Value Creation in Business Networks: Suppliers' Articulation of Value Using the Internet

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Abstract:

Today, small and medium sized firms (SME) that collaborate in networks become more and more important to customers as an origin of innovations and new business. For SMEs the Internet complements traditional sales channels when customers select suppliers in a business-to-business context. The purpose of this paper is to examine how suppliers articulate and communicate their value offering via the Internet.

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This paper presents a framework to be used for the analysis of value offerings. Data was collected September-October 2003 from newly founded companies, located in three Swedish science parks and from the first visual page of the companies' official web site. The data was analysed according to two main categories: value types and value mechanisms.

Our findings show that the Internet is a marketing window, but in none of the studied cases a sales or distribution channel. A conclusion from our work is that companies that sell hardware are clearer in expressing their value offering, while service firms are less focused on what value they can bring to their customers.

Borttaget: *internet*

Key Words: value offering, value articulation, Internet, business networks.

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1. Introduction

Today, small and medium sized firms (SME) that collaborate in networks become more and more important to customers as an origin of innovations and new business. For SMEs the Internet complements traditional sales channels when customers select suppliers in a business-to-business context. Therefore, the suppliers' presentation of their value offering via the Internet is an important factor for obtaining new business. *The purpose of this paper is to examine how companies articulate and communicate their value offering via the Internet.*

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The concept of value is important when focusing on the customers' needs. The development of the Internet offers new possibilities to inform potential customers about the value offering, especially when buyers seek new products or services of strategic importance. The Internet makes business strategy more essential than ever (Porter, 2001). What is not very well known or yet covered in research is how well the web pages really communicate the business offering, and its value, to the perceived customer searching the Internet for suppliers. In essence, this paper will focus on how suppliers communicate the value offering to possible customers, as perceived from the customer side.

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In early phases of R&D, customers search for not explicitly specified resources. This may also occur when there are problems with existing suppliers. The use of the Internet could be an effective and efficient way to identify new suppliers. From both buyer and supplier perspective, the Internet can be seen as a shop window for exposure of company value proposition from different sides. A network of actors has the potential to generate new wealth and to transform the way business is conducted by delivering the value customers need and search for. A key aspect here is communication of the value offering and the technology used to do so among the actors. Information technology and electronic business incorporate new tools that can be used wisely or unwisely in a supply chain setting in almost any industry, and as part of almost any strategy (Chandrashekar and Schary 1999).

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2. Value Creation in Business Networks

In defining value, we begin by considering a vertical chain, or value system according to Porter (1980), extending from suppliers of resources to buyers of products and services from firms. Such a vertical chain of players as a whole creates value, and IT can play an important role in this (Chandrashekar and Schary, 1999). In particular the value creation depends on the characteristics of all players in the chain – suppliers and buyers. Focusing on value proposition and supply chain innovations, thus the overall perception is that value is created in collaboration (Fine 1998, Miles and Snow 1994). The overall perspective in business strategy is to regard each player's perspective. The question then becomes: How much value can that player expect to capture? As discussed in Brehmer and Sweet (2003), Rappaport (1992) and others the answer relies on the concept of "added value" from a player. This can be defined as the value created by all players in the vertical chain minus the value created by all the players except the one in question.

According to Normann and Ramírez (1993) the main question is not how to position the company in a value chain but rather how to gain knowledge and manage the relations surrounding the value creation activities. Labelled "value constellation", the emphasis is on reinvention and communication of value in the business network. Value creation is a combination of internal and external knowledge and competence delivered to the customer in all steps of the relationships from offerings via delivery to maintenance and return (Lambert and Cooper 2000), during the lifetime of the products and services for each customer.

Vargo and Lusch (2004) discuss that today relations, networks and communication are important aspects of marketing strategy independently of the companies' focus on products, services or a combination of the two. Arguing in the same line Stabell and Fjeldstad (1998) maintain that even if the activities are generic, the industry or the organizational structure influences how the value logic is built. Stabell and Fjeldstad (1998) identify three value logics, the value chain, the value shop and the value network, which all can be seen as, more or less, connected to the Normann and Ramírez (1993) value constellation.

Kommentar [AÖR1]: Both supplier and buyer are firms, we cannot talk about three categories without specifying the third in this case, can we? "1) suppliers, 2) firms, 3) buyers" Has any other author used the terms this way?

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Market offering and uncertainties

A market offering has two elemental characteristics for the customer: its value and its price. The difference between value and price equals the customer's incentive to purchase or use a market offer. Anderson and Narus (1998, p. 54) put this in the following equation:

$$(\text{Value}_B - \text{Price}_B) > (\text{Value}_A - \text{Price}_A)$$

Value_B and Price_B are the value and the price of the best market offer, which always is compared with the next best alternative, A, by the customer. Since both the price and the value are negotiable and both are influenced by a number of uncertainties, the exact calculation is difficult without understanding what different aspects that influence it.

Koopmans (1957) made a distinction between primary and secondary uncertainty. Secondary uncertainty arises "from lack of communication that is, from one decision-maker having no way of finding out the concurrent decisions and plans made by others". Primary uncertainty arises from "random acts of nature and unpredictable changes in concurrent preferences" (1957: 162-3). Williamson (1975) recognizes a third kind of uncertainty, what he calls behavioural uncertainty, attributable to opportunism. Uncertainty in the supply chain also makes information a valuable commodity (Lambert and Cooper 2000). Information about

which outcomes will occur, or are more likely to occur, will obviously have great value not only for the customer, but also for other parties in the chain.

Uncertainty of the business and the nature of the products and services offered have an impact on the supply chain structure (Fisher, 1997). Based on the demand, pattern products can be categorized as primarily functional or primarily innovative. Fisher argues that with their high profit margins and volatile demand, innovative products require a fundamental different supply chain than stable, low-margin functional products. Two distinct types of functions performed by a supply chain should be recognized, a physical function and a market mediation function. Of focus here is part of the market mediation function, ensuring that the variety of products and services that reaches the market matches the requirements and needs of the customer.

Value creation mechanisms

Value can be measured and perceived in a number of different ways even internally (Hines et al. 2000). What a supplier communicates to its customers might, or might not, be congruent with its activities, whether long or short term. In striving for profitability companies tend to focus on cost reduction, and cost sharing in business networks. However more attention should be directed towards the revenue side of business which the prize factor in Anderson and Narus (1998) equation is part of. We specify business value as consisting of both cost and revenue.

The value of a service or a product can be enhanced by a combination of **exploitation** (refining the present) and **exploration** (new thinking) (e.g. March, 1991). The value of an offer, including combinations of physical products and/or services can be increased by innovation in technology, processes or structures. The perceived value of a product or a service is linked to several different attributes, for instance: price, quality, image, and timing. All of these attributes will finally influence the total costs, including the need for resources and revenues.

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Cost reductions, process improvements, enabling higher market efficiency and service, new business structures, and integration, are examples of results that the customer can achieve, based on the suppliers offer. Cost reduction of various kinds focuses on achieving greater function for minimum life cycle cost by eliminating unnecessary production, delivery, and service cost without detriment to quality, reliability, performance, delivery, or safety. Berryman, et.al. (1998) discuss cost reductions through greater process efficiency. Amit and Zott (2003) discuss search costs, selection range, simplicity, speed and scale economics as important aspects in reducing costs. Two different types of cost reductions have been observed: operational costs (influenced by e.g. economies of scale) and purchasing costs. Brehmer (2002) discusses three processes in which improvements are beneficial for buyers and suppliers; speed up purchasing processes, improve trading processes, and improve transactions.

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Aldin, et al. (2004) discuss how improvements in one area may have domino effects in others which make effects of improvements on each player difficult to predict. Process improvements concern business and chain processes and their performance. A division into three main processes information, products/services, and financial, are predominate in value chain and supply chain management (Schary and Skjott-Larsen, 2001). A long-term perspective is that business structures are resources for innovation, enhanced consumer

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relations and service propositions (van Hoek, 2001). Integration of business processes among supply chain actors is a key aspect (Lambert and Cooper 2000). The suppliers can offer and enable re-engineering for competitive differentiation and improve focus on key competencies (van Hoek, 2001, Aldin et al., 2004).

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Dimensions for analysis

A supplier can communicate what type of value it offers and what basic mechanism that is used to create this value. Around these two dimensions we have created our framework to be used for the analysis of value offerings (see figure 1). The value a supplier offers its clients can reduce the customer's costs or increase the customer's revenues. From the previous discussion a number of examples on how suppliers can create advantages for the buyers can be identified, such as integration, transparency, differentiation and modularisation, speeding up different activities (e.g. design, engineering, production, delivery).

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Two different generic value creating mechanisms have also been observed: exploitation (efficiency) and exploration (innovation).

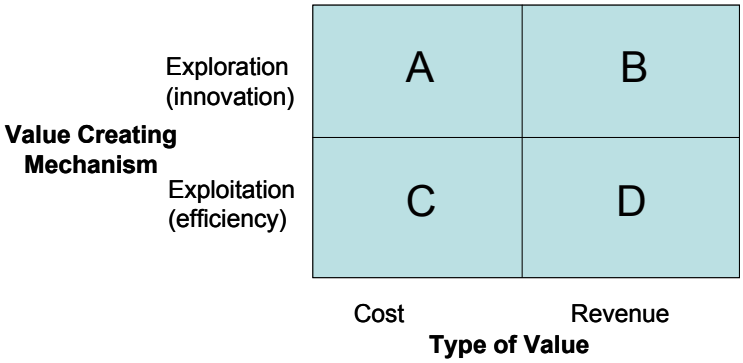

Figure 1: Supplier's value creating mechanism and type of value for the customer

Kommentar [AÖR3]: Är det så vi menar, eller gäller "mechanism" också för köparsidan, gäller "value" också för säljarsidan???

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Related to the matrix in figure 1, the purpose will be addressed by:

1) Identifying how suppliers communicate in which ways their potential customers can save costs or increase revenues, i.e. *value type*, by choosing that very supplier, and
2) Identifying how suppliers communicate through which main *value mechanisms* the value will be created, e.g. if the supplier is more prone to radical innovation or to more incremental improvement.

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3. Method and empirical context

In this paper we work with the assumption that a company's publicly available stated business mission and Internet marketing material is an important way of communicating a company's value offering. As we search for *innovation in business networks*, we also assume that the value offering for companies in early phases of the R&D process is of particular interest for our purpose. Therefore we have directed our attention towards newly founded companies, located in three Swedish science parks. Science and technology parks are high technology environments that actively stimulate knowledge and research based enterprise development (Lindholm, Dahlstrand and Klofsten, 2002).

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Furthermore, we have limited our selection of firms to those with more than 20 employees. The data is collected from the first visual page of the companies' official web site. The companies studied are listed in Appendix 1. The information collected (business ideas or likewise) has been analyzed based on the matrix in figure 1. We have interpreted the information from a potential customer's perspective.

Data was gathered during September-October 2003. We understand that web pages constantly change, but as we returned to the studied firms' current web pages during the analysis process spring 2004, we observed that they often were left unchanged during this period of 6-9 months.

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4. Analysis

If sales are to support the commercial and technical survival of a firm, it must adapt to the changing nature of products, services and process technology and communicate what its offer in a clear manner. As described in the frame of reference, we chose two pairs of expressions for analysing the data on how companies express value. These were value types in terms of *costs* or *revenue*, and value building mechanisms in terms of *exploration (innovation)* and *exploitation (efficiency)*. Using our framework on the studied companies we got an outcome as presented in figure 2.

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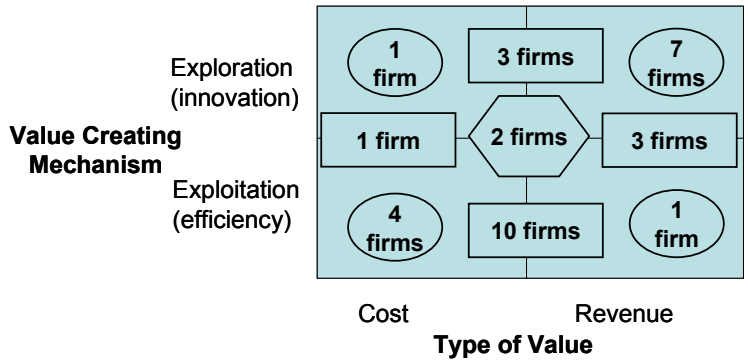

Figure 2: Outcome value creating mechanism and type of value

The analysis is based on our interpretation of for example the company's business idea statements, slogans, etc, which we have sorted into the main categories for value types and value mechanisms. The figures indicate the number of companies that were classified according to our matrix dimensions. A large portion of the companies were difficult to put in only one specific quadrant, and they ended up in two quadrants, or on a border-line between quadrants in the matrix above. For example, 3 companies were classified as communicating exploration and both cost and value, placing them across the border-line of type of value.

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How companies express value

We focus on the most commonly used expressions and each sub-category will be discussed *per se* below. The analysis revealed some overlap between the four quadrants and that the communication consisted of implicit expressions. Some typical examples of each square is summarized in figure 3.

Cost - seldom expressed:

Remarkably few of the business ideas expressed costs explicitly, 'Cutting costs', by Intentia, is a clear message. However, 'Minimizing your own competencies', Cella Vision and 'User friendly', Precise Biometric, are examples of expression that we interpreted as linking to the cost metric. That cost reduction is rarely expressed may be related to either a general awareness of its importance or that it is expressed in related terms. In the first situation it means that the companies see cost as a basic value, a qualifier for being on the market, and of minor importance to communicate. To gain customers and build commercial relationships other metrics are in focus, which by some companies are expressed in efficiency, e.g. 'Increased efficiency', WM-Data and 'A more resource efficient world', Ericsson. Efficiency incorporates cost aspects as well as lead-time, delays and capacity related aspects, which we have found in our material and classified as linking to cost.

Revenue – towards taking the business network into account:
That the companies supported customer competitiveness, profits, and even revenues were addressed directly or indirectly by several companies, e.g. 'Increase the customer competitiveness', Cendio Systems. Another term often used which incorporates revenue as well as cost aspects is effectiveness, which by companies also was linked to expressions such as developing solutions, increasing capacity and competence, e.g. 'To provide flexibility, competitive advantages and cost advantages', Flextronics. In these companies the focus is not only on one actors benefit, but on the business network's total cost. Even if cost is part of a company's expression we linked it to revenue if the main idea of the expression was related to strengthening customers' competitive positions.

Exploration (innovation) – indirectly challenging the present:
With a focus on three science parks it is not unlikely that innovation is widely used in the companies communication, e.g. 'Innovative technical solutions', IVP, 'Technology platform to realize the innovations of innovators', BioInvent International and 'From innovative thinking to effective pharmaceuticals' AstraZeneca. But it is also indirectly expressed as e.g. 'A pioneer and technology leader', Autoliv Electronics, 'Cutting edge solutions to obtain global leadership', Sectra and "Commercialising research", Acreo. The expressions used are very much the same and aim at communicating that the companies represent a new thinking in the industry, discover new possibilities, focus on advanced products and services, and incorporate an entrepreneurial working style. Indirectly, it is pointing at their competitors, stating that this company challenges the present standard in its industry, compare to its competitors.

Exploitation (efficiency) – predictable improvements:
Expressions such as 'Wide range of complete platform solutions', Ericsson Mobile Platforms, 'Methods and processes to automate routine work', Cella Vision, and 'Increase capacity, performance and accessibility', Apptus Technologies, communicate efficiency. The focus is on refining present products, services, processes, and technology or work procedures, aiming for incremental improvements. For companies providing methods, wide product ranges, complete solutions and support words such as "modern", "tested", and "effective" are used to impose that the company offer is state-of-the art.

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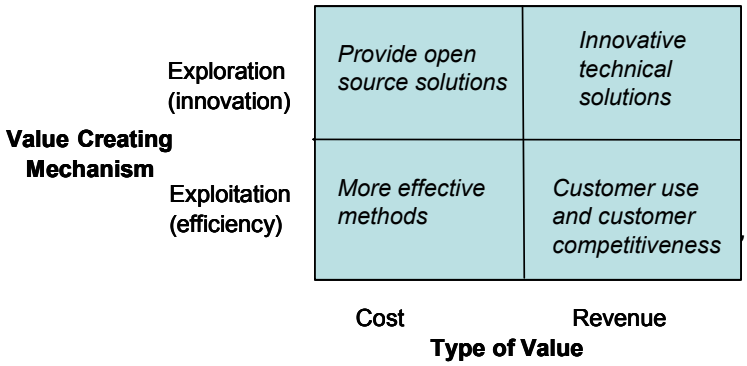

Figure 3: Examples of value expressions

Three main groups of business offer

From our classification in Figure 2 and 3 we can identify three groups of companies that are some what larger than the others; B (7 firms), C (4 firms) and C-D (10 firms). In the B-quadrant the companies are positioned as innovative and revenue focused and a majority of the companies (4 out of 6) are active in the medical industry. In the C-quadrant the companies are positioned as cost and efficiency oriented and 2 out of 4 are classified as involved in design/realization processes.

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Borttaget: From our point of view the characteristics of these quadrants together with how the companies position them selves seems as logical – efficiency and cost on one side and innovation and revenue on the other are logical couplings.

If we focus on the companies that has been clearly classified into one single quadrant in figure 3 the following pattern emerges: those who seem to use exploration (innovation) as a value creation mechanism emphasise revenue in their value offering (B) and those who seem to use exploitation (efficiency) emphasise cost as a value offering (C). This pattern is logical since the value creation mechanism and the value offering are matching each other and this could be compared with discussion Fisher (1997) made about the matching of type of product (innovative or functional) and type of supply chain strategy (efficient or responsive). Fisher (1997) further argues that there must be a match between the supply chain strategy chosen and the type of product produced, i.e. an innovative product (with e.g. short product life cycle, high product variety and high margins) should be supported with a responsive supply chain (with e.g. focus on short lead times and postponement). However, the same logic is applicable to the way a company markets itself.

A more interesting result is that the largest group of companies, 10 companies, is within the exploitation area and covers both cost and revenue as value offerings (Porter 1985), as many as one third of the companies (10 out of 33) were classified in this area (C-D). This is a contrast to Fisher´s (1997) main idea about match and mismatch, and if a clear link between value creation mechanism and type of value is important, the C-D companies may be in trouble. However, it is not necessarily so since it could be argued that improvements in different areas can support each other (this is valid if process logic is applied instead of a product positioning logic). According to Abrahamsson (2002) most companies are efficient both in marketing (positioning) and in production and supply management (e.g. cost and lead time reductions) but marketing and operations are not coordinated. Abrahamsson (2002) argue that market driven strategic positioning and the low cost driven operational improvements have been carried out independently and with different goals. However, the C-D companies communicate a clear ambition to contribute to both cost and revenues by offering efficient processes. Normann and Ramirez (1993) also maintain that a supplier's

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value process, following the value constellation idea, is based on the needs of the customer, which this study supports.

If we take a deeper look at the C-D companies we can see that a majority of these companies (6 out of 10) are focusing on design/realization and by acting as IT and/or computer consultancy firms. Of the remaining 4 there are 3 software companies focusing on development and implementation of business systems. These companies also have a clear focus on services rather than on traditional products. From a value perspective (creation mechanism as well as offering) a service centric company in this study tends to capture both cost and revenue in their communication (or communicated business model).

5. Conclusions

In times of rapid changes, the Internet could be seen as a snapshot shop window and by that communication in the Internet market channel could rapidly change. But it is important that the buyer can see long term advantages of the supplier offer and the related collaboration. Vandermerwe (2000, p.28) states that 'firms that understand and embody the vital components of customer focus can move ahead in a way that makes it difficult for others to catch up'. This is an advantage of equal importance for the buyer, since the competitive strength is more and more based on the competences and knowledge of potential suppliers. Even if our purpose not has been to follow the companies' web pages over time, we do not see any changes in communication content. The web pages seem to be a stable communication channel.

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A conclusion from our work is that companies that sell hardware are clearer in expressing their value offering, while service firms are less focused on what value they can bring to their customers. Our three main groups B, C and C-D contain both product and service companies, which is in alignment with Vargo's and Lursch's (2004) argument that from a marketing perspective the difference between services and products is diminishing. However, companies focusing on services instead of traditional products can be more flexible in their communication by using value offers covering a wider range. Cost and revenue aspects are used almost in the same sentence. Moreover, large firms such as Ericsson, which have a broad spectrum of services and products, are also unclear in expressing their value offering.

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Companies' expression of their offering on web pages is variants of their marketing material. Our findings show that the Internet is a marketing window, but in none of the studied cases a sales or distribution channel. A rising question is if it is possible to develop the web pages in this direction. Are customers interested in purchasing innovative products and services via the Internet? Using Kraljic's (1983) well used model for describing purchasing of industrial goods based on the economic importance and the supply risk associated with the purchased product suggests four strategic alternatives. The strategies for strategic and bottleneck products involve close collaboration so that the characteristics of a dedicated communication solution, e.g. of EDI type, are well suited for these products and services. They also have such a high relational content that the whole process is not suitable for digitalisation, which means that for exploration focused companies this development is unlikely. For the leverage and routine product categories, e.g. MRO (Manufacturing, Repair, Operations) products, it is easy to see that there is a better fit between the capabilities that can be built into a distribution and sales channel. For these well-defined and standardised products the development is likely to involve using the Internet to enable a hybrid of electronic and physical interfaces with the customer.

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As Andersen and Narus (1998) discuss the relationship has to be part of the value creation process. For value creation to occur four ingredients has to be taken into consideration; revenue increasing advantages of the offer for the buyer as well as for the supplier, and the associated cost of the supplier as well as the buyer. For the purpose of this article, focusing on how firms articulate their value towards potential buyers, we have limit our analysis to buyers' value creation communication. Which main advantage that occurs for the buyer is depending upon the content of the offer, its time perspective, and the offer complexity (Fine, 1998).

Finally. In order to understand how suppliers fulfil customers' expected value creation we need to study several business processes between firms collaborating in the supply chain (Lambert and Cooper 2000), but also risk sharing, e.g. how innovation costs are shared. This paper is a first step in this process, as it aims at describing and better understanding the communication of value in one exchange step. In the case of close supplier relationships, joint development of new technology can provide mutual opportunities for improving the competitive advantage. The managerial challenge is to strive towards innovation and realisation processes where several companies in networks are interacting and co-operating independently of geographical distance and cultural background (Helper 1996). The impact of information technology differs depending on the complexity of the product and the business network belonging to the product.

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Appendix 1 List of companies

Company	Industry	Est.	Internet
Acreo	Research and Development	1996	www.acreo.se
Anoto	Data/Telecom development	1999	www.anoto.com
Apptus Technologies	IT consultancy	2000	www.apptus.se
Astra Zeneca	Pharmaceutical	1913	www.astrazeneca.se
Autoliv Electronics	Automotive electronics	1937	www.autoliv.com
BioInvent International	Pharmaceutical	1997	www.bioinvent.se
Cefar Medical	Medical equipment and technology	1992	www.cefar.se
CellaVision	Medical equipment and technology	1994	www.cellavision.com
Cendio Systems	Software development	1992	www.cendio.se
Combitech Systems	Technical consultancy	1985	www.combitechsystems.com
Decuma	Software development	1999	www.decuma.com
Enea Epact	Technical consultancy	1992	www.epact.se
Ericsson	Telecom development and production	1952	www.ericsson.se
Ericsson Mobile Platforms	Telecom software development	1999	www.ericsson.com/mobileplatforms
Flextronics AB	Contract manufacturing	1995	www.flextronics.com
Industrial and Financial Systems	Enterprise software development	1968	www.ifsworld.com
Integrated Vision Products AB	Processing of digital images	1985	www.ivp.se
Intentia	Enterprise software development	1990	www.intentia.com
Karo Bio	Biomedicine	1987	www.karobio.se
Kreatel Communications	Data/Telecom innovations	1995	www.kreatel.se
Medivir	Pharmaceutical	1987	www.medivir.se
MG Instrument	Contract manufacturing	1980	www.mgi.se
Precise Biometrics	Security and identification systems	1987	www.precisebiometrics.com
Prevas	Data/IT consultancy	1984	www.prevas.se
Probi	Biotech	1991	www.probi.se
QlikTech International	Software development	1993	www.qliktech.com
RKS AB	IT consultancy	1986	www.rks.se
SaabTech	Defence industry	1993	www.saabtech.se
Sectra AB	IT and Medical Systems	1957	www.sectra.se
Teleca AU-Systems	IT/Telecom consultancy	1985	www.teleca.com
Teligent	Data/Telecom development	1990	www.teligent.se
Virtus Östergötland	IT consultancy	1994	www.virtus.se
WM-data	IT consultancy	1969	www.wmdata.se

Borttaget: Internet