-Business in retailing is the Finnish case Net-Anttila. Anttila is one of the biggest non-food retailers in Finland and belongs to the Kesko Group. The on-line department store Net-Anttila was started in 1999 and has now over 300.000 visitors a month making average purchases more than five times those of a visitor in an ordinary department store. Reliability attitudes about customers is no longer a problem. The advantages are much lower costs for wages, rents, marketing and capital investments. 60 per cent of the customers visit Net-Anttila for purchasing, 50 per cent to check product range and 42 per cent to find offers.

The national lottery of Finland, Veikkaus Oy, has utilised e-Business channels since 1996. This part of the business has steadily grown and is now 15 per cent of the total sale of the company. The company introduced WAP gaming in 2000 and in digital TV in 2002, though these sales did not take off due to the immaturity of the market and technology. Digital scratch tickets (e-instants), live betting and SMS betting have been introduced. New areas will be social games, such as bingo, over the Internet. Since the company also has a responsibility to keep gaming under socially acceptable conditions, tools for limiting impulsive gaming are also developed.

One essential challenge for the vendors of software and systems for e-Business is personalisation. Personalisation aims at giving the right information to the right person at the right time. The process can be explicit based on wishes or implicit based on registered behaviour. The methods applied are either rule-based, content-based or apply social filtering and the approach is provider-centric, consumer-centric or market-centric.

Adaptlogic has developed systems for personalisation and has experience of content based applications. A prerequisite for personalisation is that the items must be categorizable and visitors identifiable. The number of visitors is usually large and their interests divergent. The approach is based on trials-and-errors and special attention is paid to frequently returning visitors.

The future of e-Business and media was evaluated in a workshop. Megatrends are the great lines of development. The most important megatrends for e-Business and media were identified as mobility, high speed broadband, large screens, e-paper and other flexible displays, interactivity, interactivity, integrated infrastructures, integration of media into everyday life, distributed systems, self service culture and personalisation.

Weak signals are early informations or indications of future conversion, which usually go against the dominant opinion. The most important weak signals identified for e-Business and media were identified as growth in Wikipedia, 2D codes in many printed ads in Japan indicates a break-through, people are ready to give their credit card numbers for hotel reservations over the Internet, travelling agencies are running out of business, new technologies interfere with TV advertising, pier-to-pier technology connects sellers and buyers without the help of media, media becomes every man's right (like in the medical industry), health-monitoring media, environmental awareness, relationship between work and leisure is changing.

In a Delphi study the development of e-Business until the years 2010 and 2015 in the Nordic countries was foreseen. According to these findings the most important goods and services for e-Business are tickets for cultural events, gambling, travelling and flight tickets. For the media sector the most considerable goods in e-Business are gambling, travelling and e-books. The most important media for e-Business are the Internet and Interactive digital TV. Also new media, like e-paper and hybrid media are of increasing importance.

In summary, the Nordic countries with a population of 25 million people, a high education level, progressive R&D activities, similar cultural background, and a strong ICT and media sector, have an excellent opportunity to become an international forerunner in e-Business and to utilize it in international marketing. However, only a part of the possibilities have been utilised so far. e-Business offers practically unlimited opportunities both for the media sector, the vendors and the service providers including the industry.

An effective integration of e-Business and media require new business models, which are applicable to totally new value chains. The Nordic strength lay in new, intelligent and innovative media products, such as hybrid media and e-media, and services. For this reason future research should focus on identifying new such products and services, and on developing business models for the new value chains on a global market.

Preface

The project “e-Business and Media” shall be seen as a preliminary study over the role of e-Business in media and vice versa. The goal has been to collect the results obtained in national studies in the Nordic countries so far, and to establish a network between Nordic media companies, vendors in e-Business and service providers. Moreover, it was our scope to find the problem areas and obstacles for a seamless integration between media and e-Business, and to define the research needed to solve these problems in the network created.

The project has been carried out in co-operation between five Nordic research organisations, i.e. VTT (FI), CBS (DK), ICEPRO (IS), NTNU (NO) and STFI-Packforsk (SE). A strong contribution to practical work has been offered by Nordic vendors, media companies and service providers. The most important ones of them are Adaptlogic AB (SE), Dagbladet Børsen (DK), Edita Sverige AB (SE), EJS hf (IS), GAN Gruppen (NO), Kesko Oyj (FI), Veikkaus Oy (FI), 365 Media (IS).

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List of symbols and abbreviations

API	API is to provide access to a set of commonly-used functions — for example, to draw windows or icons on the screen. APIs, like most interfaces, are abstract. Software that provides access to itself via a given API, <i>implements</i> that API. In many instances, an API is often a part of a software development kit , which may include an API as well as other tools/hardware, so the two terms are not strictly interchangeable.
Blog	(short for weblog) is a personal journal that is frequently updated and intended for general public consumption
Delphi study	is a structured process for collecting and distilling knowledge from a group of experts by means of a series of questionnaires
e-Business	(electronic business) is the conducting of business on the Internet, not only buying and selling but also servicing customers and collaborating with business partners
Hybrid media	Integration of printed media to electronic media with intelligence or interactive features via 2D codes, RFID tags, sensors or other elements
I(C)T	Information (and Communication) Technology
Megatrend	A usually global phenomenon with deep impact on the structures of societies
Printed electronics	Semiconductors made of thin films of silicon, organic or inorganic materials using printing methods
Printed functionality	Intelligent or communitative performance of a product created by printing
RFID	Radio frequency identification
Weak signal	A factor for change hardly perceptible at present, but which will constitute a strong trend in the future
Weblog	Long name for Blog
2D Code	A machine-readable grid of square cells encoding about 4.000 characters in a small area

Also see Chapter 2.1 for more detailed definitions in the terminology of e-Business.

1 Introduction

New technical developments and media convergence offer a lot of e-business break-throughs, which will totally transform the media sector within the next ten years. Accordingly, the application of mobile and broadband technologies, content management, compression and visualisation technologies, and new digital technologies need to be evaluated and documented in order to facilitate the transition and exploit the new opportunities.

The further adaptation of e-Business in media is a key question for the development of the media sector and the future of e-Business itself. The media companies themselves can utilise e-Business and thereby enhance the customers' value proposition. But the media sector can also act as a catalyst for other industries to reach out to its customers in their e-Business activities. But the fundamental prerequisite is to understand the technological opportunities, and develop the appropriate strategic answer.

Research in e-Business has been performed in all the Nordic countries from its early beginning. All the research partners have been involved in such activities. The proposed network projects aim at establishing a forum between the players of the field, i.e. the media industry, the e-Business vendors and the research organisations.

The scope has been to establish a forum with some of the most important Nordic players in e-Business. These have been approached with an inventory of the research work performed on national levels, identifying the main tasks and obstacles for adaptation and utilisation of e-Business in Nordic media companies. For the individual participant, the purpose has been to increase the level of awareness. For the forum as such, the purpose has been to specify the needs for further research.

The work of the forum started with an inventory of research results about e-Business and media connections. The collected material was used as a documentation for a Nordic seminar held in Copenhagen in November 2005. In connection with the seminar a Delphi study was performed to clarify the experts' opinions about the future of e-Business and media. Megatrends and weak signals indicating the development were also identified. The results were further analysed in a separate workshop.

All the results obtained in the study have been further analysed and summarised in this report. It gives a consensus view about the expected development and also about the main obstacles for a marriage between media and e-Business. The project should be seen as a preliminary study for further research in this field.

2 Nordic and global trends in e-Business and Media

2.1 Definitions

To some people, e-business is dead with the dot-com crash. Lisa Baird, the IBM vice-president for integrated marketing communications, has said in a press release on 12th May 2004 that “e-business is dead.... the ‘e-symbol’ has become outdated in the years since its debut in 1997... E-business is almost ubiquitous. Everyone knows what it is... Accordingly it has been removed from all IBM corporate advertising and substituted with the ‘On-demand business”.

Along a similar vein, the former editor of Harvard Business Review stated in his now famous article from May 2003 that ‘IT does not matter’. This article caused a lot of debate, the essence of which is that it is correct that IT is becoming ubiquitous, that a lot of IT is commoditized, and that IT is readily available for everyone to use. However, it is also true that IT holds the largest potential for organizational change, and that it is likely to totally demolish industry structures in several sectors.

Despite IBM’s decision to remove the ‘e-‘ from their marketing and despite the dot.com crash e-business is far from dead or in decline. To illustrate the development one can mention that internet advertising is growing strongly. In Denmark the number of credit card transactions done online has increased by more than 600% from the first quarter of 2002 to the second quarter of 2005; and Internet companies have a high market value. For example is Yahoo! worth as much as America’s top three listed newspaper companies combined, eBay is priced at ten times the value of Sotheby’s and Amazon has twice the value-to-sales ratio of that of Wal-Mart (Business Week 2003). To paraphrase Churchill, we are not seeing the end of e-business, we are not seeing the beginning of the end, but we are seeing the end of the beginning, which could be called the first generation of e-business. This is also reflected in concepts like ‘Internet 2.0’, semantic web, blogs etc. For a further discussion see section 2.3

First a couple of definitions. **E-commerce** can be defined as the fairly narrow concept of buying/selling products and services via computer networks, including the Internet. However, Internet is not only used for the direct sale transactions. The Internet is also used for the marketing, advertising, information search, entertainment, exchange of information, and collaboration of all sorts. In figure 2.1.1 it is illustrated that e-commerce is relatively narrow concept with trade of goods and services, while the concept of **e-business** is defined as the more comprehensive concept, enabling transactions to take place (McKay & Marshall, 2004), but also extending far beyond trading as we see e.g. in dating sites, music-sites, information sites (e.g. wikipedia), blogs etc. Today, the Internet is more and more becoming the de facto backbone infra-structure for all communications and exchange of information.

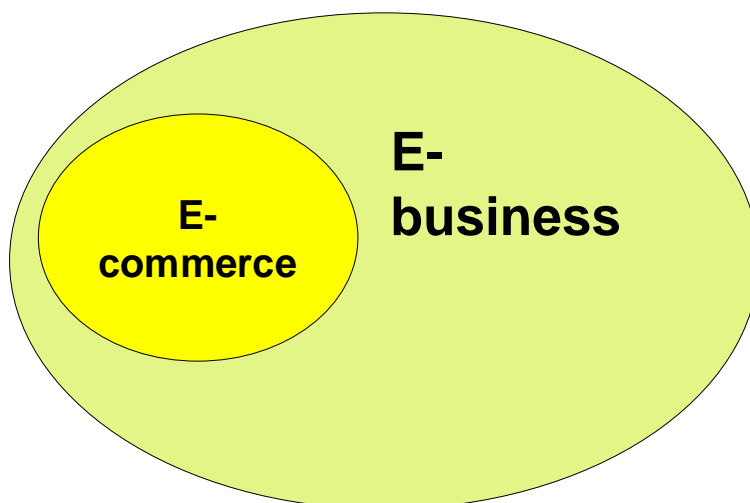


Figure 2.1.1 Definition of e-commerce and e-business

E-business takes place whenever information technology is utilized with the intention of improving a business' performance in one way or the other. Examples of this could be through creating greater interconnectivity and efficiency by using intranets and/or extranets or technology and systems that in some way support the different departments within an organization. As McKay and Marshall (2004) define it, "an e-business is a business that creatively and intelligently utilizes and exploits the capabilities of IT and Internet technologies to create efficiencies, to achieve effectiveness gains such as flexibility and responsiveness, and to create strategic opportunities through competitive uses of IT to alter market and industry structure". In this way, e-business is extending far beyond trading as we see e.g. in dating sites, music-sites, information sites (e.g. wikipedia), blogs etc. Today, the Internet is more and more becoming the de facto backbone infra-structure for all communications and exchange of information.

To media e-business is almost crucial, yet e-business is also relevant to companies that sell physical goods. More about this can be read in appendices 1 and 2: The case Net-Anttila and the case Veikkaus, while this report is delimited to discussing the actual media sector.

In short, a **business model** is the core logic for making money and providing customer value. But a business model it is also a very comprehensive framework for understanding almost all aspects of business of a particular company. A business model is a useful way of conceptualizing the core business of a company and it is a very useful tool for organizations as it helps them define what the business can excel at and what it needs to do in order to create value for its customers and generate revenue/profit.

Within media the core logic is basically divided into two: advertisements and content. To make people pay for content is a difficult task. There are basically three things that people are willing to pay for and those are financial news, sport and pornography. Even though Bill Gates said that "People hate, hate, hate to subscribe to things on the Internet", it is, however, possible to make them do it. Weightwatchers.com for instance has subscription income of \$5 million per month from 300,000 cyber dieters; Match.com online dating had 650.000 paying subscribers in 2002 and Ancestry.com claims to have 900.000 subscribers paying \$189.95 per year in searching for forbears (Business Week May 2003).

Depending on how sophisticated or mature a company is when it comes to e-business there are six fundamental **stages of growth** (McKay & Marshall, 2004):

1. No presence
2. Static online presence
3. Interactive online presence
4. Electronic commerce
5. Internal integration
6. External integration
7. Ambient organizations

At the first stage the company is reluctant to go online because of uncertainty about the costs and benefits related to becoming present on the Internet and the attitude is to wait and see if competitors make a move on this front and learn from their results.

The second stage implies that the company is online, however, there is no interaction and the Internet page purely consists of information about the business. That could be contact information, location of outlets, history of the company, and job opportunities within the organization.

The third stage involves the customers via the Internet. Communication takes place and this may support sales, yet the transactions are not completed online, so traditional sales channels are still in place.

One can draw a line between the first three stages and the rest, because at the fourth stage transactions completed over the Internet are a reality. This marks some fundamental changes in the structure of the company as it has to accommodate new order processing and perhaps therefore also new logistic processes and a greater technological knowledge is needed.

At the fifth stage the real e-business emerges as IS/IT are integrated into both the company's front and back office systems and processes so that the IS/IT not only support sales, but also affect support units within the organization like accounting, human resources and administration in general. At this point an organization might have to go through structural changes in order to achieve the real benefit of the internal integration, however, the changes might also help the alignment between overall strategy and the IT-strategy become easier and clearer.

When the external integration at the sixth stage is implemented, the whole networks are undergoing structural changes. External integration gives rise to virtual organizations, where the one-to-one competition between companies has been replaced by competition between networks. Here cooperation with trading partners is essential in order to create a company that together with its partners is flexible, dynamic and is capable of reacting quickly to market changes.

Finally, the technologies enable a seventh stage of **ambient organizations**, where the boundaries of the organization are getting blurred. Tasks, activities and processes are shared among employees, partners, suppliers, customers, and customers-customer in innovative ways in order to provide value, utilizing new types of compensations, incentives, and rewards for contributing. This raise the need for a reengineering and a redesign of the organizations we know today. This type of development will especially be strong for organizations developing and providing digital products/services as compared with analogue/physical products.

As a company goes through the different stages of growth it is evident that risks and investments become greater and the decision of growing in relation to e-business must therefore be based upon careful analyses and must be monitored and evaluated continuously.

2.2 A Nordic strategy for e-Business

In April 2002, the Nordic Ministers for Consumer and Trade/Industry Affairs assigned the task of preparing a Nordic e-commerce strategy to the Nordic ad hoc working group for electronic commerce and other IT-related issues. As the working group is joint for the Councils of Ministers for Consumer and Trade/Industry Policy, the strategy includes both these aspects.

From the international perspective, the Nordic countries are well advanced as regards access to and the use of IT and the preconditions for the efficient use of e-commerce are good. More than 70 per cent of the inhabitants of the Nordic countries have access to a computer, and approximately 60 per cent have access to the Internet at home. Nearly all Nordic businesses use computers, and over 90 per cent have access to the Internet. Approximately half of Nordic businesses purchase goods and services over the Internet, but only approximately 10 per cent sell via the Internet. Total Nordic Internet sales for 2001 are estimated to amount to 15 billion euro, while EDI trade represented 69 billion euro. There is thus great unutilised potential for increased Nordic e-commerce, particularly via the Internet.

The most pertinent issues identified by the working group for the promotion of e-commerce within the consumer area are making the consumer aware of the benefits of e-commerce together with consumer confidence in e-commerce. Within the area of trade and industry policy, the working group considers that e-commerce should be viewed as a step in the development towards e-business, i.e. efficient utilisation of IT within an operation's business processes in a wider sense rather than merely buying and selling. In the opinion of the working group, the most important issues for the promotion of e-business from a business perspective are IT skills, standardisation and interoperability, together with demand and role of the State. This strategy describes each of the above-mentioned areas individually, and also provides recommendations within the respective area to the Nordic Council of Ministers. E-commerce may have many advantages for the consumer. It may be simpler, quicker and less expensive to trade by e-commerce than by traditional methods. However, a prerequisite is that the e-commerce business should provide reliable and easily accessible information that is easy to understand. Adequate information should be made available to the consumer about the goods or services, as well as the terms of sale, price, carriage, etc. Web site user-friendliness is of great importance for the customer's choice of sales point. It is therefore important that the development of e-commerce solutions is orientated towards the user to a greater extent.

Consumer confidence in e-commerce is vital for its development. Confidence in the business operator behind a web site is extremely important, particularly as regards payment and terms of supply, and the routines for complaints and returns, although the technical security must also be sufficient.

The working group's recommendations for the consumer area are primarily aimed at providing information for consumers and business operators about their rights and obligations, and also encouraging the creation of collaborative projects in this area between the various interested parties in the Nordic countries. In particular, the status of children and young people in the e-commerce market needs to be improved, and there is also a need to improve their education towards becoming critical Internet users, as they are at a greater risk than adults of being misled.

Increased skills in IT and e-business are necessary to ensure that more businesses, in particular smaller businesses, will succeed with e-business. It is important that business managers appreciate and are

capable of utilising IT as an efficient business tool, as it is managers that make investment decisions. It is also business managers who initiate organisational changes, something that is often a precondition for successful e-business investment. Committing resources to continuously developing skills within the business is necessary to be able to exploit the potential of e-business.

Inadequacies of standardisation and interoperability between various systems and programs for e-business are a particular problem for the small businesses. They run the risk of being compelled to invest in several different solutions to satisfy the different demands of their various customers, and this can prove to be very expensive. Furthermore, systems may prove to be less suitable for these small businesses. The State has an important role as a model for the use of IT and e-commerce. The public sector is a large and important customer within the Nordic markets and should therefore endeavour to implement increased electronic procurement.

The recommendations of the working group, from a business perspective and similarly from a consumer perspective, focus on information and education work to enhance awareness about e-business benefits and the skills necessary to utilise its potential. Monitoring the development of these areas, encouraging exchange of experiences, and providing good examples are also important areas of work that it may be appropriate to implement at the Nordic level within both the areas of consumer and trade/industry.

2.3 Technologies in e-Business, a change in paradigm

In the words of Jack Welch, 'the Internet is the biggest thing to have happened in business since the industrial revolution' (speech to shareholders in 1998). Today individuals and companies use the Internet for an increasing number of different purposes and this leads to the rise of new businesses and hence new business models.

The future challenges for companies can be characterized in six different areas; increased speed, customization, user friendliness, interactivity, embedded chips, and mobility. **Speed** is becoming more and more of an issue and the timing of introduction is crucial. Many Internet-based business models turned out to be doomed, because the market was not ready, and many more organizations have been faced with an almost insurmountable race to catch up to match the initiatives of the smart leader, who just got the timing right. In the media sector, the challenge is to

A second tendency goes towards **customization** where Dell is an example of a company that has shown the way towards a higher level of effectiveness in mass-customization and a reengineering of the full logistics flow, cutting out all distributors and delivering directly to the end consumer. More and more companies now make the consumer put together the features of the product they want (e.g. Nike, Smart car). Consumers are turned into producers, creating the usability of the products particularly attractive to them.

But the biggest challenge to the adoption and diffusion of new technologies are in the perceived lack of **user friendliness**. The prohibitive complexity of the remote control of the video-recorder is well-known, and the major strive is to simplify the user interface to make it more compatible with user capabilities and demands. Nobody wants to read comprehensive user manuals and/or invest endless hours in learning new interfaces, and it is quite clear, that those product and content providers who 'get it right', are likely to perceive the benefits of higher customer value.

A fourth tendency is to drive towards **interactivity**. Most consumers today are not satisfied with being passive consumers. They want to determine their own fate in their home, in the workplace, and now also to an increasing extent in the so-called mass media. Why should somebody else decide the 'best' way/time for me to see, listen or read? The days of the centralized, monolithic radio/television have long

passed, but there is still a long way to go in direction of each individual creating his/her own media offering/consumption.

One key feature of interactivity is that of **ubiquitous** computing. In the future there will be chips in all physical objects from the car component to the traceable golf ball and the yogurt in the supermarket. RFID tags holds the largest promise for making all objects identifiable and interactive allowing us to find, evaluate, manipulate and use the products/devices in totally new ways, e.g. as in the heartbeat recorder or other monitoring devices.

Finally, **mobility** is facilitated in the form of wireless communication is another strong technological development trajectory. It offers the possibility to be free in time and space. Modern man is no longer tied to his/her desk or fixed access points, and in a few years, we shall have the same transmission capabilities to mobile devices like mobile phones, PDA's, or entertainment devices as we have in the homes with broadband. This offers unprecedented possibilities for remote work (enabling ambient organizations) and for enhancing the leisure time with new opportunities. Technology will offer endless possibilities for killing of 'micro boredom'.

All of these tendencies apply even more to the media sector than to the realm of physical products, since all the product/service are totally digitized, meaning that once invented/created, it can for all practical purposes be distributed totally without costs. This also implies that we need to totally re-think the business models in all parts of the media sector as well.

Let's take a couple of examples.

Wikipedia is a volunteer or free encyclopaedia as it allows any web user to put articles on the site and edit it. Wikipedia started in 2001 and is based on donations. Yet with close to 1 million articles and with more than half a million page hits per month, Wikipedia has become a success. However, Wikipedia is also facing some serious challenges. As anyone can edit articles and an anti-elitist attitude has prevailed on Wikipedia, there is a great risk that truth will not triumph and therefore it is doubtful whether one can use Wikipedia as frame of reference at all. Of course Wikipedia will have to react on the challenges, but the bottom line is that the combination of Internet and Wiki software has created a disruptive technology for the publishing industry and one can easily go as far as to say that Wikipedia is to the publishing industry what open source is to the software development industry.

Another challenge is the growth of **web logs** or blogs. A **blog** is a [website](#) in which items are posted on a regular basis and displayed in reverse chronological order. The term blog is a shortened form of **weblog** or **web log**. These are web-sites which are maintained by individuals or organizations typically not being part of the media sector. Yet they fulfil the same function of providing information content often in the form of hypertext, but it can also be images, video or audio files. Blogs typically use a [conversational](#) style of [documentation](#), and focus on a particular "area of interest", such as the war in Iraq. Some blogs discuss personal experiences and serve almost as diaries. According to Technorati (a California based [Internet search engine](#) dedicated to the world of [weblogs](#) (or blogs). As of December 2005, Technorati [indexes](#) over 23 million weblogs). Blogs are typical examples of the strong interest of non-professional journalists to get involved, share their insight, and contribute their opinions.

A third example is the **epic video** (<http://epic.makingithappen.co.uk/>) pretending to be a historic account from 2014 of the development of leading to the final decision of New York Times to stop publishing its world renown newspaper, because it has lost the competition to EPIC (Evolving, personalized, information construct), providing everybody with a totally customized content and advertising. This is based on a situation, where everybody is provided with limitless storage and participative journalism, where everybody is free to comment on whatever we see/hear, and where everybody is subscribing to many editors to deliver our mass-customized content.

So what is the future of e-media? The New York Times has for years posted its content on the web free of charge and only making advertising income. But banner advertising next to general content is a business model showing a steady decline. Instead they tried an experiment to see whether it was possible to charge a subscription fee for anybody who wanted to read the columnist articles online. Non-subscribers had to pay \$49.95 per year to read articles, search the archives etc. The New York Times ended up having 270,000 subscribers (half of which were already paying for the newspaper) compared to the more than 1 million newspaper subscribers. Although not a total failure, it seems very difficult to identify a revenue stream even remotely similar to that of the printed newspaper.

Along similar lines, Atlanta Journal-Constitution and Los Angeles Times have given up on charging for content, since it seems that subscribers are not prepared to pay for content. Only the Wall Street Journal has managed to get 764,000 subscribers to their web site, charging a premium on subscribers to the newspaper, but there is reason to believe that this is due to that fact that the newspaper is absolutely necessary to workers in the financial district, most of which are not they paying for the subscription. From this it very much seems like new business models within the newspapers has only managed to take money out of one pocket and putting it in another, and for every \$ coming out of a 'dead tree' pocket, only £\$ 0,33 is coming back into the on-line pocket (Bird, Citigroup analyst, 2005). Or to put it even more bluntly, Ester Dyson, editor of the technology newsletter Release 1.0, 2005, foretells a much darker future for traditional newspapers: "The Internet is not stealing the business of the newspapers – it is simply eroding it."

It seems to be very difficult to identify sustainable business models for traditional media companies and therefore the most pressing challenge for companies working with media is to find the future business models that offer services that the consumers are prepared to pay for and/or advertisers perceive as providing value for money.

2.4 Trends in the media industry

The rapid development in Information and Communication Technology (ICT) has enabled new media service forms, such as digital television, digital printing and cross media. On the other hand, it has also changed the value chain of the media industry and made the end product more modular. This, in turn, has enabled a decentralisation and outsourcing of the media processes.

However, different companies may choose different competition strategies even in the same market situation. While some media companies concentrate on their core business and outsource as much as possible of their media production, others see managing the whole value chain as an important part of their strategy.

2.4.1 e-Business and media

The integration of e-Business into media is a key question not only for the future of the media sector, but also for the electronic economy. This requires that both security and copyright issues can be solved on both a legal and technical level.

In e-Business the products and services can be divided into three main categories depending on the share of the information value (figure 2.4.1):

- Traditional manufacturing, where e-Business has a strong impact on marketing, selling and customer service, but only a marginal one on the delivery itself,
- New forms of business, where the product or service itself is available in digital form, and where e-Business has a strong impact on the entire industry structure.

- Between these extremes we find a form of e-Business, where the goods are still in material form, but where the new economy has a clear impact also on the delivery structure – like health care, energy sell, selling of books and retailing goods, travelling, etc.

The impact of e-Business on the restructuring of the industry is schematically presented in Figure 5. The dematerialisation and materialisation processes become critical in this third form of e-Business. In this form, customer service – including marketing, selling, ordering, product specification and verification of order performs virtually on web. Nevertheless, the material goods are delivered by traditional logistics.

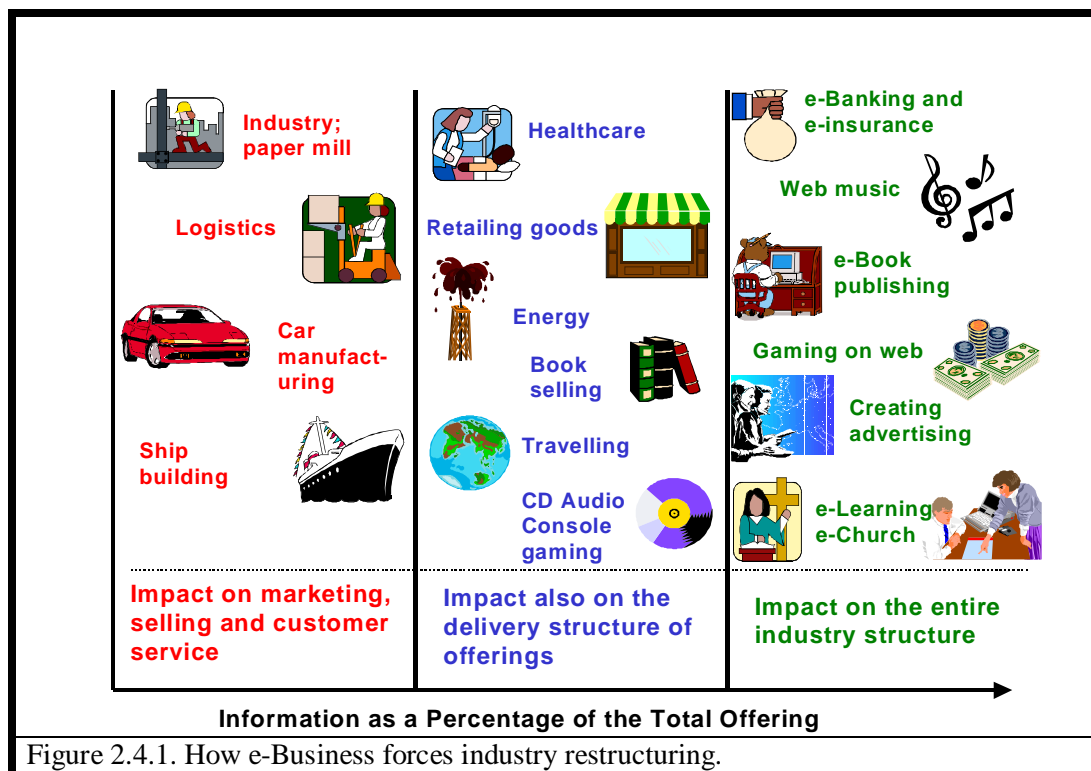


Figure 2.4.1. How e-Business forces industry restructuring.

The immaterialisation has been considered as one of the biggest advantages in e-commerce and in the Information Society. The change of the production, marketing and distribution processes into a non-material form is often more environmental friendly, efficient and economic.

However, every value chain contains a critical point, where the bits are turned back into atoms. Independent of how advanced the e-business chain is, the logistics of the physical delivery must be functioning perfectly.

2.4.2 Convergence in the ICT sector

It follows, that the whole ICT market space is changed, as the new players search for their role and the old players want to expand their position. The ICT space can be presented in a three-node-graph (Figure 2.4.2), where content, service and hardware are the nodes. The electronics suppliers, the network operators and the content providers (publishers) all have their own corners in the diagram, but also the printers and the electronic media providers match in it.

Each player aims at expanding his market, to find new contact areas to new customer groups, but at the same time also to offer his customer new forms of service. The development of additional service is, in fact, a prerequisite for each player to survive.

The telecommunication operators create new service plazas, and new media companies – often SMEs - offer new information services and games over the Internet. For the telecommunication operators the content service has become a must, if they want to increase their volume and market value or to become a part of the content value chain. A part of this strategy is also to integrate amusement service, games and betting.

Also the leading manufacturers of mobile phones show an increasing interest for the content market, since the performance of the new generations of mobile phones is not needed for conversations but for distribution of multimedia content. The available European content is so far limited, and a significant increase of the supply is becoming a prerequisite for the further technical development. E.g. Nokia employs 3000 new engineers to their R&D departments to develop new business forms. The polarisation may continue in searching for alliance partners, although this is not necessarily the case.

New players, like energy companies make the figure more complex, finance houses – i.e. banking and insurance corporations - and retailers, who penetrate the same market space by competing or forming alliances with the conventional players.

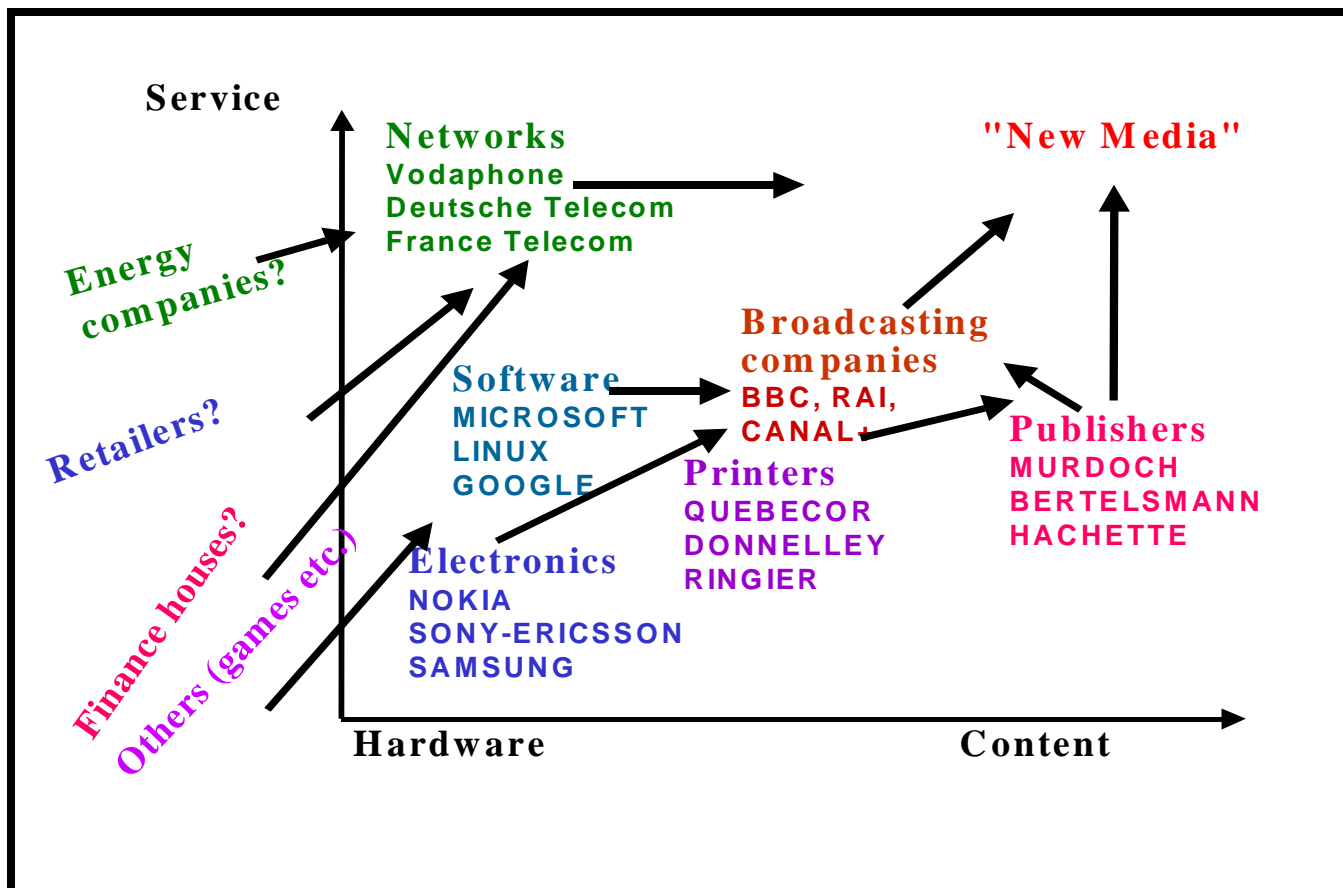


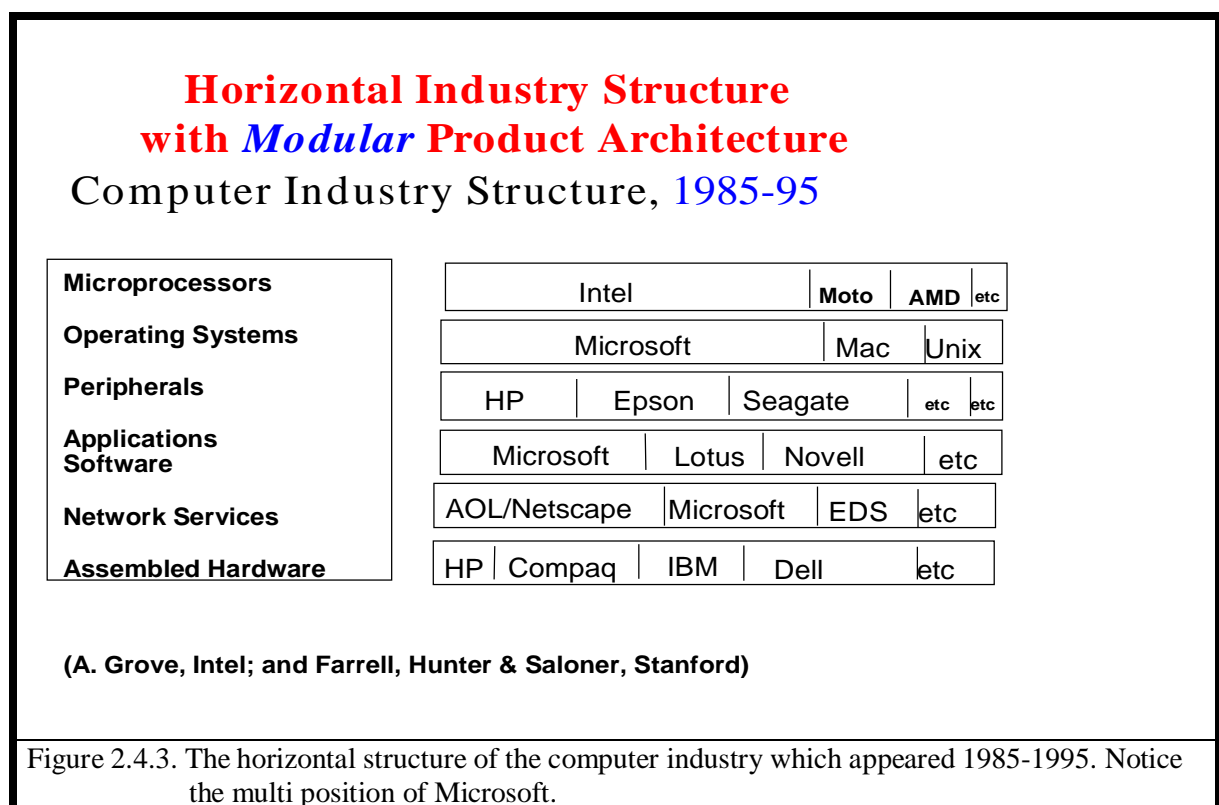
Figure 2.4.2. The location of electronics suppliers, network operators and content providers in a three-node diagramme, and their expected directions of expansion towards more content and service oriented business. New players, like energy companies, retailers and finance houses may enter the field.

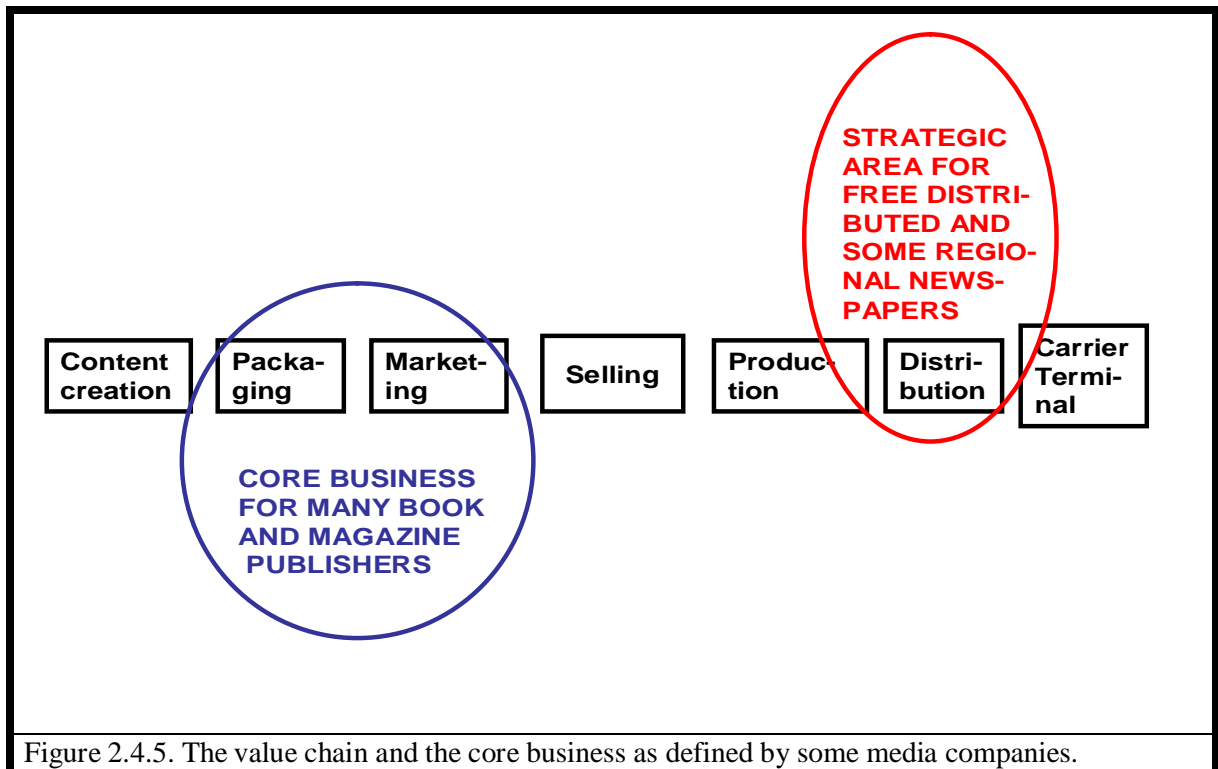
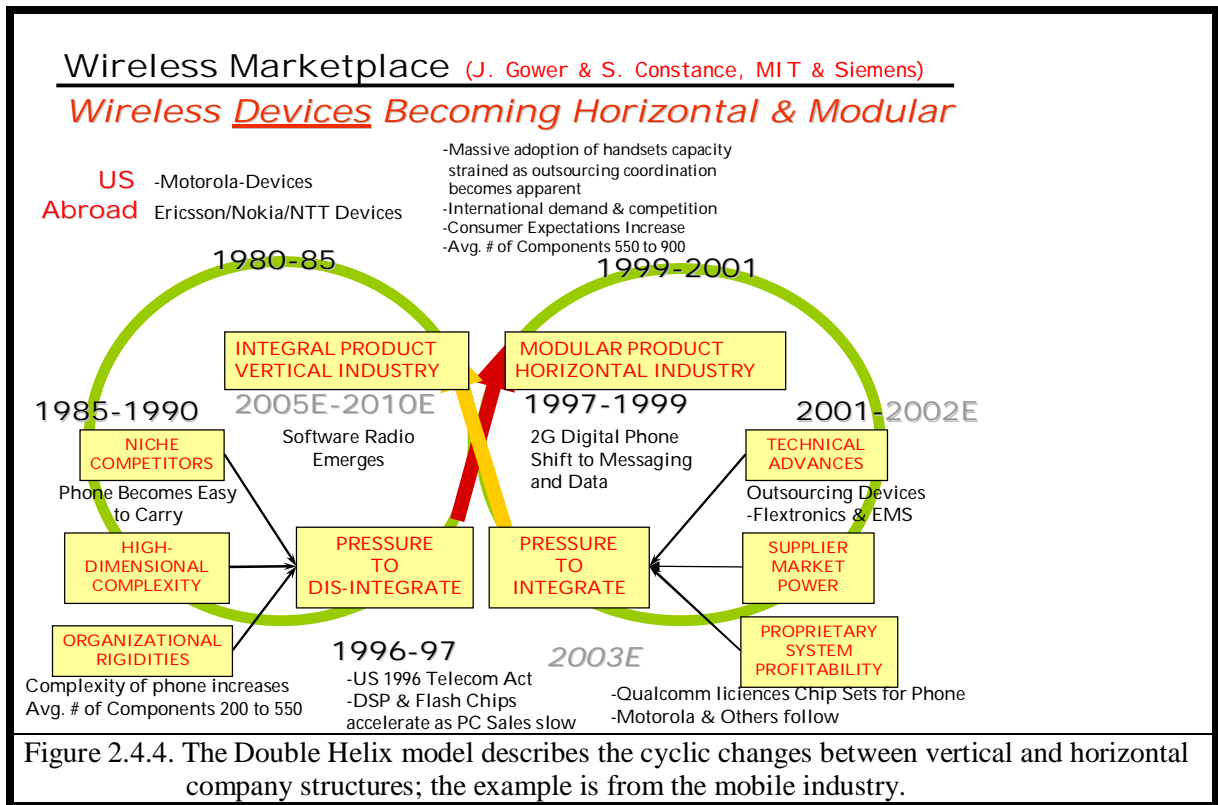
2.4.3 Dynamics in the organisation structure

The organisation structure of companies in different branches may vary cyclically between vertical and horizontal, as the products vary from modular to integrated (Fine, 2001). An example of a horizontal organisation in the computer industry is shown in Figure 2.4.3. In this figure Microsoft appears both as a supplier of operating systems, application software and network services.

The dynamics is often described by a Double Helix model. Figure 2.4.4 gives an example from the mobile industry. The driving force for the restructuring is the need to concentrate on core business by outsourcing, and the need for strategic strength via integration, respectively.

This phenomenon applies also to the media industry. However, different media companies may be in totally different parts of the organisation cycle dependent on the paradigm chosen and their degree of development. Each company must define its optimum position in this respect, and no general figures for the whole branch can be given (Lindqvist et al., 2005). Figure 2.4.5 shows the defined value chain and the core business for a big media company producing education materials. In Europe electronic media companies are usually horizontal in structure, whereas American are vertical (Soramäki, 2004).



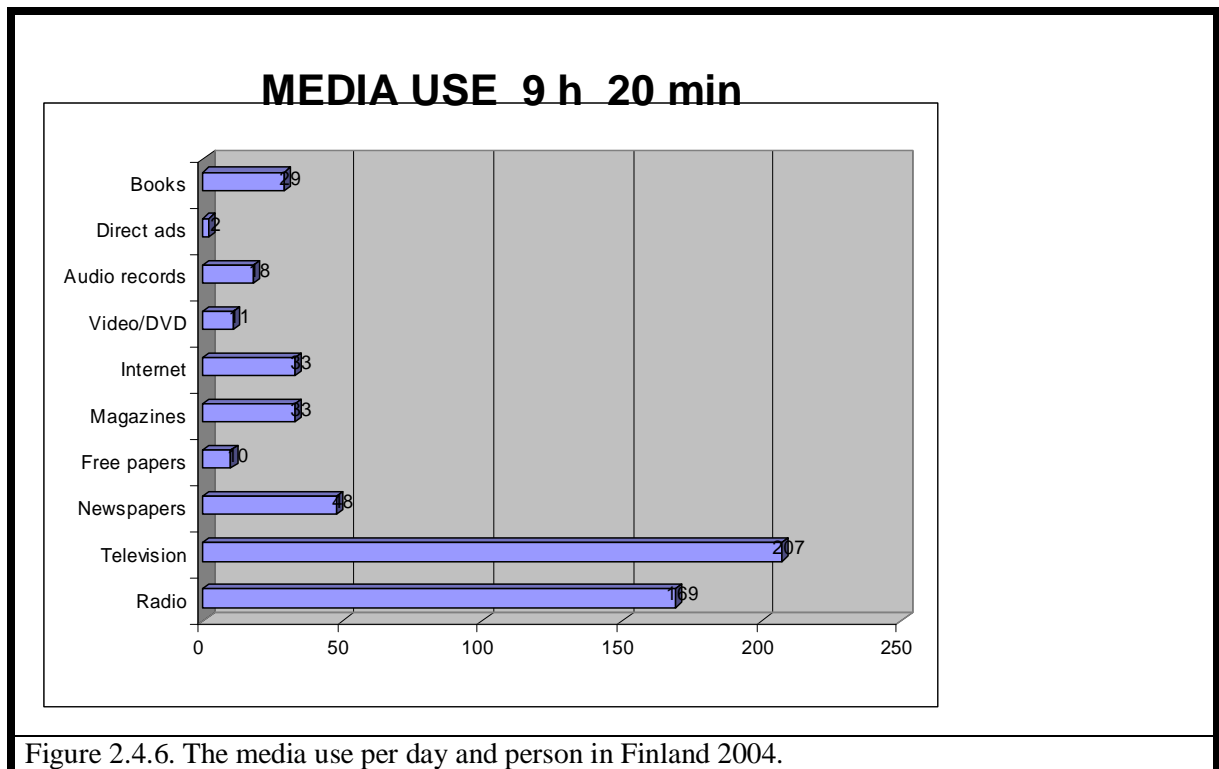


Internationalisation has started in the Finnish media industry, but much slower than in other branches, like the forest industry, electronics and telecommunications. Big media companies are still mostly in national possession, and the share of export and activities abroad are mostly below one third of the

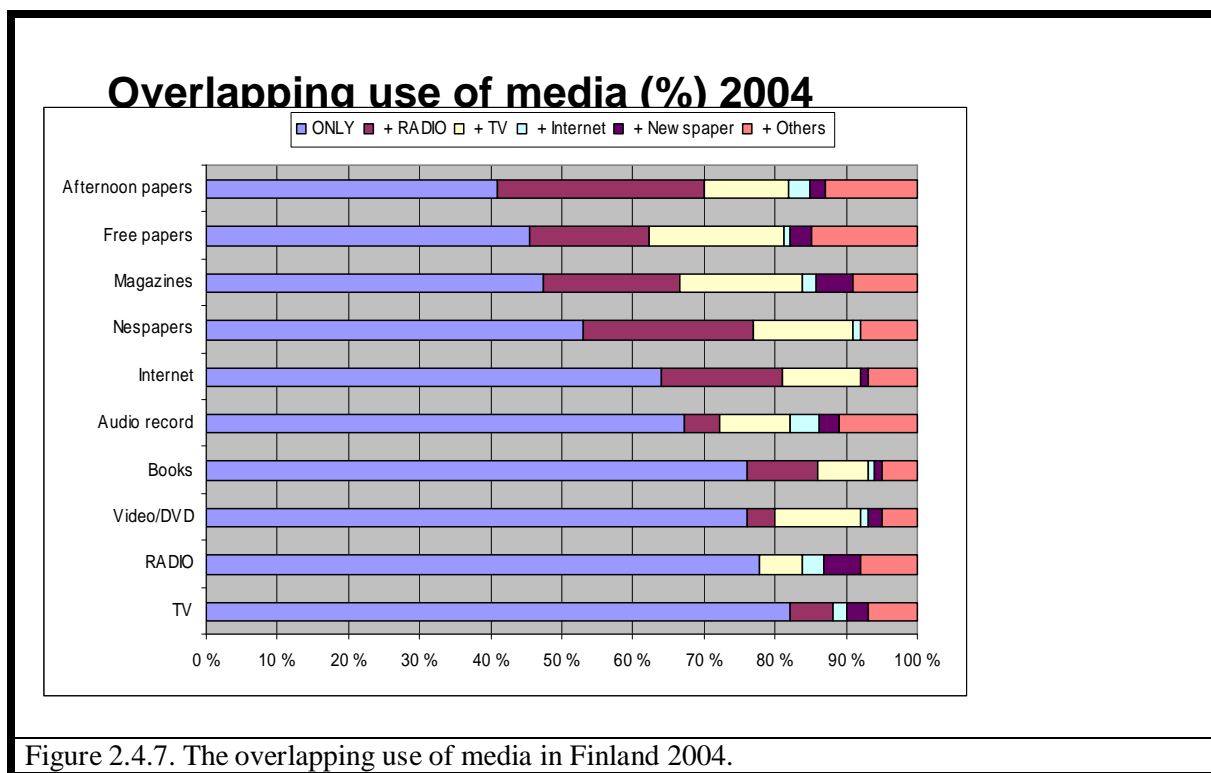
turnover, though increasing (Jeskanen-Sundström et al, 2004). About 15 per cent of the media sector is in international possession and the share is expected to double in ten years.

2.4.4 Media use

The time spent on media has increased only marginally during the last years, and is now 9 h 20 min per day – see Figure 2.4.6 (Raulos, 2004).

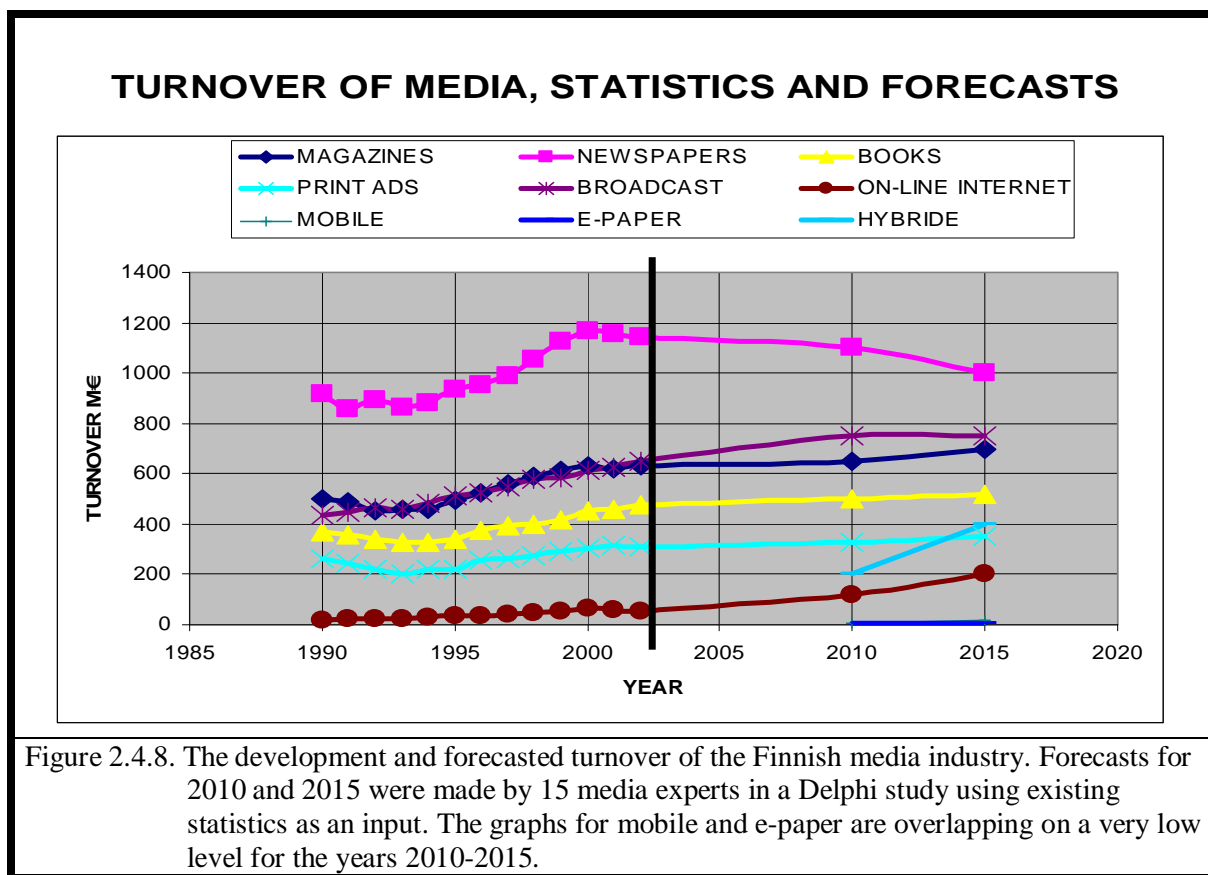


Overlapping use of media has increased and user frequency varies strongly with the time of the day, from working day to weekend, and from season to season (Sabelström-Möller, 2004). Figure 2.4.7 shows the overlapping media use in Finland in 2004 (Heinonen, 2004).



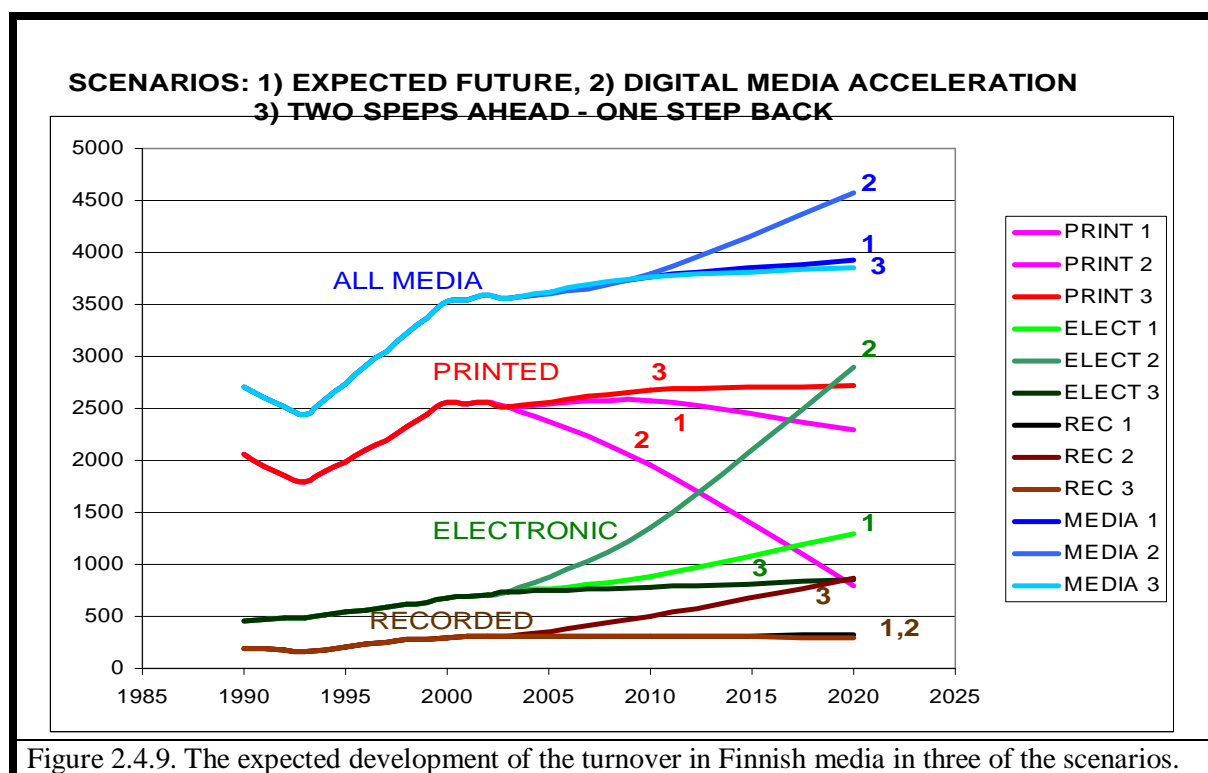
2.4.5 The future of media

Although an increase occurs in the turnover of most media after the depression in the early Nineteenths (see figure 2.4.8), the relative share of the BNP covered by the media has been declining. This is due to a rapid growth in other sectors, especially in ICT. The forecasts for the future development are based on a Delphi study.



The media future was also studied in four different scenarios: 1) A future without surprises with the discovered trends continuing, 2) A future with strongly and rapidly expanding digital media, 3) A careful and cautious development in the media sector like in the Polonaise dance: two steps front and one step back, and 4) A horror scenario, where the Tsunami waves of the ICT society destroy the media future.

Three of the four scenarios were analysed quantitatively (Figure 2.4.9) In all the scenarios the expected growth in turnover of the Finnish media industry until the year 2015 remains modest, from 3,7 to 4 or 4,5 B€ However, the positions of the different media strongly vary between the scenarios. In the future without surprises the turnover of electronic media rises to 30 per cent of the total media turnover, whereas in the rapid growth scenario it reaches 3 B€and overhauls by far the volume printed media.



The study offers some general strategic hints to the media sector. First of all, each company should choose its paradigm for process modularity and company structure, depending on to what an extent the company wants to keep the whole value chain “inside” or just concentrate on its core business. This is not a “once and for ever” decision, since markets and environment change continuously. Most changes are cyclic, but the amplitude and frequency of the cycles vary.

The company also needs to decide about its globalisation strategy. The media content is almost always national, or even local, even if the format may be global. Even national contents from small countries may succeed on global market, e.g. in the movie, music and game business.

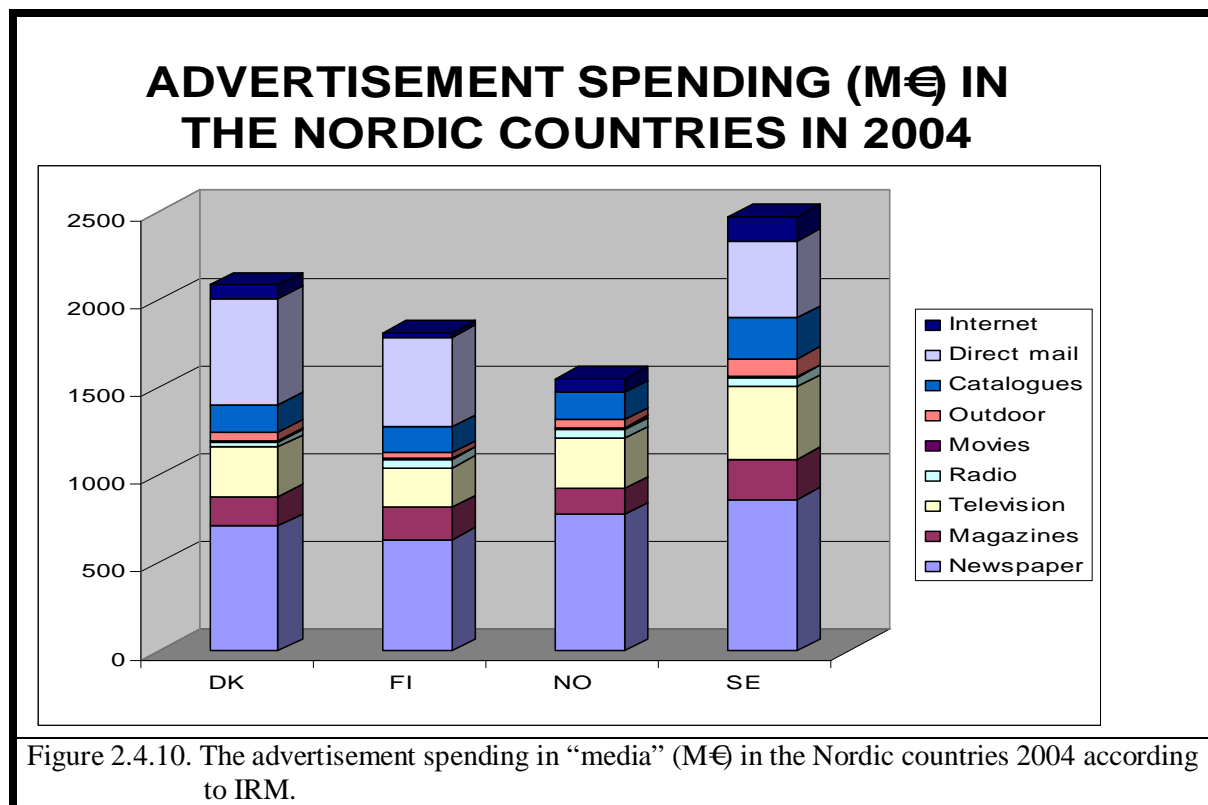
The media industry also has the ability to create and utilise knowledge based service companies in their production and product development. Such services may be customer service management, treatment of ads, tailored newspapers, distribution and new hybrid media services. In new innovative media services the interaction between content and technology must be fully understood so, that the media company can offer the optimum combination of content and information carrier to the needs of the customer.

2.4.6 Media and advertisement

Another important branch, where the media industry can have a strong catalytic effect is advertisement. The appearance of new channels and media on the market may at a first glance disrupt media ads and lower their efficiency. On the other hand, they offer opportunities to target the ads to clearly specified groups. Advertising is known to react extremely strongly on economic fluctuations. Therefore, the media sector is also very sensitive to economic fluctuations.

Figure 2.4.10 gives the advertisement spending on “extended” media in the Nordic countries in 2004 according to IRM – the Institute for advertisement and media statistics. Unfortunately the basis for the statistics is not always comparable – e.g. the Norwegian figures for direct mailing are not included. Nevertheless, it can be seen that the distribution of advertisement spending in different media is very

similar in the Nordic countries with a strong emphasis on printed media. About 70 per cent of the media ads go to printed media. This has not changed significantly so far. The corresponding figures for printed media are 30 per cent in USA and even lower in South Europe.



These figures do not include advertisement outside media, like sponsorships, business gifts etc. For instance in Finland the total spending on advertisement is 2,5 B€ annually. Of this 44 per cent goes to media ads, and of these 73 per cent goes to printed media. Corresponding figures are seen at least in Sweden.

2.4.7 Media as a catalyst

The media sector can act as a strong catalyst for many others supporting their technical and economic growth. Such branches are the new “hybrid media”, e-Business, advertising, entertainment and games, forest, manufacturing, equipment, telecommunication, electronics and the software sectors. This catalytic effect is decades above the turnover of the media branch itself.

Hybrid media is an attempt to integrate ambient environments into printed products. Using printing technology it is possible to create electronic components, intelligent media and packages. Also e-Business is an increasing area, where the role of the media industry could be of utmost importance. The media sector forms a natural link between the producers of goods and services, and the end consumers. The most important catalytic role of the media sector will remain towards the electric and electronic industries, software and telecommunication industries and, last not least, the traditional forest industry in connection with machinery and equipment manufacturers.

The catalytic effect of the media industry has been roughly estimated quantitatively. The total turnover of Finnish companies in the above mentioned branches close to the media sector is today almost 80 B€ and their potential growth until 2015 is even 100 per cent. Even if the share catalysed by the media

industry on the growth in these branches on national and international markets is difficult to estimate exactly, it is clear that the economic impact is by no means marginal.

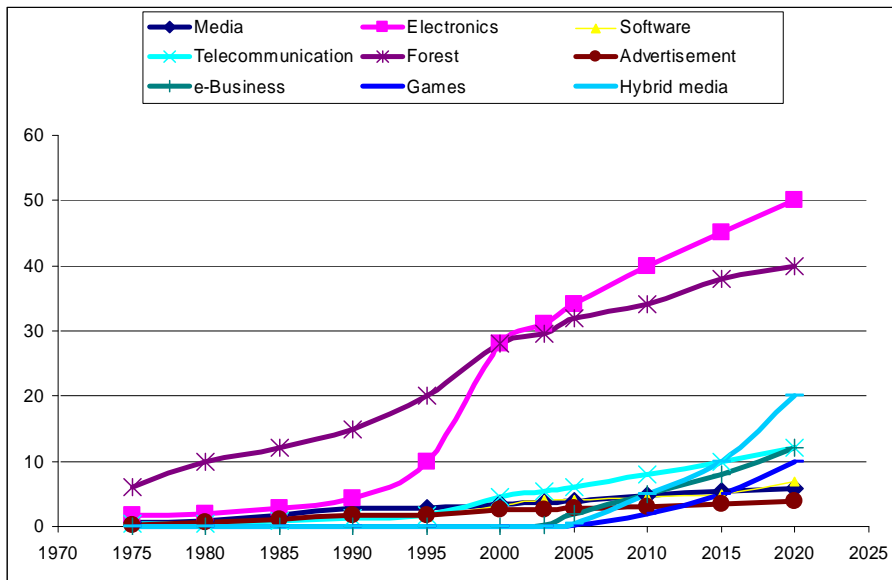


Figure 2.4.11. The development in turnover of the most important branches catalysed by the media industry in a historic perspective and their expected future.

3 e-Media; a challenge for the media sector

3.1 Vision for business in the Nordic media market

Since the early days of internet development, the question of convergence has been central in analysing effects of internet diffusion and adoption. A range of new services are introduced every year, and this chapter takes a look into some of the consequences of the increasing number of services.

3.1.1 Publish and perish

By 2015 the internet as we know it will be dead, killed by a globe-spanning artificial consciousness, writes founding Wired editor Kevin Kelly.

(<http://www.smh.com.au/articles/2005/11/14/1131816858554.html?oneclick=true>)

The year before 170 000 books and 30 000 music albums were released in the US alone, alongside with the launch of 14 million blogs worldwide. The growth is exponential, and by extrapolating development traits, it is possible to understand elements of future development.

Imagine, 10 years ago, not many had even heard of the Internet, and not many had viable visions of what was to come the next ten years. By looking at today's technology and services, we may be able to forecast some of the ideas that will be realized during the next period.

What Kevin Kelly foresees, is an explosion of content that will make all of us prosumers. The growth in available content on the internet far outrages our imagination, and Kelly thinks we by average will write one book, comment upon various topics on our web log and maybe creating new podcasts and videocasts to be shared with different audiences on our weblog.

Whilst in the scientific society the slogan used to be publish or perish, the new slogan will be publish and perish, as most of the content that actually will be made available on the net, never will reach an audience outside the authors own networked links.

Ten years ago we were in the start of the 2G mobile revolution, and most of us were not able to imagine that this thing called internet would emerge as a full service, high quality phone service. Today it is still difficult to understand what the world looked like in the pre-mobile area.

One of the main driving forces in this development is the convergence of technology, devices, services, markets and organisations.

3.1.2 Traditional convergence

Technological convergence in different levels have been analysed and described the last 10 years in a number of European countries. This convergence between the computer, telecom and media sectors are the starting point of a more extensive convergence that are analyzed on different levels, from the network and IP- service model, to migration of business models and more profound change processes taking place at different societal levels.

Convergence of networks

Convergence of networks is a description of how different services migrate towards the IP-platform. Traditional tele services migrate towards IP both on wireless and cable services. New streaming technologies allow high quality "TV" on the IP- protocol. Besides there are all new distribution networks like Open Media Network and p2p-based services giving room for a new media infrastructure.

Earlier sector based, proprietary services are being replaced by a connected world relying on open standards and one big, global infrastructure for all kind of communication, data and media services.

Convergence of terminals

Besides the convergence of networks, there is a convergence of terminals and terminal functionality taking place. Once a phone, now a multiphone, a device integrating functionality from earlier analogue and proprietary technologies like the music sector, photo services, navigation technologies, traditional computer services and text based services as well as messaging systems.

The handset development is led by innovation and diffusion of new services, like MMS, music services, navigation services and so on.

This development raises a lot of research questions, like what steps will the handset vendors take to increase their share of wallet in the mobile value chain? Or will the handset vendors offer content services, like what we have seen in the data industry when Apple both developed the iPod, and launched the iTunes services. What will happen when financial services will be more deregulated, will Nokia, Sony- Ericsson and the other players develop specialized mobile terminals and wallets and compete to gain dominant positions in the new digital services networks, like what we have seen in the music industry?

The convergence of networks and terminals gives room for convergence of services and business sectors as will.

Convergence of services

Convergence of services may be seen as a function of the development of multicapacity devices both for wireless and desktop/home use and entertainment. The computer is giving universal machine qualities. The same piece of hardware may be used to different services like communication by audio, video and text user interfaces and even in combination, for complex calculations and computations, for both consuming digital services and also for production of the same services.

Digital services like online publishing has moved from expensive software to commodity services, giving room for new participants in the digital arena.

Most notable is the development of blogs, giving room for a new group of writing people. Kevin Kelly is forecasting an enormous growth in published material during the next year, as it now is possible for everybody to share their opinions on different matters with the rest of the world, and also easy to record every phone call, every phone conference, chat session and more. These technologies gives room for even more material published on the net. And Kelly is expecting a situation where most people spend more time writing than reading. This is an interesting development, as it clearly shows how today's institutions for media consumption, information retrieval and content production are influenced.

The last months have shown, however, that mainstream media has the capacity to adapt to the new situation, as both national and local newspapers are adopting blog services.

In Norway this development is led by VG and Dagbladet, who both are in the transition from traditional newspapers to multimedia ventures with a range of interactive services. This model is most fruitful and made possible by the extensive use of alliances and business networks. These alliances are blurring the borders of traditional business, as VG now is the interface both of music, photo and retail services.

This gives room for a convergence of business sectors.

Convergence of business sectors

Porter's industrial analysis presupposes a clear distinction between different industries. This may still be the case in production and handling of physical goods and services, but not in the digital services sector.

As have been described by a number of authors (Hagel and Singer in Net Gain, Bo Hedberg in various publications in the growth of imaginary organisations), there is a trend in unbundling traditional organisations. This happens due to the different logics each part of the organisation is governed by. The customer handling organisation is governed by economy of reach and range. iTunes and allofmp3 are examples of the effects of increasing returns and network effects. Metcalf's law and services governed by increasing returns easily obtains self-reinforcing growth, which explains why iTunes may sell one million music videos in just two weeks, -without advertising the services.

Newspaper circulation is going down both in Europe and the US. American newspapers had a decline in circulation on 2.6 % during the first 6 months in 2005, while consumption of net based news services increased 11%. Summing up trends for the recent years, gives a clear indication of a transformation of media consumption from traditional media to digital media.

(<http://pub.tv2.no/nettavisen/it/article495262.ece>)

The music sector and iTunes are neat examples of the convergence of business sectors. New networked music technology may be seen as a [disruptive technology](#), a term coined by Clayton Christensen in The Innovators Dilemma. Such technology has distinct features, and is challenging traditional business in different ways than evolution based technological advances. New and established actors experience different constraints regarding use of these technologies, as they often challenge the brick and mortars business models.

It is no more possible to set up a large business by bundling 15 songs from an artist, and sell these as an industrial product, as we have seen during the industrial phase of the music industry.

Music as a commodity has been debundled and new services have been released, like recommender systems based on collaborative filtering (www.webjay.org). These services have been offered by intruders in the music value chains and the traditional players in the industry seems to be bypassed by it businesses like Apple and Microsoft.

When you want to analyze and understand the dynamics of the traditional media sector, it is now necessary to look upon the possibilities for a range of companies to understand how the future media sector will look like.

Convergence of business sectors leads to a new range of services and the traditional division of labour between the actors are also challenged due to technological advances.

Convergence of consumer and producer roles

As even more software are transformed from the technological innovation front to commodity services, an increasing amount of "professional" tools are at hand for what we used to call "amateurs".

Expensive proprietary technologies are under pressure from flexible, open source based components, and a lot of the tasks that could only be performed by recording companies and professional studios, may now be done on the boy's room. As we have seen with the introduction of word processors, where traditional skilled labour were deprofessionalized and the technical language of the typographers have been adopted as part of the general language, we also have to expect a deprofessionalisation of other media skills.

This tendency may be seen in the growth of blogging services, where ordinary people's texts and reflections are integrated in traditional media services like newspapers, broadcasting and the specialist press.

As the general level of education rises, we must expect more people to be skilled to publish their own messages by means of blogs, podcasts, multicasts and the whole range of technologies that are being developed.

Most notably we observe a shift from a clear division of work between producers and consumers, to a blurred distinction. This is to be shown in today's television shows called mess TV, as well as the increasing use of user generated content like pictures and text elements in newspapers.

We may observe a customer centric adoption of traditional media, giving room for new ways of organizing the material into special sections other than the traditional politics, sport and feature. This again may be seen as an indicator of the blurred roles between the consumer and producers, giving more room for propagation of the prosumers.

These amateurs often produce digital content that may have high

New players

As has been showed in the previous chapters, these processes of convergence are also giving room for new players.

In Norway the newspapers VG and Dagbladet are migrating towards fully equipped media companies, using elements from both the traditional newspaper industry as well from the broadcast sector. This change process attracts new segments of customers that are looking for new services. These companies are developing digital services supermarkets, where you can create your own blog, or your own album of digital pictures, or buy ring tones, logos and interactive content for your mobile phone.

As more and more of the traditional newspaper content are being commoditized, the traditional newspapers must rely on other business models. Digital commodities that are not restricted in production or distribution (as the SMS service is) will in the long run (which may actually be short) be priced to marginal cost. When marginal cost in all practical situations is zero, the service will be offered for free. This will not mean that production costs are zero, as is the situation with national or regional new services, but the costs of producing these services are subsidised by other services and the business models changed from offering news to offering other types of digital content as well.

New technologies based on open standards, distribution over the internet and cheap equipment for both production and consumption of media content, gives room for a whole new range of players. The IT industry is migrating into the content industry. Google is migrating into advertising, into GIS, into payment systems, into the book industry, and ebay is involved in telecom by buying Skype.

A whole range of examples are showing how different companies are establishing services across traditional media borders. This is a trend that we may expect will accelerate in the future.

3.1.3 Transformation of web services

Traditionally services have been developed and established due to an agreed upon specialization between different actors. This specialisation may have grown up due to the need for special competence (like lawyers and dentists), need for access to and use of special information systems (like travel agencies), needs for special physical resources (like hotels and airline companies) or by other reasons.

A new situation is the possibility to coordinate services across different sectors by means of the internet. This new business model is adopted by companies like Barnimagen.com and other user centred services made to handle a special situation, a special role or maybe services connected to the physical context of the user (like location based services).

This transformation also gives room for new business models and a migration from push to pull business models.

From push to pull

John Hagel and John Seely Brown have written an article on the movement from push to pull (http://www.johnhagel.com/paper_pushpull.pdf)

They are observing how business models in different sectors of society are shifting from push to pull. Like the university of Phoenix are utilizing a pull model for students that want to graduate.

This transformation of business models and need to be further investigated to understand how traditional media companies should develop strategies to cope with new players, like allofmp3.com and niche portals like artoftaste.no.

Blurring the borders

The notion of blurring was introduced in Blur by Stan Davies and Cristopher Meyer in 1998 (<http://www.amazon.com/gp/product/0446675334/102-3587418-2157768?v=glance&n=283155&n=507846&s=books&v=glance>).

The book analyzes how speed, connectivity, and intangibles are driving the increasing rate of change in the business marketplace. By examples they are showing how development in these three areas is causing the boundaries of other formerly distinct categories to blur. The notion applies not only to the borders between industries, but also borders between different types of knowledge and competence.

There is a need to do more research on the media sector to understand how different sectors are being blurred.

3.1.4 Challenging traditional media companies

The convergence and diversion processes in the media sectors will by no means slow down or decline during the next years. That is why we need more research in order to establish durable business models that will withstand the pressure from large, global actors like Disney and the broadcast networks.

3.2 Integrated media in Iceland; Case 365 Media

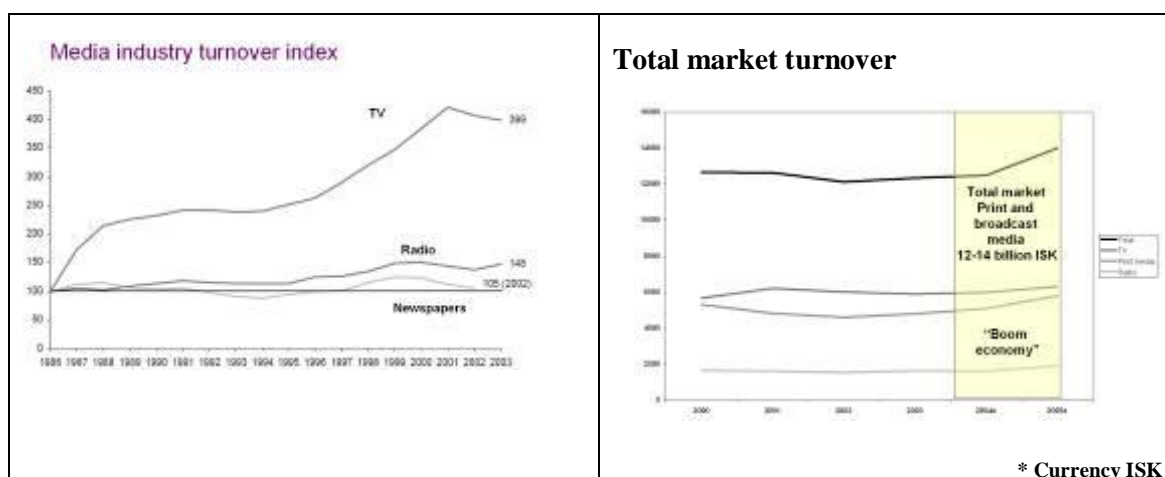
The Icelandic media industry has been going through a paradigm shift where the rules of the game have been changed radically.

3.2.1 The printed media

Historically the printed media in Iceland has been under significantly less regulation than TV and radio. At least since 1956 anyone has been allowed by law to found, print and distribute a newspaper and the only applicable law was to ensure proper editorial responsibility and decency.

In contrast Radio and TV has, since the formation of the state radio station RUV in 1930, been heavily regulated. Between 1930 and 1986 RUV was a government monopoly by law. Following deregulation in the audio visual sector the broadcast industry flourished and new services and companies were introduced almost every year.

In comparison, the printed media seems to have reached a status quo with little annual market growth (adjusted to inflation) decades ago.



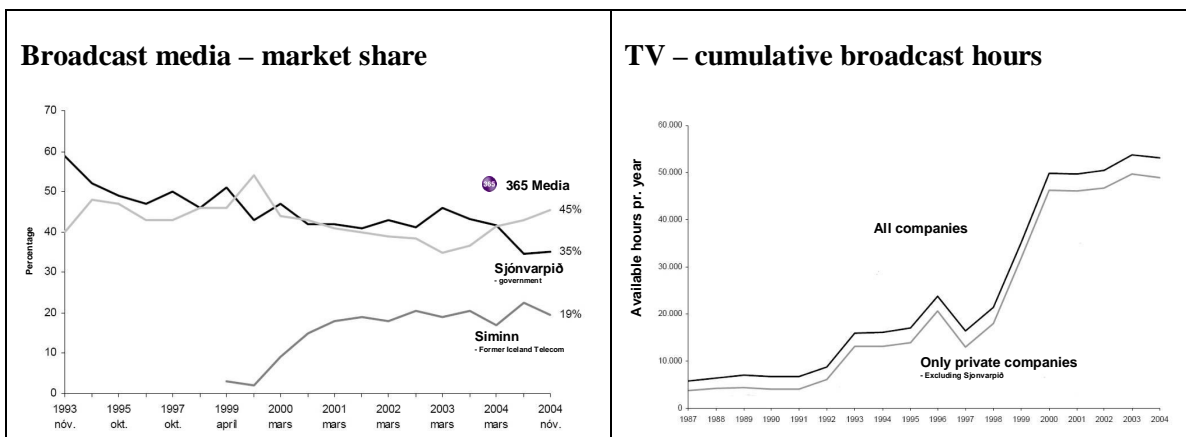
Around the turn of the millennium a period of mass scale consolidation began with Icelandic media companies.

In the print media a long tradition of the direct and indirect involvement of political parties in the publication of newspapers was rejected by the consumer. Following this, newspapers with political mandates went bankrupt or ceased operation. In 2001 Fréttablaðið, a free newspaper with national reach, was founded. Fréttablaðið has grown to be the market leader as a mainstream quality newspaper and has redefined the newspaper market.

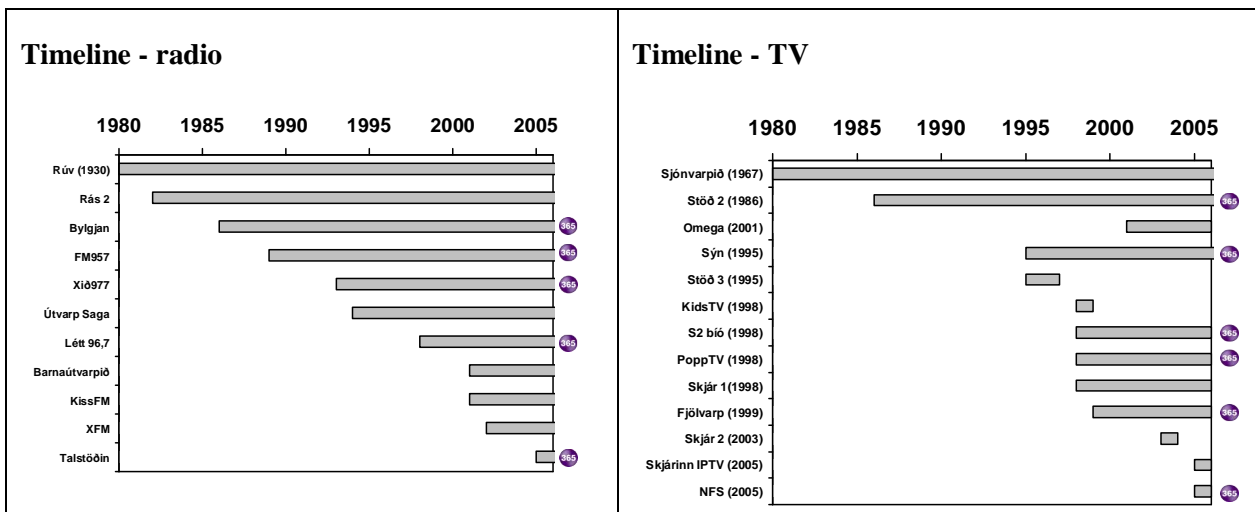
The introduction of Fréttablaðið resulted in profitable newspapers such as Morgunblaðið, a subscription newspaper to see a decline in advertising revenues and the newspaper DV to fold under increased competition and file for bankruptcy only to be acquired by Fréttablaðið. Following the success of Fréttablaðið a new free newspaper, Bláðið, was launched in the beginning of 2005 and as a sign of where the market is heading Bláðið was acquired 50% by Morgunblaðið in December 2005.

3.2.2 The broadcast media

The broadcast media has a much shorter history than the printed media. Although the state monopoly of the broadcast media was abolished in 1986 allowing first movers such as Stöð 2 (Channel 2) to enter the market the government has never taken the full step to deregulate the industry.



The state owned RUV is still funded with obligatory subscription fees that every family has to pay enforced by law. This has ensured RUV a 35% market share in TV ratings. With low entry barriers the broadcast media has seen increased competition. The market is also becoming more fragmented so with lower entry barriers, e.g. cheap broadcast equipment, lower IT cost and access to new distribution channels like IP and cable new entrants have emerged and more will follow.



3.2.3 365 a new breed of media companies

365 media is a company that is the result of a merger between Frétt the publisher of Fréttablaðið newspaper and the broadcasting firm Norðurljós (Northern Lights) owning various TV and radio stations but in dire financial straits.

In a complex series of events in 2004 Frétt and Norðurljós were the first mega scale merger in Icelandic media history. During the merger a series of acquisitions and spin-offs were part of a massive reorganization of these two leading media companies. The core objective of the reorganization was to turn the new company into a lean and focused market driven organization.

365 M&A overview, 2004 - 2005

MERGER >>

FRÉTTABLAÐIÐ
1 National newspaper
Fréttablaðið

FRÉTTABLAÐIÐ

+

NORÐURLJÓÐS
63 TV channels
Channel 2
S2 bíó
PoppTV
Fjölvarp (60 syndicated)

4 radio stations
FM957
X-ið 977
Bylgjan 98,9
Létt 96,7

AQUISITIONS >>

365 print
1 National newspaper
Fréttablaðið
FRJÁLS FJÖLMIDLUN
1 National newspaper
DV

OnLine media
Visir.is

Printing
Isafold
Distribution print
Pósthúsið

365 audio/video
63 TV channels
Channel 2
S2 bíó
PoppTV
Fjölvarp (60 syndicated)

4 radio stations
FM957
X-ið 977
Bylgjan 98,9
Létt 96,7

Production
Saga Film
Storm
Isafold printing

NEW UNITS >>

365 print
1 National newspaper
Fréttablaðið

1 National newspaper
DV
Markaðurinn (new)
Birta magazine (new)
Sirkus magazine (new)

OnLine media
Visir.is
Sirkus.tv

Printing
Isafold
Distribution print
Pósthúsið

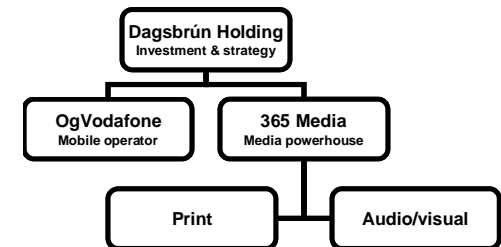
365 audio/video
65 TV channels
Channel 2
S2 bíó
PoppTV
Fjölvarp (60 syndicated)
NFS 24 hour news (new)
Sirkus TV (new)

5 radio stations
FM957
X-ið 977
Bylgjan 98,9
Létt 96,7
Talstöðin (acquired)
Production
Saga Film
Storm
Isafold printing
Distribution A/V
Sunna (spinout)

365 Brand portfolio

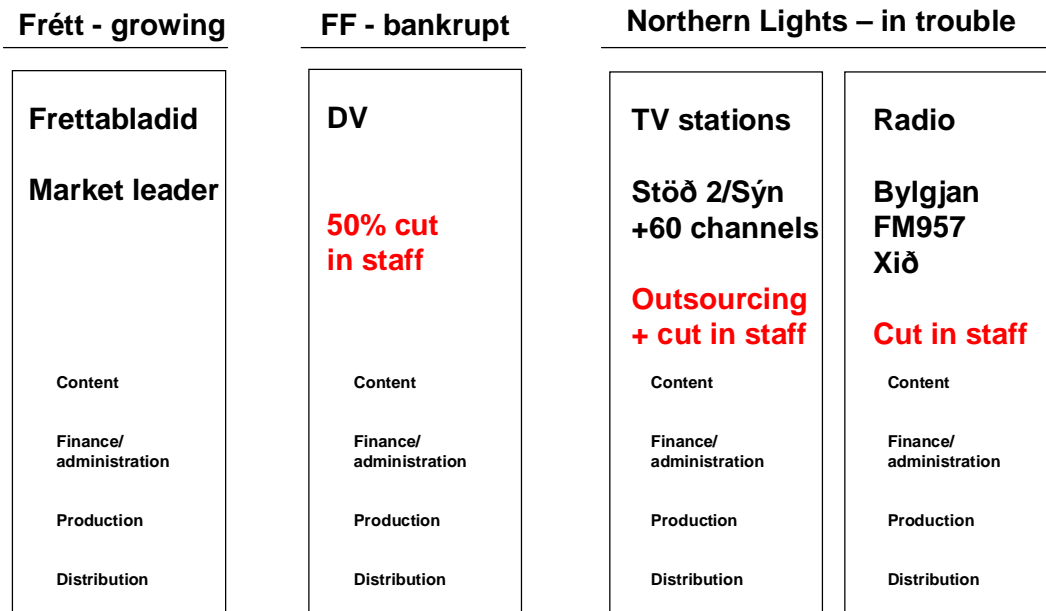
FRÉTTABLAÐIÐ		

NEW ORGANIZATIONAL STRUCTURE



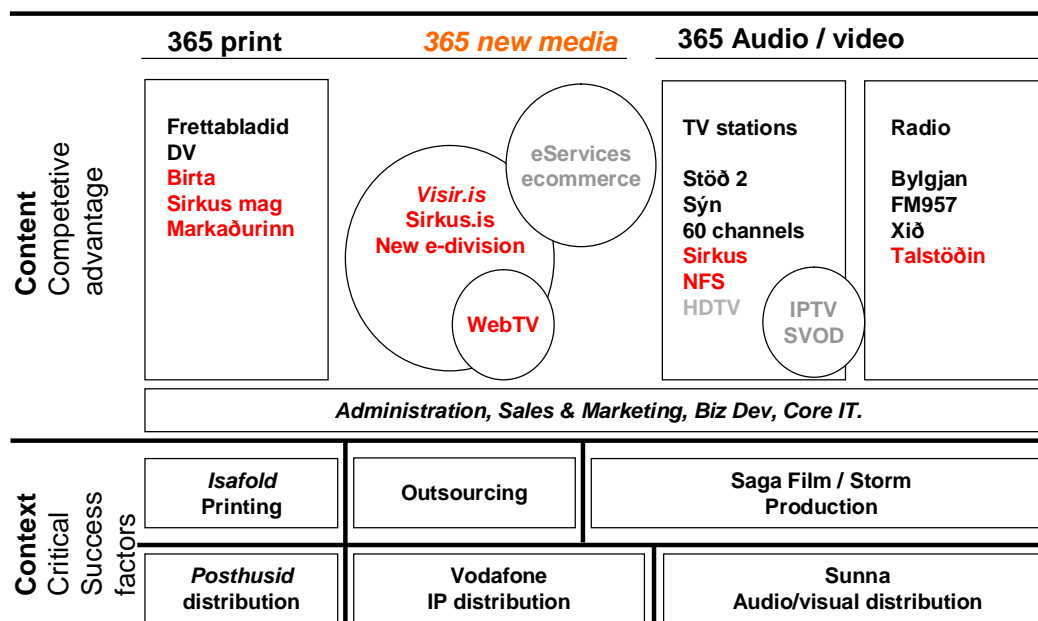
To achieve operational excellence and lower overhead major changes were needed. The major steps in the process were to change the diverse vertically integrated companies to become horizontally integrated and to spin out non core-competencies.

Vertically integrated companies before the merger



Printing, distribution and production activities were spun out as independent companies with a management team responsible for profit and loss. Other business functions such as sales, marketing, finance and general administration were consolidated and centralized.

365 - Horizontally integrated after merger

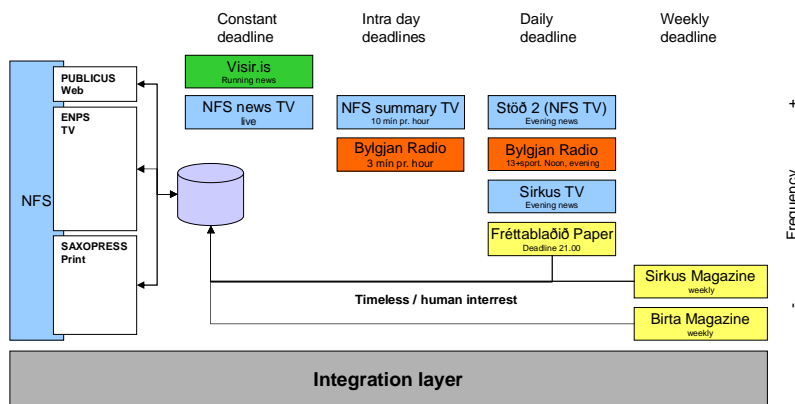


After the merger new business units have been added to the existing product portfolio. New magazines, a radio station and a 24 hour news TV station have been added to the 365 Media product offering.

The 365 Media TV stations no longer produce their programs “in-house” – in stead all production except for news-related content is outsourced to various production companies. Acquisition and contract management of creative content has been identified as a competitive advantage for 365 Media but the actual creation is a product to be bought from trusted best of breed partners.

3.2.4 Operational synergies

One part of creating value within 365 is by operating a “newsdesk” for all 365 publications - Web, TV, Radio & Print. With seamless IT integration all news items are available on demand for each channel. The newsdesk, NFS News TV, is also a new 24 hour news channel.



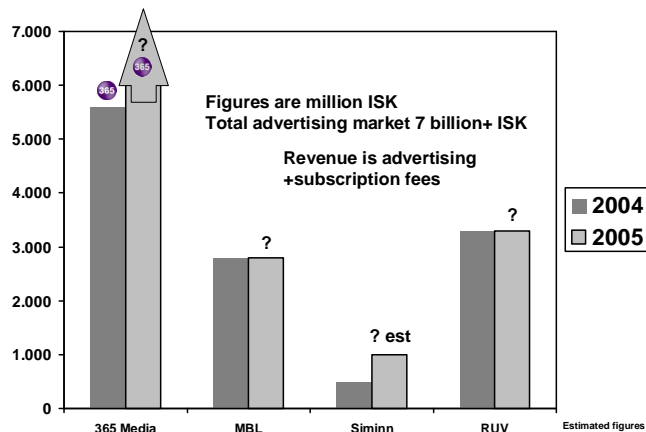
Each channel has in addition its own newsdesk for news on a longer deadline. The 365 weekly magazines do not subscribe to NFS news services but are in stead sources for human interest content for other channels.

3.2.5 365 Future outlook

365 Media is a 450 + people company with very low overhead. The company has a very lean and agile organizational structure geared for constant change. The company culture is based on projects rather than departments to further tackle market uncertainties.

Some controversy has surrounded the ownership of 365 as one of its largest shareholder is Baugur Group is an Icelandic investment company operating mainly in Iceland, the UK, and Scandinavia. Baugur owns a significant part of the Icelandic retail environment and this has lead to concern of the political parties and the parliament that a strict regulation on media ownership is necessary.

Being the largest media company in Iceland there is little space for continued large scale growth in the domestic market. The company will work on some horizontal growth, operational excellence and also filling the gaps in the current product portfolio.



Dagsbrun the holding company that owns 365 and also O2 Vodafone mobile operator has announced its plans to seek growth for 365 Media through investment in foreign markets. Baugur, the largest investors in Dagsbrun, has a proven record of large scale investments in Scandinavia and the UK. Baugur is the second largest investor in Keops and owns Illum. A recent acquisition of Baugur in Denmark is a ruling share in Magasin Du Nord. In the UK Baugur has bought Booker Ltd., Mosaic Fashions Ltd. Hamleys toy stores and other companies.

3.3 From printed media to e-Media; a new perspective on information distribution

Printing companies have faced increased developmental challenges since the 1990's. What are the reasons for these changes and what will these changes imply for the affected industries and what survival strategies are available?

The actual developments are mostly a result of ongoing technological developments including such phenomena as information digitalization, media convergence and the development of the Internet. Since the start of digitalization and the introduction of electronic medias suitable for publishing, i.e., the Internet, the printing industry has been struggling to find business models that can survive under these new conditions.

The current situation and, furthermore, the future situation for the printing industry can be summarized as follows:

- A decrease in the amount of printed copies will occur and print times will become shorter due to lower volumes.
- More often, lowest price auctions appear.
- Lead-times are shorter / Time-to-Market is increasingly important.

The industry's main strategy up until now has been to find the niches where traditional printing matter is still unthreatened. Another strategy has been to approach the interactive electronic medias and personalize the printed matter with the help of digital printing presses, e.g., print-on-demand and personalized printing.

However, long-term survival will demand a broader perspective. Far-sighted printing companies are therefore developing strategies that radically redefine their business. They must make necessary adjustments to be able to compete on today's market. This chapter discusses the reasoning behind the new strategies and presents a case study of a printing company – Edita – that is transforming its activities from traditional printing into multi-channel production and information distribution.

3.3.1 Future conditions within the printed media industry

Technological developments have established new conditions for the printing company and its ability to compete. The development of the Internet can be said to be the single most important factor in the development of publishing information as electronic documents. The Internet plays at least two roles in this connection. One role is as a carrier for graphic arts material to a printing press or from one database to another. Another role is as a user interface where the information user can establish access to the electronic document online. The Internet is now the first choice of distribution method. Printing is becoming a sub-set of the Internet and a secondary channel.

The ability to offer service in connection with the printed matter is what will generate value to the customers and to the graphic arts companies themselves in the future. Knowledge about the customers' information needs and the solutions that will meet these needs will be worth more than the actual production of the information material. The value the services can generate on the consumer side will become the important factor in contrast to the traditional price principle where the price is determined by the produced volume. The services associated with the printing jobs will then be the most valuable product produced.

The value to the customers will be generated in accordance with the new conditions that are established. This is done by simplifying the customers' work by taking more responsibility for the whole production processes and to increase the understanding of the customers' customers and to move from B2B to B2C.

3.3.2 Edita - From printing house to Information provider

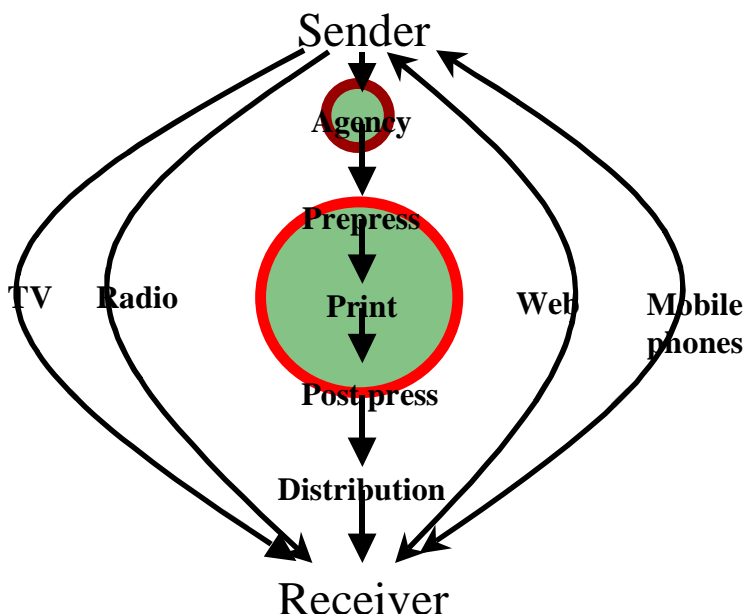


Figure 3.3.1 Traditional printing

Traditionally the business area of printing houses has looked like figure 1. Instead of being only a printer, printing houses must in the future become information providers. The new conditions makes it necessary to use those medias that best suit the customers' needs even if it implies priority of electronic medias over printed information. This indicates that the graphic arts industry has to take responsibility for the entire information process. A company who have made this transition is Edita.

Basic facts about Edita

- A full-service communication provider at the Nordic market
- Has a printing history in Sweden since 1823
- Situated in Sweden and Finland
- Owned by the Finnish government

- Approximately 1400 employees

To become information provider implies the following strategies for Edita:

- Personalized products will add values to customers
- Printing will be more integrated with digital media
- An increased use of databases and the Internet
- Partnership will strengthen the market position
- Environmental issues will be a great factor for success

Edita has developed its strategy towards a multi-channel information distribution strategy with an extensive use of electronic media in close cooperation with printing technology. Today Edita's business area looks like figure 2. Media convergence has become the strategy and the offer has been widened to include the whole distribution chain. This development must go even further in the future.

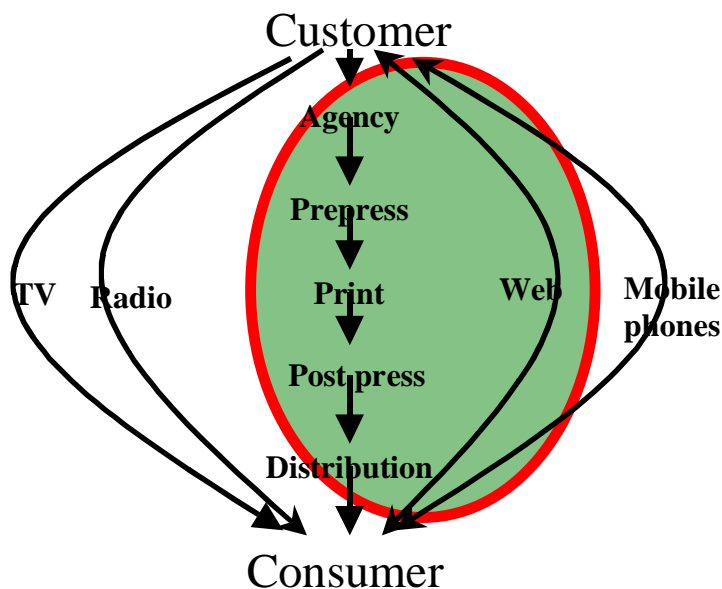


Figure 3.3.2 Integration of e-media

3.3.3 Key to success – integration of e-media and printing

To succeed in this model Edita must:

- Proceed from the customer database
- Offer personalized end products
- Standardize template productions
- 24-hour system access
- Automates production flow
- Minimize administration- let the customer do the work
- Create partnerships
- Analyze consumer needs

3.3.4 Business case – www.gordinegenbok.se

One example of what the new strategic perspective can imply in practise is the “*book on demand*” product (in Swedish “Gör din egen bok”) offered by Edita

The idea behind *book on demand* product is to provide an easy way to produce semi-professional books.

Gör Din Egen Bok

Hem Börja nu! Så funkar det Priser Skrivtips Hjälp Är du redan igång med en bok? Logga in »

Nu kan alla göra sina egna böcker!

"Jag har gjort en bok om mitt år i New York!"

Nyheter september 2005

Beställ PRESENTKORT! »

Klicka här för att se exempel »

Så funkar det »

Några röster

"Jag är väldigt nöjd med resultatet!"
Thérèse Blomqvist, Göteborg

"Stort tack. En fantastisk uppfinning..."
Kristina Jennbert, Stockholm

"Den bästa present jag någonsin fått!"
Caroline, Stockholm

Riktiga böcker med hård eller mjuk pärm.

Från 149 :-

Här gör du snygga böcker av dina upplevelser. Använd dina egna bilder och texter och gör roliga och uppskattade böcker på ett klick.

Klicka på bilderna till vänster för se några exempel!

Gör din egen bok. Börja här!

© Edita Sverige AB | Om vår tjänst | Villkor | Sekretess och säkerhet | Frågor och svar | Kontakt

The “*Book on demand*” is a web-based service. A set of pre-designed book layouts from novels to picture books has been developed which can be personalized. The user can choose between five different layouts on the web page. There is also service support on the web page where the author can get assistance. The photos can be transferred directly via the computer to the website if a digital camera has been used. The final print is made on-demand by a digital colour printing press.

The customer does the main work. Customer becomes a part of the production development and acts as a sales person.

From a strategic point of view “*the book on demand product*” can be illustrated as follows:

Gör Din Egen Bok

Experiences

Our challenges B2C

Technique

- Web
- Production

Communication

- Simplify
- Mixture of consumers
- How to handle customer relations?

Logistic

- Production flows
- Distribution



Outcome

Growing with 10-25% a month

Edita - Partners – End customer
Symbioses for growth & profitability

And the production flow of GDEB looks like the following:



3.3.5 Conclusions

It is possible to try and keep to a traditional business model where the actual printing and production of printed matter are the main activities. This can be a successful strategy under the right circumstances. However, only a few of the graphic arts companies on the market can count on a profitable business from this strategy. For the great majority of printers, it will be important to develop the offered services in accordance with the technological development, the media convergence, and the new ways of communication that characterize the customers and the market both now and in the future.

The “*book on demand*” product is an example of how this can be done with an integrated product that combines the strengths of digitally distributed information and an information output as printed matter. The end customer is placed in focus and the type of output is hence a customer decision.

3.4 Making business from e-Media; case Børsen

Denmark is one of the most mature markets in the world concerning the penetration and use of the internet. Forecasts for the coming years predict that the use will continue rising and the money spend on the Internet will increase rapidly. In that market Børsen (the leading business newspaper in Denmark) aiming to be among the best in making e-Media business.

3.4.1 Marked trends in Denmark

Internet penetration

With an internet penetration of 4.1 millions, (equivalent to 80 % of the total population) Denmark is in the absolute international top. In 2009 it is expected to be 4.5 millions; more or less all Danes.

Media consumption and spending

More than 25 % of the media consumption in Denmark is spend on the Internet. At the same time only around 5 percent of the total media spending is spend on the Internet. This percentage is expected to increase rapidly in the coming years.

Table 1. Development in advertising sales in Denmark, by channels

Mio. DKK	Internet	Radio	Newspaper	Magazines	Cinema	TV	Weekly newspapers	Outdoor
2000	316	213	3355	1801	46	1823	2225	338
2001	310	234	2983	1800	50	1747	2255	343
2002	418	222	2697	1537	70	1675	2097	336
2003	486	216	2647	1434	55	1927	2061	345
2004	582	211	2854	1505	51	2125	2159	359
2005*	724	243	3048	1531	54	2261	2264	367
2006*	917	263	3190	1602	56	2392	2332	385
Average growth expectation 2006* in pct.	26,7	8,3	4,7	4,7	4,3	5,8	3,0	4,8
Source: Dagbladet Børsen, dansk oplagskontrol *Estimates: Average of CARAT, MEDIACOM and OMD								

Internet turnover

The Internet turnover is valued to be around at least 750 million DKK in 2005 and is expected to increase in the coming years. In our forecast we calculate with 25 percent per year but are aware of the uncertainty.

Table 2. Expected Internet turnover in Denmark, 2005-2008.

Million DKK	2005	2006	2007	2008
Internet turnover Denmark	724	917	1.162	1.472
! Growth expectations 2006, 2007 and 2008 are the average of marked expectations of 2006 (26,7 pct.)				

Table 3. Turnover in Denmark on the internet, 2005

In percent	2005
Banner/display	40 %
Job	20 %
Yellow pages/search	40 %
Total	100

3.4.2 Short Børsen story

In 1998, at a time when most information providers offered information on the Internet for free, Børsen chose to go in another direction. A password to access the services on www.borsen.dk became a part of the newspaper subscription. At the time the Internet net site product did not hold enough attractiveness to market as a stand-alone subscription product. Also, it wasn't yet the time for a fully banner financed free site either since it could not create positive bottom line. Therefore we decided to make a combination where the free news created the traffic for banner income and the unique Content supported raising newspaper subscription in an otherwise declining market. Two years before, in 1996, Børsen launched our new growth strategy which aimed to increase the circulation through product improvement and focused sales. In that context the introduction of the password strategy in 1998 was a natural continuation in the sense that we increased the unique value for the subscriber. As shown on the figure the unique content strategy supported the growth strategy. The introduction of the multimedia strategy in 2000 therefore followed naturally.



Figure 3.4.1. Børsens multimedia strategy



Figure 3.4.2. The double online strategy

3.4.3 The media choice

A common challenge for media companies in Denmark has been their ability to make money out of the generated value. For media companies it has been a difficult choice between earning the money through a subscription/member site or free site. On the one hand a subscription/member site for the subscribers of the newspaper only increased the value of the total subscription but limited the traffic reducing the banner sales potential. On the other hand the ability to make profit on the free sites with high traffic numbers has not been successful either.

3.4.4 Making business on e-media

Today there is no doubt. The internet is a crucial strategic platform for all media companies. As it looks now the ad market has become professional and spending on the internet is increasing rapidly. In that sense a full open site is obvious to generate traffic by attracting people with news. Traditional news will continue to be the driver although the traditional definition of news production will be stretched by i.e. individuals to take part in the news feed a lot of different ways as we see it today with i.e. blogs, comments etc. To be able to differentiate the site from others it is crucial to be able to focus on the target group in every sense in order to have success.

Alerts by mail, messenger etc. is a good way to market the website and holds the advantage and ads can be distributed simultaneously. It helps the goal to have as many people spend as much time at your site as possible as long as it is not regarded as spam.

It is the question where to draw a line but Børsen has for now chosen to have part of its website closed for subscribers. Still we have had inventory and traffic to run the sold banners. In that matter our calculations are focused on the loss of unique visitors. In each case it's a matter of judgment whether to introduce a new product as a subscribers' only or a free service. Up to now we have as a default made Content subscribers only - except for the news and marked information. In the valuation of the service the two top criteria's have been service uniqueness and personal benefit. We are very satisfied that two thirds of our subscribers have activated their password, i.e. found our content so interesting that they find it valuable to log on. That is in international comparison a very high percentage.

To sum things up, a large number of Danes find the newspaper and in this case our website attractive. That is documented by comparing the number of subscribers compared to the number of readers/users. Typically they are found in Danish companies and are interested in our content – both in print and on the subscription part of our website – but often the price is too high. To reach target groups in the middle management and new branches we have developed Børsen Business Net. It is a company solution where all employees get access to all Content through an IP solution. Our approach is that a top manager today has full access through his subscription but is not a heavy user of our Content. On the other hand middle managers, specialists, research departments and salespersons often are high potential to use our tools as a part of their daily job. Having the company buying our Børsen Business Net we have the possibility to increase the engagement with existing companies (we find that the newspaper cost are extremely low compared to value) and reach whole new target groups.

3.4.5 No limit on the business possibilities

The very short presentation has made my description narrow and simple in an attempt to describe our approach to making business of e-media. Of course we find the possibilities almost limitless. We can make growth and profit in all directions and no doubt that Børsen will be widening its business areas. Nevertheless all new business areas will take its starting point in focusing on providing relevant business information to the business people in Denmark.

3.4.6 Great possibilities and the fear of lacking behind

Very fast technological development and relative low entry cost has among other factors made the internet an extremely competitive platform. Business models are challenged daily and what is right today may be fatal tomorrow. On the other hand behind the hype most of the fundamental economic rules remain the same. A fact is that the technological development in most cases is running much faster than Companies readiness to change so that success is often achieved with a normal professional approach to the market. The ability to choose what to do and what not to do seems to be a very important factor combined with the ability to – in a flexible manner - have the right organization with the right competence mix to reach the goal. Therefore a strong backup from the board and clear goals for the activity are absolutely necessary for having the possibility for success.

3.4.7 Summary

In Denmark Børsen activities on the internet has been seen as one of the most successful among media companies. The path we have chosen has been a mix between free content generating banner income and a subscriber's model as a part of the total subscription with a heavy weight on the latter. The ability to split up the business between what's accessible for who will be one of the key factors in the future. This will off course only be relevant if we able to keep developing valuable content for our audience.

4 Personalisation, a challenge for the vendor

Customer attention is a scarce resource. Only a minor part of the thousands of commercial and public messages an average customer is exposed to every day can be taken into account. The customer has to focus on issues related to his/her interests. Information adaptation have for long been proposed as a solution to the problem with information overload and in the early 1990'ies a new phenomena emerged with a variety of names for similar concepts: personalization, personification, information adaptation, customization, individualization, one-to-one.

4.1 Personalization concepts

In this chapter the concept of personalization refers to a software system that is designed to make a web site present content according to the visitors' interests. This usually works by storing and processing data from the visitor's interactions when visiting a website, i.e. by filtering a set of items (products, information elements) through some kind of personal profile.

There have been several attempts to categorize and create taxonomies for personalization both from a conceptual and technical viewpoint (Schafer et al. 1999). According to Adomavicius et al. (Adomavicius et al., 2003), personalization can be divided into three classes:

- Provider-centric.
- Consumer-centric.
- Market-centric.

The provider-centric approach means that each provider has its own personalization system. In the consumer-centric (customer-centric) approach each customer has its own personalization system, and in the market-centric approach the personalization system resides with a third party and is being used as an infomediary.

Upon closer inspection the core of the personalization process can be described as a cyclical ongoing process divided into five steps, figure 4.1.1 (Foster et al., 2000):

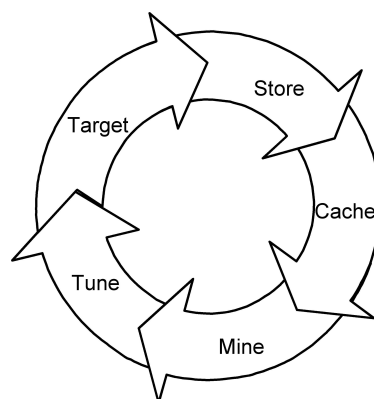


Figure 4.1.1. The personalization cycle (Foster et al., 2000).

1. Store. In the Store step, transactional data from multiple sources is captured and stored.
2. Cache. The Cache step involves providing centralization and easy access to the data.
3. Mine. Refinement of data, e.g. into segments, is done in the Mine step.
4. Tune. In the Tune step, data is analyzed and reviewed, and business rules are created and optimized.
5. Target. The Target step concerns the delivery of selected information to the customer.

Upon examining the technological concepts even more closely, one finds that a possible classification of personalization methods is to divide them (Adomavicius et al. 2003 & Gil et al., 2003) into the following types according to what kind of practical principles the personalization is made from:

1. **Rules-based personalization or business rules** (Adomavicius uses the terms conjunctive rules and sequences). Rules-based personalization can be based on first-order predicate logic. Predictions can be made based on the situation, history, or characteristics of the customer.
2. **Content-based filtering.** Content-based filtering can be defined as follows (Hirsh et al., 2000): *Content-based methods build models that link information about the contents of items (resources) a user (customer) manipulates to the user's preferences concerning those items.* Hirsh continues by stating: *An effective personalization system must look inside the content to understand how to distinguish the content that interest a user from content that do not.* He concludes by writing: *Systems that personalize in such a fashion are often said to be "content-based," in that they base their predictions on the contents of the artifacts about which they are concerned.*

One influence for content-based filtering is the work of Hammond et al. (Hammond et al., 1994), which proposed an information retrieval agent that was based on case-based reasoning in combination with semantic description of the resources to recommend. According to Smyth et al. (Smyth et al., 2000), the downside of content-based personalization is that the description of the content can be difficult and time consuming because of the possible problems of constructing an operational description language. Another problem is the very nature of content-based personalization, content-based personalization gives recommendations based on what a customer has previously done and blocks out all other information that does not fit the customer's previous behaviour; thus useful information can be suppressed. In the works of Jokela et al. (Jokela et al., 2001), the same problem is discussed in the news domain. The need for balanced serendipity is addressed in that a content-based personalization system should be combined with other systems that explore and introduce new, potentially interesting articles in order to counter the risk of being dull and uninteresting.

Sarwar et al. (Sarwar et al., 1998) and Smyth et al. (Smyth et al., 2000) argue for the combination of social filtering and content filtering in order to increase the efficiency and the overall experience for a customer.

3. **Collaborative or social filtering.** Good et al. (Good et al., 1999) give a definition of collaborative or social filtering systems: *Collaborative filtering system builds a database of user (customer) opinions of available items (resources). They use the database to find users whose opinions are similar (i.e., those that are highly correlated) and make predictions of user opinion on an item by combining the opinions of other like-minded individuals.*

Collaborative filtering is commonly used in e-commerce recommendations such as the sale of books or compact discs on the internet.

In practical life most of the personalization systems do not purely belong to one single category of personalization concepts.

4.2 Method for measurement and verification

A function for the verification of the personalization system configuration was used – bifurcation. The bifurcation function divides the customers randomly into two or more controlled groups with different personalization configurations (figure 4.2.1). By giving one of the controlled groups a personalization configuration that turns off the personalization system, a reference group is created. The reference group can be used to measure quantitative objectives (i.e. business objectives) by comparing the results with the groups with active personalization.

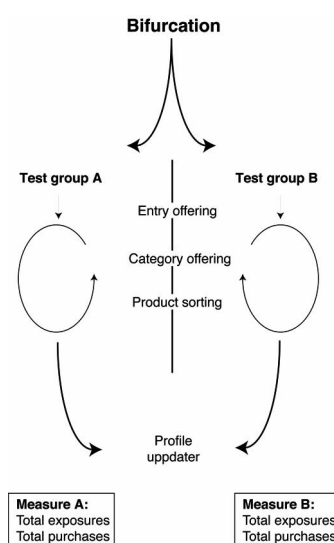


Figure 4.2.1. Schematic view of the bifurcation function.

4.3 A case study – www.offentligajobb.se

The mission of the Offentliga Jobb online recruitment service is to present job offerings to people searching a new employment. Offentliga Jobb's business objectives are to increase the traffic on the website and increase ease-of-use and visitor satisfaction. One measurable of business success is the number of offerings exposed to visitors. Every click on the web site leads to job offerings, either in the form of sample lists with short descriptions or single job offerings with details. This means that the number of clicks by visitors is a relevant measure of the performance of the site. The base for the study is an extensive empirical material, collected during a two-year period, covering more than 3 million unique visits. In this study, we use the data from 2004. The number of unique visits during the year were 1.85 millions.

The personalization system implementation at the Offentliga Jobb uses two different visitor identification mechanisms: anonymous visitors get a cookie set upon his or her computer as a unique identifier, while registered visitors are identified through the log-in procedure. The system uses both methods simultaneously. However, only an almost neglectable part of the

visitors chose the login procedure. When a visitor enters the website anonymously, the cookie identification is used to determine the personalization experience. If the visitor logs in after some anonymous visits, the registered visitor's profile can be activated and merged with the previously anonymously recorded behaviour.

The visitor's profile is built from his/her choice of information objects, in this case job offering. All interactions are collected and saved as the visitor's individual profile. When the system performs an information adaptation process, the visitor's profile is compared to profiles of the information objects, which are presented and sorted accordingly. A content-based filtering method is used, i.e. the information adaptation process is based on descriptions of the content. Offentliga Jobb's content-based filtering method uses only two dimensions to characterize the job offerings, on one-hand metadata profiles for describing the job-offerings in a standard format called SSSYK, on the other geographical classifications.

The following personalization functions were developed in cooperation with Offentliga Jobb:

1. First web page navigation (ellipse A in figure 4.3.1)
2. First web page selection of job offerings (ellipse B in figure 4.3.1)
3. Top two selections in the search results presentation
4. Small advertisements in the side bar (ellipse in figure 4.3.2)

The screenshot shows the homepage of Offentliga Jobb. At the top, there is a navigation bar with the logo and a search bar. A yellow box indicates '1792 jobb just nu!'. Below the navigation bar, there are several sections: 'Söker du nytt jobb?', 'Lägg in ditt CV', 'Klicka här', 'NY UNGDOMSSAJTI', 'Dagens Citat', and 'Lediga jobb för dig?'. The 'Lediga jobb för dig?' section is highlighted with a red circle labeled 'B'. The search filters section is highlighted with a red circle labeled 'A'.

On the first web page the navigation of geographical and job categories were personalized with preset drop-down menus. The personalization system has preset the menus with "Västra Götalands län and "pedagogics" (ellipse A).

The visitor still has the opportunity to change the selection by choosing another alternative. Ellipse B contains the four most appropriate job offerings associated with Västra Götalands län and pedagogics. Here, the selection of job offerings was limited to the two most recent weeks

Figure 4.3.1. Offentliga Jobb's first web page (personalized area marked)

The screenshot shows the 'Offentliga jobb' website interface. At the top, there is a navigation bar with links for 'HEM', 'OM OFFENTLIGA JOBB', 'HJÄLP', 'KONTAKTA OSS', and 'ARBETSGIVARE'. A search bar is present with fields for 'DIN E-POSTADRESS' and 'DITT LÖSEWORD'. The main content area features a job offering for 'Rektor till Sjuntorps skolområde' in Trollhättans Stad. A sidebar on the left, titled 'Lediga jobb för dig?', lists several job categories: 'Rektor till Sjuntorps skolområde', 'Rektor sökes till Fågelviks gymnasiet', and 'Timvikarier'. A red circle highlights this sidebar menu.

When selecting a single job offering and looking at its details, other similar job offerings matching the visitor's profile are exposed in a list in the left part of the screen, ellipse C.

Figure 4.3.2. Single offering details

The personalizing function starts to work immediately after the first click for the personalized group. Then the system starts to search for other offerings in the same job category and geographical area. This simplest possible form for personalization seems to be enough to increase the tendency to continue with more clicks.

The personalized group had between 10–20% higher interaction-frequency depending on the numbers of clicks.

A measure of personalization efficiency is to compare the effects caused by the personalization system with conventional methods of acquiring web-site traffic. To obtain the same amount of clicks without the personalizing function installed the number of visitors at Offentliga Jobb should need to be increased with approx. 7 % or 135 000 visitors.

The results shows that a relatively simple personalization method, easy to implement and manage at quite low costs in the right context, can work well. It is reasonable to believe that the effect on traffic increase observed in this research would have been more costly to obtain by trying to attract more visits to a corresponding un-personalized site by for instance intensified advertising. Wallin et al., 2005.

4.4 Qualifiers for using a content-based system

From the work with the Offentliga Jobb case and other installations of the personalization system, the following qualifiers were found to apply for supporting or disqualify suitable uses for the personalization system described in this paper:

1. The items to personalize must be categorizable
2. Visitors must be identifiable.
3. Multiple content - many and diversified items
4. Large number of visitors with divergent interests
5. Frequently returning visitors

5 The integrated future of e-Business and media

5.1 Workshop description

For the Copenhagen seminar on 25 November was prepared a survey about the future of media and e-Business. The survey consisted of tree elements, megatrends, weak signals and Delphi study, and it was carried out as questionnaire study.

The questionnaire was sent 2-3 weeks before the seminar to all participants. Unfortunately we got only 8 answers. Thus the results are more indicative, than in the cases of usual enquiries. But anyway the results give many interesting aspects of what expectations the experts have in the field of media and e-Business. The questionnaire is attached in Appendix 1.

The result was presented shortly in Copenhagen seminar. In workshop next day the answers were analysed. The workshop processed the results and identified the impacts of appliances of new technology (Chapter 5.5 "Technology, Appliances and Impacts").

VTT TECHNICAL RESEARCH CENTRE OF FINLAND

NORDIC STRENGTHS

- Print media
- Internet and Mobile communication
- Network infrastructure
- Manufacturers of ICT and mobile systems
- Forest industry
- Foodstuff manufacturing
- High education level
- High standard of living
- Common cultures, life styles, values (National broadcasting companies, retailers, national gambling...)
- Nordic cross-ownership of media companies



CAN WE THEN...

- Create a new Nordic business concept for the global market utilising our strength



CAN WE THEN...

- Give e-Business a break-through via media...



... and the media industry a new growth from e-Business



AND IF NOT, THEN...

- Where are the obstacles...



...and the need for R & D



The idea of workshop was to evaluate if there is a need and ability to create a new Nordic business concept for the global market utilising our strengths. This scheme is described in four slides above.

5.2 Megatrends

Megatrends are the great lines of development, such as globalisation and ageing of population in developed countries. The full list of megatrends is in Appendix 4.

The most important and typically in many answers existing megatrends are:

- Mobility
- High speed broadband
- Large screens, e-Paper and other flexible displays
- Interactivity
- Integrated infrastructure, all the media companies' activities will have links to the Internet
- Integration of media into our everyday lives. Media becomes a natural part of our cars, clothes and shopping
- Distributed systems, also known as chips everywhere
- Self service culture and personalisation. Intelligent Personal Selection filters to help sort out what we are interested to see and read
- The oldies are willing and can afford to by through the internet a lot of things and services
- We will not subscribe to a morning newspaper any more
- Products and also services will be more and more produced in low cost countries.

5.3 Weak signals

Weak signals (wild cards) are early information, or indications of future conversion. Weak signals usually go against the dominant opinions. When weak signals strengthen, they become awareness. Later on you may find them in the newspapers, but then they are no longer weak signals. Of course, a great part of the weak signals prove later to be biased. It was found out that it is sometimes difficult to differentiate megatrend and weak signal. For example RFID tag, or flexible soft screen technology is weak signal for someone and megatrend for some other. In this case we decided to consider RFID and soft screen technologies as megatrends. The full list of weak signals is in appendix 5.

The most important and typically in many answers existing weak signals are:

- Growth in Wikipedia
- 2D codes in many printed ads in Japan already, already a break-through
- Most people ready to give their credit card's number for hotel reservation etc. Security is no more an issue
- Travelling agencies are running out of business; people book their own flights
- Technologies that counteracts TV advertising
- The peer to peer technology and culture are indicating a future meeting between sellers and buyers (With help or without e-Media)
- Similar development in the media industry that is already showing some signs in the medical industry; media considered as "every mans right" which causes profound changes in the media and e-Media industry
- Health-monitoring-media. As an extension to the above: people are getting more devices that feed information about then selves; what they're eating, What's their heart rate, are they tired etc.
- A growing environmental awareness (will have a great impact on distribution and new taxes will change our habits)
- Relationship between work and leisure will change. There are not any more time or place related. This means that services, media and so on should be available "all the time".

5.4 Delphi study

5.4.1 Volume of e-Business

The volume of e-Business is indicated by an index, which has the value 100 today. The index describes the total commercial volume of each sector of e-Business consumption expenditure in all the Nordic countries (Finland, Denmark, Iceland, Norway and Sweden). The index of 2010 and 2015 are the medians of answers.

The most important goods and services 2010 are

- Tickets for cultural events like theatres, concert, operas etc. (index 300)
- Gambling, lotto etc. (275)
- Travelling, flight tickets, hotels, spas etc. (250)

All these have more than doubled the volume compared with the volume of 2005. The least grown goods and services are "Real Estates" and "Cloths, shoes, textiles etc." in the year 2010. Both indexes is 135.

In the year 2015 the tree most important service are still

- Tickets for cultural events like theatres, concert, operas etc. (index 600)
- Gambling, lotto etc. (450)
- Travelling, flight tickets, hotels, spas etc. (400)

All these have more than quadrupled compared with the volume of 2005. The least grown service is still "Real Estates" (index 155).

Table 1. Volume of e-Business in different goods and services as index (2005 = 100, 2010 and 2015 are the medians of the answers). The table indicates only the growth rate, not the total volume.

GOODS AND SERVICES	2005	2010	2015
A. Consumables (foodstuff, drinks, toiletries etc.)	100	165	225
B. Durables (domestic appliance, electronics, fitness equipment, etc.)	100	200	350
C. Cloths, shoes, textiles etc.	100	135	220
D. Medicines, healthcare service etc.	100	150	205
E. Books, DVD, CD, movies and audio records	100	200	350
F. Travelling, flight tickets, hotels, spas etc.	100	<u>250</u>	<u>400</u>
G. Tickets for cultural events like theatres, concerts, operas etc.	100	<u>300</u>	<u>600</u>
H. Gambling, lotto etc.	100	<u>275</u>	<u>450</u>
I. Real estates	100	135	155
J. Vehicles like cars, motorcycles, boats etc.	100	140	225
K. Others, what?	100	150	240
L. Others, what?	100	150	195

5.4.2 The most important goods and service for e-Media

The most important consumption and service sectors for e-Business in media in the year 2010 and 2015 can be seen in table 2. E-Books are the most important goods in 2010, but will be third 2015. Gambling

will enlarge so that it is first 2015 (third 2010). Travelling will keep its position as second from 2010 to 2015. NB, unfortunately the ranking list of 2005 could not show because there is not any reliable list of to day situation.

Table 2. The most important consumption and service sectors for e-Business in media in the year 2010 and 2015. This table indicates the total volume, not the growth rate as the previous table 1.

2010	2015
1. E) E-Books, DVD...21	1. H) Gambling...21
2. F) Travelling...18	2. F) Travelling...18
3. H) Gambling...16	3. E) E-Books, DVD...14
4. G) Tickets...13	4. A) Consumables...11
5. A) Consumables..& B) Durables... 10 & 10	5. B) Durables...9

5.4.3 Different media in e-Business

The most important media in terms of volume of e-Business 2010 are shown in table 3. Internet (per set) is clearly most important media in e-Business. Second is Interactive Digital TV and next two are subscribed and free newspapers (+Internet).

Table 3. The most important media in terms of e-Business 2010.

Media	Points in ranking list 2010
1. Internet (per se)	61
2. Interactive Digital-TV	48
3. Free newspapers (+ Internet)	45
4. Subscribed or bought newspapers (+Internet)	37
5. Radio (+ Internet)	30
6. Magazines (+ Internet) & Hybrid media	29 & 29
8. Other media, which?	1

The most important media in terms of volume of e-Business 2015 are shown in table 4. Internet (per set) is still number one. Followings are Hybrid media and Interactive Digital TV. The most interesting thing is the amazing growth of Hybrid media in five years (2010 number 6 and 2015 second). This might indicate intensive R&D activities on the field of Hybrid media combined with e-media.

Table 4. The most important media in terms of e-Business 2015.

Media	Points in ranking list 2015
1. Internet (per se)	48
2. Hybrid media	43
3. Interactive Digital-TV	42
4. Free newspapers (+ Internet)	39
5. Magazines (+ Internet) & Radio (+Internet)	25 & 25
7. Subscribed newspaper (+Internet)	23
8. Other media, which?	2 (E-paper)

5.5 Technology, Appliances and Impacts

The e-Media Workshop developed the results of megatrends, weak signals and delphi study. It was noticed that megatrends and weak signals were partly same items. It is difficult to differentiate megatrends and weak signals, as well as technologies, appliances and impacts. Thus the results were merged in further actions. The idea of the work was to define the most interesting technologies, to identify the appliances of these technologies, and evaluate the impacts on the field of media and e-Business.

Technologies	==>	Appliances	==>	Impacts
Mobility		Wikipedia		Media companies alliance
Large screens		Mobile applications for e-Business		New value chains in e-Business
Wireless		2D codes		Increased use of new media (oldies, other)
High speed broadband		Selecting filters		Reduced reading of morning newspapers
Interactivity		Home media centres		Lot of free information
Integrated infrastructure		Personalisation		Advertising is going to Internet (from market place to market space)
Distributed intelligence (chips everywhere)		Usability		Self service
e-Paper				Personalisation (products, services)
Voice control				e-terrorism (viruses, spam...)
Biometric				Production is transferred to China => Need to innovate!
New technologies for smell and feeling				

5.6 Summary of workshop

The most important technological trends - megatrends and weak signals - from the viewpoint of Media and e-Business are

- Mobility and high speed broadband
- Large screens, e-Paper and other flat and flexible displays
- Interactivity and integrated infrastructure
- Distributed intelligence, chips everywhere

It is not always easy to differentiate megatrends and weak signals, as previously mentioned. There are many technology based appliances like Wikipedia, mobile e-Business, 2D codes and personalisation.

Technology and its applications have many impacts on Media and e-Business like

- New value chains in e-Business
- Media companies alliances
- Lot of free information
- Self service

There are also some unwanted impacts like

- e-Terrorism
- Production is transferred to low cost countries

The three considerablest goods and services of Media and e-Business are, according to the Delphi study, "Gambling", "Travelling" and "E-books" (and other records). E-books keep leading position the next 5 years, but will lose its ranking by 2015 to Gambling. One very fast growing service is "Tickets for cultural events like theatres, concerts, operas etc."

The most important media of e-Business are Internet (per set) and Interactive Digital TV. There will also be some other new media like e-Paper. The most interesting issue of the Delphi study is "Hybrid media (e.g. newspaper + 2D codes for interactive communication, or RFID tags)". The ranking number of Hybrid media in 2010 is 6. Year 2015 Hybrid media is number two, certainly only one point before Interactive Digital TV.

The above-mentioned statement of megatrends "Production is transferred to low cost countries" means that there is a growing need to innovations. The Nordic countries are separately small. Denmark, Finland, Iceland, Norway and Sweden mean together however 25 million people, excellent educational level, progressive R&D activities, very similar cultural background and many other incorporated features. Thus R&D cooperation and teamwork can really be fruitful. One good example is the hybrid media, which was evaluated as a rising media in ten years period. Hybrid media is nonetheless the only one but e-Paper is another good example of potential nordic cooperation for media and e-Business.

6 Conclusions and recommendations

This preliminary study has created a Nordic network between vendors for e-Business (Adaptlogic, EJS hf, GAN Gruppen), media companies (Dagbladet Børsen, Edita Sverige AB, 365 Media) and service providers (Kesko Oyj, Oy Veikkaus Ab). The nodes in this network are five Nordic research organisations (CBS, ICEPRO, NTNU, STFI-Packforsk and VTT). The network is open for any Nordic organisation eager to join.

The state of the art in e-Business and the media sector as well as the research performed so far on a national level in the Nordic countries has been mapped in an inventory and reported here and in a seminar. The most important characteristics are:

- The Nordic Council of Ministers has adapted a strategy for the promotion of e-Business within the area of trade and industry policy.
- e-Business responds to the main future challenges of the companies, which are increased speed, customization, user friendliness, interactivity, ubiquitous computing and mobility.
- The media sector faces a shift in paradigm, since access to content is getting free, media is losing its unique position as information provider and distributor, media consumption is stagnated and so is media advertisement. Totally new business models are needed, but the media still has a strong catalytic effect on many other branches.
- There will be a shift from work between producers and consumers to a blurred distinction and a customer centric adoption of traditional media. A migration from push to pull business models will occur and the borders between the industries in the ICT sector will be blurred.
- Personalization is an essential challenge for the vendors of software systems for e-Business.
- Examples of new media business models in the Nordic countries are media integration into a market driven and horizontal organization (365 Media), the switch from a traditional printing company to an e-Media company (Edita Sverige AB) and new on-line personalization and surveillance service for subscribers (Dagbladet Børsen).
- Examples of new e-Business services are on-line department stores (Net-Anttila) and lottery (Veikkaus Oy).

The future estimation for e-Business has been worked out in a workshop, and the most important trends are the following:

- Megatrends are mobility, high speed broadband, large screens, e-paper and other flexible displays, interactivity, integration of infrastructures, integration of media into every day life, distributed systems, self service culture and personalization.
- Weak signals are the rapid increase of Wikipedia, 2D codes, pier-to-pier, health monitoring media.
- Important goods and services for e-Business are tickets for cultural events, gambling and travelling arrangements. For the media sector the most important goods are gambling, travelling and e-books. Internet and interactive TV are the most important channels for e-Business, but new hybrid media are on their way.

In summary the Nordic countries have an excellent opportunity to become an international forerunner in e-Business, thanks to its united strength, high education level, progressive R&D activities, similar cultural background and strong ICT and media sectors. However, this requires a strong research effort that should focus on the following areas:

- New innovative service forms and products for e-Business should be identified, evaluated and developed.
- New innovative media services should be identified, evaluated and developed for the new products and services.
- New business models should be developed for e-Business and the media sector taking into consideration totally new value chains on a global market.

The right time to act is now, since the preliminary study gives a strong basis for further research and development. Moreover, a suitable network and consortium now exist.

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Appendix 1: e-Business in retailing, the case Net-Anttila

NETANTTILA.COM

www.netanttila.com

Anttila Ltd is one of the biggest non-food retailers in Finland and a part of the leading trading company, Kesko. Anttila is a multi-channelled retailer. Through its NetAnttila and Mail order business Anttila is operating in the neighbouring countries, too.

Anttila's four retail concepts are:

- Anttila department stores
- Kodin Ykkönen -home style stores for interior designs and decoration
- Anttila Mail Order business
- NetAnttila on-line department store

In 2004 there were more than 23 million customers visiting Anttila stores and website. Sales (VAT included) totalled EUR 608 million. Anttila employs 2800 people.

Customer satisfaction is the central objective of Anttila's trading in all its areas of business. Anttila's strong position in the Finnish market is based on dedicated personnel, centralized purchasing, efficient logistics and retail chain marketing.

MOST POPULAR ON-LINE STORE IN FINLAND

NetAnttila was started in 1999. Today it is the most versatile on-line department store with emphasis on goods for leisure time use. The most popular products bought on-line are:

- home electronics, information technology and multimedia
- CDs, DVD-movies
- sports goods
- basic items of clothing, shoes and home goods

Nowadays the volume of the customers is more than six times vs. volume in year 2000. There is over 400 000 unique visitors per month in NetAnttila (In department store average is 60 000 / month). NetAnttila's average purchase is over 100 euros. In mail order business it is about 60 euros and in department store about 20 euros.

If the typical customer was earlier (~1999 – 2001) more technical oriented person or active web user, he is not that any more. Nowadays typical customer have family, live in built-up area, work in office, and 60 % are women. Time spent in internet and broadband connection are more related to shopping activity in web than some demographic factors.

On-line shopping completes the shopping in Anttila. For example in NetAnttila there is lot of customers during those hours which are quiet at department stores. Reliability was one of the main questions for customers in the beginning, now they expect more 'concrete' issues like good product information and pictures.

NetAnttila have also products, which you can't find from department stores. For On-line products availability is 100%, because when the last item is sold, you can't find it anymore from the web either. All 15 000 items are available in warehouse (own or suppliers').

Deliveries will take place in one week and the charge is:

- Small packets in mailbox 2, 49 €
- Packets to post office 4, 99 € or delivered to home 8, 49 € Home deliveries are also available at evenings between 5 to 9 pm.
- Big products home delivery 17—50 €

NetAnttila was chosen as the most reliable on-line business brand in Finland in a European-wide survey in 2000 and 2001. One of NetAnttila's strengths is also its logistical expertise: delivery will take place within one week from placed order. Customers can spread their costs over a longer period if they so wish (many possible ways of payment). Customers use Credit card payments with confidence - NetAnttila was the first to receive the 'Sampo Safe Shop' certification for its secure system.

The centralized purchasing for Anttila's four concepts focuses on achieving an efficient chain of operations from suppliers through to customers. Anttila is well-known and trusted brand with long history. This is also one of NetAnttila's competitive advantage. Anttila Mail order business has over 700.000 active customers in Finland, Estonia and Latvia. Synergies with NetAnttila are remarkable and the focus area of year 2006 is to develop these further. Anttila's common support processes and information systems bring also synergies and cost efficiency to NetAnttila.

Diversified channels

NetAnttila has also made pilot projects with mobile shopping and DigiTV. Our aim is to build the whole shopping process to all channels or devices, not just some parts or activities of the process. The experiences were encouraging but there is also issues to be solved before these channels are significant business areas.

Info kiosk completes service in department stores. In department stores it is possible to use the NetAnttila's extra services through Info kiosks: different assortment, home delivery, many ways of payment (invoice/instalment and collect on delivery) and complete product information.

Competition

Competition is getting harder and harder also for us. For example in digital products there is many new actors started recently. TV channels have their own Web stores for DVD's, games, CD's and downloadable digital entertainment. On-Demand services are not significant today but are rising all the time. Many radio channels websites' it is also possible to download music (for example the TOP TEN lists). This is new business model for actors like NetAnttila with existing processes, IT-systems and service models. NetAnttila is



the platform for the web store of SBS Finland radio channel ("Iskelmä").

According to different surveys 15-25% of the euros spent to on-line shopping, go to foreign web stores (in Finland).

Customer loyalty

NetAnttila is also part of Kesko's K-Plussa customer loyalty program. There are over 3, 1 million customers in the Plussa loyalty program and over 3000 different purchase places. Customers earn so called Plussa points from their purchases and they can use these later then they are buying again. This is just a part of the loyalty program, there is many more dimensions and services available for loyal customers.

Customer can also register himself as a Star Customer of NetAnttila. Then he can have wider range of services like paying possibilities, special offers, checking the status of his orders and so on.

Appendix 2: e-Business in gambling, the case Veikkaus

Veikkaus Oy is the National Lottery of Finland. It is 100% state owned and originally founded in 1940. Veikkaus has a licence and mission of providing safe means of lottery type of number games and sports betting for Finnish citizens in socially responsible way, returning its profits back to Finnish society through ministry of education.

Veikkaus Oy was the first national lottery & betting operator to move into utilizing new e-business channels already in 1996. Company web page was live in 1995 and first sales took place on a pilot group in December 1996. Veikkaus internet and VRU (voice response unit) services (branded as On-net) were fully live for all Finnish citizens in March 1997. After the first years of uncertainty the sales has grown steadily and is currently a significant part of business covering already almost 15% of the total sales of the company, being close to 200 million euros in turnover on yearly basis.



Figure Appendix 2. Veikkaus Oy has offered lottery and betting services on-net since 1996.

During these years Veikkaus has made amendments to the service and developed it further. In year 2000 Veikkaus was one of the first in the world to introduce WAP gaming into the world of lottery. In 2002 digital TV (MHP ITV) was introduced in Finland and also Veikkaus created a lottery interface for the superteletext service. Due to the immaturity of the market and technologies, sales never took off on either WAP or digital TV though.

Later on Veikkaus has introduced more features into its offer, namely digital scratch tickets (e-instants), live betting (betting during live sports broadcast) and SMS (text message) lottery and betting. In year 2006 Veikkaus expands still into new areas providing a safe internet solution for the Finnish customers for social games such as internet bingo to name one.

Looking at the volume, Veikkaus is a true pioneer in e-business and has found it being something that its customers also increasingly demand from the company. The future will enable combining the internet and traditional gaming into one compact package. For that purpose a personal customer card will be introduced to Veikkaus customers still during 2006 enabling even better service.

Possibilities of introducing Veikkaus products into daily market are various, yet not just everything can be realized in order to act in a socially responsible way. One can though be sure that in order to keep the money gaming income a steady part of Finnish society through the beneficiaries (sports, arts, science and youth work), Veikkaus will not stop introducing new high quality services for its customer.

The medal has always two sides. That is true especially when gaming with money. While Veikkaus introduces new technologies and new innovations for its customers, Veikkaus all the time has the responsibility also to make sure that all the gaming takes place in a socially responsible way. Therefore, Veikkaus also develops means of limiting compulsive gaming for sake of people who might have tendency for such behaviour especially when introducing new games with quicker frequency of play in action.

Appendix 3: Questionnaire

QUESTIONNAIRE FOR THE PARTICIPANTS IN THE e-MEDIA WORKSHOP

1. Background

For the Copenhagen seminar, on Friday 25 November 2005, we collect in advance information and educated guesses from the participants of that seminar. The forecast covers the development until the year 2015. The questions deal with e-Media in the Nordic countries. e-Media branch contains:

- e-Business (mostly from business to consumer, but also other forms of e-Business),
- Media industry (mostly newspaper publishers, broadcasting companies and telecom companies, but also other sectors of the media industry)
- The overlapping fields of activities, e.g. called hybrid media (linking print and electronic media to each other)

Please fill in your answers and send them by e-mail to timo.siivonen@vtt.fi or bring them with you to the seminar!

2. Megatrends

John Naisbitt described, already in 1984, ten global megatrends toward the year 2000. Now afterward you can evaluate how correct these predicted megatrends have been.

1. Industrial Society	=>	Information Society
2. Forced Technology	=>	High Tech/High Touch
3. National Economy	=>	World Economy
4. Short Term	=>	Long Term
5. Centralization	=>	Decentralization
6. Institutional Help	=>	Self-Help
7. Representative Democracy	=>	Participatory Democracy
8. Hierarchies	=>	Networking
9. North	=>	South
10. Either/Or	=>	Multiple Option

Some mega-trends for e-Media until the year 2015 could be for example that:

- Everyone has mobile media devices in his/her pocket
- Consumer needs much more information, especially about foods, than is possible to print on the packages
- The number of Senior citizens is growing and they spend much money on consumption

Suggest some megatrends concerning the e-Media and write them below!

1.
2.
3.
4.
5.

3. Weak signals

Weak signals (wild cards) are early information, or indications of future conversion. You can pick up weak signals e.g. from science fictions, insignificant items of news, life style of minorities and underground communities, internet news groups, and small talks in coffee rooms. Weak signals usually go against the dominant opinions. When weak signals strengthen, they become awareness. Later on you may find them in the newspapers, but then they are no longer weak signals. Of course, a great part of the weak signals prove later to be biased.

Weak signal	Phenomenon, that was indicated by weak signal
Solidarnos movement in Poland 1980	The breakdown of Eastern European blocked socialistic countries
- Abandoned Trabants on the border to Austria in Hungary in the summer 1989 - The "Monday demonstrations" in Leipzig in autumn 1989	The fall of the Berlin Wall in November 1989
ARPAnet network in academic utilization	Internet
The school kids sent silent SMS messages to each others during the lessons	Billions of SMS become a new business for the operators
Articles in small circulation underground nature periodicals	Violence attacks against fur farms

Some weak signals of e-Media could be for example:

- The high price of petroleum limits the massive journeys to shopping centre
- The oldies are not able to do much shopping trips
- The media companies build networks with chains of stores to keep advertisers as customers

Suggest some weak signals of e-Media, i.e. phenomena that could indicate a breakthrough of e-Business in media:

1.
2.
3.
4.
5.

4. Delphi study

The Delphi study is a method to sort out the opinions of experts on some specific themes, in this case e-Media. Each expert answers the questions. The answers are then collected and sorted in tables. The results are reported anonymously, often by medians. In this case the main point is to stimulate discussion about the future of e-Media. Our Delphi questionnaire is a shortened version of the method.

Volume of e-Business

Please, answer the following questions just as you feel is most likely to happen in the future. The volume is indicated by an index, which has the value 100 today. The index describes the total commercial volume of each sector of e-Business consumption expenditure in all the Nordic countries (Finland, Denmark, Iceland, Norway and Sweden).

GOODS AND SERVICES	2005	2010	2015
A. Consumables (foodstuff, drinks, toiletries etc.)	100		
B. Durables (domestic appliance, electronics, fitness equipment, etc.)	100		
C. Cloths, shoes, textiles etc.	100		
D. Medicines, healthcare service etc.	100		
E. Books, DVD, CD, movies and audio records	100		
F. Travelling, flight tickets, hotels, spas etc.	100		
G. Tickets for cultural events like theatres, concerts, operas etc.	100		
H. Gambling, lotto etc.	100		
I. Real estates	100		
J. Vehicles like cars, motorcycles, boats etc.	100		
K. Others, what?	100		
L. Others, what?	100		

The most important goods and service for e-Media

Please, also list up the most important consumption and service sectors for e-Business in media in the years 2010 and 2015 (you can use the same alphabetic symbols as above):

2010	2015
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Different media in e-Business

Please, list up the most important media in terms of volume of e-Business:

Media	Number in ranking list 2010	Number in ranking list 2015
Subscribed or bought newspapers (+Internet)		
Free newspapers (+ Internet)		
Magazines (+ Internet)		
Internet (per se)		
Interactive Digital-TV		
Radio (+ Internet)		
Hybrid media (e.g. newspaper + 2D codes for interactive communication or RFID tags)		
Other media, which?		

Other comments or opinions

--

Thank you for your answers!

Appendix 4: Full list of Megatrends

The original list of all respondents (A, B, C, D, E, F, G, H).

Respondent A

- Everybody has a mobile device with a pull out screen as large as a computer screen in her bag
- The wireless broadband will be at least 2 MB making it possible to see video on demand
- We will not subscribe to a morning newspaper any more
- Wikipedia will grow and will develop a business model with advertising
- All access to our PDA will be biometric saving us from remembering pincodes

Respondent B

- Combined e-Business in media: Information and reservation in e-Media, buying in traditional shops.
- 2D codes for e-Buying in every media ad.
- Alliances between media companies, retailers and logistic companies.
- Most e-Business performed on mobile phones.
- New value chains in e-Business: media-service provider-operator-banks; who takes the business?

Respondent C

- Mobile Internet solutions will grow big and take over from the wired connections
- Information through the Internet in better shape, better edited and for free
- All the media companies' activities will have links to the Internet and other e-media platforms
- Advertising will move over to the Internet at an increasing speed
- Only the best and biggest actors will make money in the future of e-media

Respondent D

- Wireless media in multiple channels. The coming of portable medias as a natural part of our media selection.
- Integration of media into our everyday lives. Media becomes a natural part of our cars, clothes and shopping.
- Self service culture and personalization. People choose more and more what they want to receive and at what time.
- E-terrorism. Escalating problems with viruses and spam also in e-media.

Respondent E

- Everyone has mobile communication devices, also for media consumption
- From market place to market space (= E-Business is growing activity)
- Print media remains for the elite, interactive digital media will become dominating for the middle class and white-collar workers as every days media
- The oldies are willing and can afford to buy through the internet a lot of things and services

Respondent F

- Voice control
- Simple and standardized operations/navigation (much more ergonomics behind designs)
- E-paper (electronic paper) will change the market communication opportunities and reading habits
- Intelligent Personal Selection filters to help me sort out what I am interested to see and read.
- New techniques to transmit feelings and smell

Respondent G

- Products and also services will be more produced in low cost countries. We focus more to innovations and create content.
- The oldies are the biggest age class and they need different kind of services to able them to stay at home as long as possible.

Respondent H

- Convergence (in distribution, platforms, firms etc)
- Regionalisation
- Social networks/communications
- Individualisation (personalisation)
- Commercialisation (the need to market products)

Appendix 5: Full list of Weak Signals

The original list of all respondents (A, B, C, D, E, F, G, H).

Attached is the original list as such of all respondents (A, B, C, D, E, F, G, H).

Respondent A

- Growth in Wikipedia
- RFID tags in everything
- Flexible soft screen technology
- Wimax technology for broadband
- Serious breakdown in teaching effectiveness

Respondent B

- 2D codes in most printed ads in Japan, already a break-through!
- Slowly increasing trend in the volume of e-Business in the Nordic countries.
- Most people ready to give their credit card's number for hotel reservation etc. Security no longer an issue.
- Travelling agencies are running out of business; people book their own flights.
- Big media companies and operators develop new digital content services.

Respondent C

- Technology that counteracts TV advertising
- A decreasing number of young people are reading newspapers
- The peer to peer technology and culture are indicating a future meeting between sellers and buyers with help of e-Media or without it
- The development of mobile broadband infrastructure
- Increased demands on time to market combined with shorter lifecycles for products

Respondent D

- Counter reaction. Withdrawal / isolation of some people in the society from the ever increasing information flow and increasing virus problems.
- Similar development in the media industry that is already showing some signs in the medical industry; media considered as "every man's right" which causes profound changes in the media and e-media industry.
- Integrating media into human body. Hands-free devices are teaching people how to wear media. More and more solutions that bring media as a part of our ears, eyes etc.
- Health-monitoring-media. As an extension to the above: people are getting more devices that feed information about them selves; what they're eating, what's their heart rate, are they tired etc

Respondent E

- Many people are not willing to spend time in big shopping centres. Some even hate the rush of the centres
- Advertisements are moving from newspapers and periodicals, even from TV, towards the Internet. Media needs innovative services to not loose the advertiser's money.
- The young ones are willing to test new media services
- The oldies of the future are used to use interactive electronic media

Respondent F

- A growing environmental awareness (will have a great impact on distribution and new taxes will change our habits)

- Communication with loyal consumer groups through Internet (this will open up for an intelligent communication with consumers)
- Banks are considering offering new services to simplify B-2-B and B-2-C transactions
- My mother - she is 82 - is enthusiastic about this media!

Respondent G

- Relationship between work and leisure will change. There are not any more time or place related. This means that services, media and so on should be available "all the time".
- Digi-TV (With Internet explorer) will be in every household in few years

Respondent H

- Growing generation of elderly people
- The power of the youth
- Political issues: war, terror etc.
- Increasing wealth in developing countries: Africa, China etc.
- Actions taken by the US