

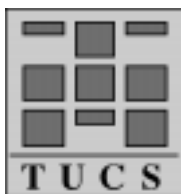
European SMEs and Electronic Commerce - A Seller's Perspective in Business-to- Business Operations

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Abstract

Small and medium-sized enterprises (SMEs) are of great importance for European economies. Large company downsizing increased sub-contracting and networking are but a few phenomena that have shaped the European economies during the last decades. A rapid technological development has introduced new ways of conducting business operations. One example of this recent development is Business-to-Business Electronic Commerce, which has been dominated by large enterprises. In this article, we present the possibilities for SMEs in this area of business. SMEs can lower their transaction costs by the introduction of Business-to-Business Electronic Commerce and/or create and strengthen relations with its customers. There are many obstacles for SMEs in developing their Internet-operations and, therefore, we present an ideal framework for addressing these problems.

Keywords: Business-to-Business, Electronic Commerce, SME

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1. SMEs in Europe

In this paper, we touch on a recent phenomenon, Internet-based electronic commerce, from European and especially from Finnish perspective. The use of Finland as an example is due to the fact that Finland is a high tech country with one of the largest active Internet usage. There are many regional and national differences in Europe. Therefore, we must not generalise all the conclusions to be valid in all parts of Europe.

Today, the importance of small and medium-sized enterprises (SMEs) cannot be ignored nor do SMEs themselves need to stress their own importance. SMEs provide economies with employment and economic growth. However, the classification of and interest in smaller companies is a recent phenomenon. Different classifications based on size criteria gained increased attention in the 1970s. Classification was needed when economies started to develop their SME policies, statistics were developed and small business research started to emerge. The oil crises changed the views of many national and international bodies, which were involved in the world trade. It became apparent that small companies are more flexible in crisis situations. At the same time larger companies started to diversify, downsize and out-source their operations. (see Landström et al. 1997)

In the following we employ the EU definition of the SMEs which includes¹:

- Employees less than 250
- Turnover less than 40 million Euro
- Balance sheet less than 27 million Euro
- Large company ownership of the SME cannot exceed 25%

SMEs can be divided into the following categories:

- Sole entrepreneurs (self-employment)
- Very small companies (micro) employing less than 10 people
- Small companies employing less than 49 people (10-49 people)
- Medium-sized company employing less than 250 people (50-249 people)

In the following we present statistics about European SMEs to underline the importance of the SME sector for European countries. In table 1 we have collected the number of companies in different size groups in Europe. It shows that large-scale enterprises (LSEs) amount only for a small portion of European companies as far as the number of companies is concerned. The share of SMEs of total number of European companies is as high as 99,8%.

¹ It should be noted that when defining a company based on size criterion (number of employees) one must be careful. Company size differs from one industry to another. For example a hairdresser with 70 employees is a huge hairdresser. A telephone manufacturer with 270 employees is a small telephone manufacturer

	Micro	Small	Medium	LSEs	Total 000's
Austria	86.1	10.8	2.4	0.6	220
Belgium	96.5	2.9	0.5	0.2	800
Denmark	92.4	6.3	1.1	0.2	230
Finland	94.4	4.5	0.9	0.2	205
France	92.9	5.8	1.1	0.2	2,085
Germany	88.1	10.0	1.5	0.4	3,440
Greece	97.0	2.6	0.4	0.1	580
Ireland	89.8	8.0	1.6	0.6	80
Italy	94.4	5.1	0.5	0.1	3,345
Luxembourg	84.2	12.4	3.0	0.4	15
Netherlands	90.5	7.7	1.4	0.4	530
Portugal	93.8	5.3	0.9	0.1	690
Spain	94.9	4.4	0.6	0.1	2,335
Sweden	91.0	7.4	1.3	0.3	285
UK	94.5	4.7	0.7	0.2	3,760
EU	93.0	5.9	0.9	0.2	18,590

Table 1: The share of the number of companies in different size groups within the EU in 1996 (%). Source: The European Observatory for SMEs.

According to the table 2, one third of the employment in Europe is in the very small companies. The LSE share is also one third.

	Micro	Small	Medium	LSEs	Total 000's
Austria	25	19	21	35	2470
Belgium	48	14	11	27	3835
Denmark	30	22	18	30	1590
Finland	23	16	17	44	1030
France	32	19	15	34	15310
Germany	24	20	14	43	29090
Greece	47	18	14	21	1585
Ireland	18	16	14	51	840
Italy	48	21	11	20	14040
Luxemb	19	26	29	29	155
Netherl	26	19	15	40	5295
Portugal	38	23	18	21	2800
Spain	47	19	12	21	10910
Sweden	25	17	16	41	2030
UK	31	16	12	41	20420
EU	33	19	14	34	111405

Table 2: Percent employment share in different size groups within the EU in 1996.
Source: The European Observatory for SMEs.

Interestingly enough, an average European company is employing only 6 people (table 3). However, LSEs, by nature, are dominating the European employment scene in many countries.

Country	Average size	Size-class dominance*
Austria	11	SME
Belgium	5	VERY SMALL
Denmark	7	SME
Finland	5	LSE
France	7	LSE
Germany	8	LSE
Greece	3	VERY SMALL
Ireland	11	LSE
Italy	4	VERY SMALL
Luxembourg	12	SME
Netherlands	10	LSE
Portugal	4	SME
Spain	5	VERY SMALL
Sweden	7	LSE
United Kingdom	5	LSE
EU	6	LSE

Table 3: Size-class structure by country in the EU.

(* Which size-class has the largest share of employment)

Source: The European Observatory for SMEs.

As indicated previously (see tables 1-3), European companies are small and, therefore, have limited resources. Despite of the increasing efforts for a single market within the EU, small companies are usually locally strong and nationally or internationally weak. We strongly believe that competition will open up opportunities for SMEs within the European market but a large proportion of SMEs will stay local, especially in the case of very small companies or sole entrepreneurs. Consequently, the Internet could provide the SMEs (and especially micro companies) with a tool for internationalising without ignoring the local markets. Additionally, we assume this proposition to be valid also in the business-to-business sector.

New business-to-business (B-to-B) services together with increased sub-contracting create new markets for SMEs. There will always be niches that large companies are not interested in. Innovative SMEs can take advantage of such market opportunities and, consequently, improve the use of their limited resources. Despite of the fact that small companies are locally strong, they are going international with an increasing speed. Another tendency has been discovered by marketing research (see for example Möller 1992 , Grönroos 1994 or Gummesson 1997), namely the fact that in B-to-B exchange companies are forming longer-lasting and mutually beneficiary relationships with other organisations (networking). Sub-

contracting can be seen as a form of networking. A large number of small companies are formed with sub-contracting as their single business idea. Therefore, new forms of companies as well as new forms of co-operation between companies have emerged (see Murto-Koivisto et al. 1996). It can even be argued that these new forms of co-operation are a necessity if Europe wishes to stay competitive in global markets (Johanssen et al. 1999). Consequently, new markets (the Internet, single European market: Euro) have become available for increasing number of companies and customers. Therefore, the changed situation both from the organisational and structural perspective rises interesting issues for research.

Most of the discussion about current electronic commerce has revolved, however, around business-to-consumer electronic commerce. Success stories of upstart companies like Amazon.com are well known but the business-to-business side of discussion has been largely neglected (Timmers 1998, Charlton et al. 1998). Also, it must be noted that the Internet is still more widely used for obtaining product information than for actual purchases (Zimmerman and Mathiesen 1998). Sectoral differences are notably large as far as electronic commerce is concerned (IT sector vs. more traditional sectors). There are naturally differences within a given sector as far as the company size is concerned. A company of ten employees differs to that of 200 employees. Consequently, one must be careful when generalising research findings based on different markets, sectors and size categories. Large companies usually have a wider range of marketing resources and know-how than SMEs. Therefore, there is a need for evaluation of more traditional SME sectors vis-à-vis electronic commerce.

The aim of this article is to describe the possibilities and problems of electronic commerce from the SME and especially very small company perspective. Additionally, the goal is to discuss about the improved usage of SME limited resources in the B-to-B electronic commerce and, therefore, we present some normative suggestions for SME managers.

In the following our point of departure is the perspective of the seller due to the fact that we are interested in individual company (SME) perspective. We acknowledge that business-to-business exchange is commonly referred to relationship marketing². Business-to-consumer marketing is more managerial by nature (transactional)³. However, typical SME business-to-business exchange has elements from both mentioned approaches and they are both illustrated in this article. In this article a 'customer' is defined as a company in vertical marketing channel. 'Suppliers' refer to horizontal exchange relations. Electronic commerce is defined in this article as commerce, which is conducted with the help of Internet technology.

² See Grönroos (1994) or Gummesson (1997).

³ See Grönroos (1994) or Möller (1992).

2. Internet-based Electronic Business-to-Business Commerce in Europe

2.1. Requirements for the General Adaptation of Electronic Commerce

In Europe, there are a lot of peripheral regions that are not easily or fast accessible by conventional means from the business centres of Europe (such as Germany, Belgium, The Netherlands, and France). The Internet could serve as a tool for these regions to be present in the market. Berthon et al. (1998) compare the Internet with a 'trade show' as they analyse the industrial marketing in the Internet. For European SMEs in the periphery (Scandinavian countries, Scotland and the island of Ireland, Greece, Portugal) effective communication tools and infrastructure (mobile phones, Internet access, software etc.) are improving the possibilities for these SMEs to attend the 'virtual trade show' easier. Therefore, it is not surprising that remote countries like Iceland and Finland are leading countries as far as the Internet connections per capita is concerned. In January 1999, there were 7,262,059 European hosts connected to the Internet. There has been an increase in the general knowledge of the Internet as a new medium. Personal use is continually rising and the demographics of the Internet-users have become more representative of the general public. For example in Finland, there are about million Internet-users who use the Internet weekly⁴ (out of total population of 5.1 million). This can partly be traced back to the decreasing costs of the Internet access and the encouraging governmental policies on Internet-usage (Guay and Ettwein 1998, Taloustutkimus 12/98, www.stat.fi).

In the whole EU area, 16 people per 1000 inhabitants (1,6%) had access to a computer connected to the Internet in January 1999. The number of connections is rising rapidly, as well as the usage of the Internet for commercial purposes. Another example of improved communication in the remote areas of Europe is the number or density of mobile phones. In Finland, the leading country in the world in this respect, there were approximately 3,1 million mobile phones in use in April 1999. This represents over 60% of the whole population of the country. In August 1998, half of the Finnish population had a mobile phone and for the first time, the number of wireless mobile phones exceeded that of the landlines. Moreover, presently the majority of the turnover of Finnish telecommunication companies consists of wireless communications. Therefore, the density of mobile communication has risen rapidly. Sweden (53%) and Norway (49%) are the next countries as far as mobile phone density is concerned. (<http://www.mintc.fi>, Lyytinen and Goodman 1999) To sum up, improved communication technologies have lead to a rapidly increasing number of providers and users. Internet and mobile communication are also merging in the form of WAP⁵.

According to a recent Finnish study (<http://www.taloustutkimus.fi>), 90% of Finnish companies employing over 100 people had an Internet access. About 70% of the SMEs (in this particular study 5-249 employees) had Internet access. One fourth of the companies employing less than 4 people had an Internet access. An own WWW-site was created by

⁴ This figure is composed of all types of Internet access, i.e. home, work, public accesses (libraries etc.).

⁵ WAP is an acronym for Wireless Application Protocol.

two thirds of the companies employing 100-249 people. One can conclude that Finnish SMEs have been active in obtaining a net presence. However, the electronic commerce has not been on the agenda for SMEs as strongly as their Internet presence (see Berg and Karttunen 1998).

2.2. Electronic Commerce – Current Situation

The rapid technological developments and an outstanding ability to transform technological advances into products for the masses have fuelled the information technology (IT) industry into one success after the other. However, with increasing competition and the emergence of electronic markets, of which the World Wide Web (WWW, the Web) is the most spectacular, technological excellence is no longer enough. The Web has opened up a whole new business arena with profound consequences for business practice and research (Glazer 1991, Benjamin and Wigand 1995, Rayport and Sviokla 1995, Hagel and Rayport 1997, Angehrn 1997, Hoffman and Novak 1997, Brännback 1997, Brännback and Puhakainen 1998a,b).

It is estimated that although the number of consumers on the net by the year 2000 could be several hundred millions the business-to-business part will constitute the larger part of electronic commerce. In the following we present some estimates by Timmers (1998):

- B-to-B electronic commerce is 327\$ billion in the year 2002
- 630 000 US companies and 245 000 European companies involved in full-fledged integrated B-to-B electronic commerce by the year 2002
- B-to-B penetration rate will grow from 10 % today to 90 % in 2001

Internet-technology allows especially SMEs with possibilities not previously available (Peypoch 1998, Leidner 1999). When compared for example to traditional EDI⁶, Internet-technology has many advantages. EDI requires considerable initial technology investments and costs (communications and messaging fees, hardware, systems integration costs, translation software etc.) to link to finite number of buyers and sellers. EDI has generally been inaccessible for most companies because of the complexity and cost-intensive investment associated. For example only 2 percent of US companies are using EDI. Adding more participants to EDI is also often more costly and technically challenging as opposed to adding new members to Internet-based E-Com, usually found in the form of Extranet (Peypoch 1998). The costs associated to EDI also make EDI an impractical solution if the volume and monetary value of transactions between companies is relatively low.

There is a visible lack of theories, models and frameworks usable in planning Internet-presence. This phenomenon is especially visible with the SMEs and the Internet. The fast changes in the Internet-environment and also widely differing operational environments between companies in the Internet have prevented the creation of a usable framework or model for evaluating SME-focused Internet-operations and electronic commerce activities. (See Puhakainen and Brännback 1998)

⁶ EDI is an acronym for Electronic Data Interchange.

In the following sections present common challenges and possibilities for SME B-to-B electronic commerce. Though not definite, we believe that pinpointing these, in our minds the most relevant factors will be valuable for both SME managers as well as researchers. Our focus is mainly on aspects, which companies can have an effect on and, therefore, for example developments in infrastructure, where typically the role of an SME is that of a pure observer, are not included.

2.3. SMEs and Electronic Commerce

2.3.1 What Can the SMEs Benefit from B-to-B Electronic Commerce?

The usual reason behind using the Internet as a B-to-B tool or just establishing Internet-presence has been “because our competitors are doing this” (Sterne 1995, 1996, Angehrn 1997). A Company can, however, very rarely obtain long-term benefits by just copying competitors’ service. Therefore, a more comprehensive analysis must be conducted prior to entering the age of electronic commerce (E-com).

One good reason to start B-to-B E-com is to try to make single transactions as easy and cost-effective as possible (see for example Kalakota and Whinston 1997). When considering the amount of time companies are using in handling small, routine purchases it is obvious that a new way of purchasing could lower the transaction costs (Kalakota and Whinston 1997). An example of this could be a customer-specific WWW-page, which is connected directly into the company’s selling/inventory maintenance system. With a customer specific WWW-page the customer can immediately examine various product availability levels and customer specific prices. With the technology available this can be done fairly easily and the customer can order routine-like purchases without contacting the seller (see for example Kalakota and Robinson 1999).

Another reason, although not necessary one in gaining long-term benefits, is the willingness to offer this kind of service before the competitors, in other words to be a pioneer. Competitors will probably enter the digital market eventually but being the pioneer can still be quite successful. There is always a barrier to change to a new service so that the innovating company can enjoy the position of a market leader for a period of time (Kalakota and Robinson 1999, Shapiro and Varian 1999). However, we acknowledge the fact that being a pioneer might be a costly exercise.

The Internet can also broaden company’s markets geographically. The very nature of the Internet is global and some business-to-consumer success stories have shown that it is possible to reach global markets (for example Amazon.com). This should, in our opinion, not to be the aim when commencing B-to-B electronic commerce activities. There are, of course, exceptions but venturing to global electronic business without mastering regional or national electronic commerce is a quantum leap (Puhakainen and Brännback 1998). We suggest that SMEs should start their E-com operations with a customer base that they have the most information of, i.e. usually the local markets. This is due to the lack of resources

and know-how of global markets. Therefore, it is easier (and often less risky) to learn to master a new sales channel locally. Eventually, it might be possible to transfer the obtained knowledge to national and global markets, if these are seen as viable target markets.

There is also a notable difference between a company that is mainly an exporting company and a sporadic exporter, which wishes to gain extra revenues by exporting (Samiee 1998). Similarly, a locally strong company could try to benefit from the Internet by networking with foreign companies (Peattie and Peters 1997) and, thus, mainly acting locally but thinking globally (Johanssen et al. 1999).

2.3.2 What Are the Target-groups?

A crucial question when planning the Internet-presence is whom to target. It is possible to adapt a non-targeted approach, i.e. to start the Internet presence without planned target audience. This can be a good approach for major corporations who manage brand advertising as part of their normal operations (Zimmerman and Mathiesen 1998). Non-targeted approach is, however, usually expensive and, therefore, out of reach for SMEs. It does also not fit very well to business-to-business operations, where the aim is often to establish inter-organisational relationships.

It is easiest and cheapest to target first the company's existing customer base. Company has information on whom to target and has means to reach them (Puhakainen and Brännback 1998, Kalakota and Robinson 1999). Individual customer's purchasing history, pricing, delivery information and contact persons are also known by the seller. This approach can give multiple benefits:

- Lower the transaction costs of simple, routine-like purchases (see for example Kalakota and Whinston 1997).
- Show to customers a willingness to offer new forms of service.
- New possibilities in customer service and more generally, in customer relationship management. In practise, inter-organisational exchange starts with easy and cost-effective transactions where the role of E-Com systems is notable. As a result, it is possible to focus later more on strengthening of other elements of exchange relationships (Kalakota and Robinson 1999).
- Possibilities for new products and/or product add-ons, which can be wholly or partially transmitted through the Internet (Angehrn 1997, Shapiro and Varian 1999). Because customer's purchasing history is known it is very cost-effective and convenient to offer digital add-ons or complementary products through the Internet.
- Starting with a new medium usually involves a need to continually improve systems. This is most feasible with existing customers. The risk of customer defection is low compared to a situation where all of the targeted customers do not have any relationship with the company. Improving the systems with existing customers also mirrors the image that a customer is a valued partner (Peppers and Rogers 1997, Puhakainen and Brännback 1998).

A second group that can be targeted are the companies that are not classified as loyal or regular customers, but have some mutual history with the company. With new customer

focused systems it could be possible to turn irregular customers into loyal ones i.e. strengthen the relationships. This is a valid assumption especially when the competitors have not yet entered the Internet or when the quality of company's system exceeds the systems on the market (Brännback and Puhakainen 1998b). Additionally, companies known to be potential customers but with no mutual history with the company in question belong to this category.

The third group consists of companies that a company has no knowledge of. A company can target also unknown companies but that usually involves costly marketing activities to inform potential customers about company's Internet-presence. Gaining additional customers is possible through their finding company's Internet-site by themselves, either by actively searching for the company or by company's presence in related sites (for example in the local chamber of commerce-site).

Above-mentioned classification is not based on any geographical base. A customer belonging in any of these three groups can be a regional, national or global customer. However, usually the possibilities in getting global (and sometimes also national) customers diminish when moving from the first group to the third.

We must note that customers are not the only target-group. Companies can effectively obtain benefits from Internet-technology also in their supplier relationships (see for example Shapiro and Varian 1999) or internally by boosting the flow of information within the company (Brännback and Puhakainen 1999a).

2.3.3 What Added Value?

Having a clear reason or reasons to establish Internet-presence and knowing the target-groups is not sufficient if a company cannot offer the target groups any added value with the E-com system (see for example Kalakota and Robinson 1999). However, if the system is jointly developed with customers it can add value without further development, at least for a time being.

Generally, Internet-based electronic commerce systems can create added value:

- Because the service is open 24 hours a day. A customer can choose the most convenient time to do business. This is especially important with multinational systems when customers' office-hours can differ greatly depending on the area of location (Sterne 1996, Kalakota and Whinston 1997, Puhakainen and Brännback 1998).
- By saving customers' time by making the ordering process simple and effective. It can also lead to savings (Puhakainen and Brännback 1998, Kalakota and Robinson 1999).
- By always giving correct, up-to-date information about products, services and prices. Paper catalogues are often out-of-date, but with a well-designed Internet-site a customer can expect up-to-date information and personal pricing (Puhakainen and Brännback 1998, Kalakota and Robinson 1999).
- By personal suggestions based on a purchasing history. Mass customisation is easy with WWW-applications. Mass customisation means that a company can broadcast personalised messages to different target-groups, usually through the Internet by

showing different prices, products etc. to various customers (Feinberg and Eastlick 1997, McKenna 1997). It is easy to broadcast personalised information because all information is based on the same database, thus enabling personalised content to different customer-groups or even to individual customers (see for example Sterne 1996, Kalakota and Whinston 1997).

We do not, however, want to give an impression that a company should deal with its customers solely through electronic systems. It has been suggested that a company should always be in contact with its customers also by conventional means. A dialogue with customer is essential (Blattberg and Deighton 1991) for in the Internet it is very easy for a customer to switch supplier without a company ever knowing why. Also, the rapid evolution of Internet-solutions often forces companies to be prepared to constantly update and develop their systems. Inter-organisational relationships can be used as valuable resources in systems development.

3. Problems for SMEs in Entering the Electronic Age

3.1. Problems in Knowledge, Decision-making and Designing the Service

There is normally a large gap between company intentions and the perceptions of these intentions (Aaker 1991, Zeithaml and Bittner 1996). Not understanding customer expectations can originate from inadequate marketing research activities, lack of communication, and failing to realise that services are about building relationships and not only about transactions. Relationship building is important both for new customers as well as existing ones. Relationships contribute to loyalty. (Peppers and Rogers 1997, Kalakota and Robinson 1999)

When evaluating Internet-based B-to-B commerce systems as a relationship strengthening or creating tool it must first be understood that a tool is useless unless the user finds it useful. As mentioned earlier, a company must be able to pinpoint the needs of targeted groups and be able to create added value for these groups. This is the first problem with electronic commerce operations.

Companies, particularly SMEs do not necessarily have the know-how, resources or time to create a value-adding system (OECD 1995). Outsourcing is the obvious answer but the quality and pricing of companies designing Internet-solutions varies greatly. It is very difficult for SME manager to make selection between new media companies in such a turbulent situation. This is due to the infancy of that particular market. New media companies are not necessarily interested in assisting SMEs for several reasons, such as difficulties in communication, prizes, and low reference value of a typical SME. (see Berg and Karttunen 1998)

Outsourcing is not the answer when a company does not know that there has been a question, in another words if the company does not know of the possibilities available it is

impossible to include those possibilities in planning. Low capabilities for strategic planning is the major obstacle in SME IT-usage (OECD 1995).

Recent study by Berg and Karttunen (1998) in Finland about SMEs using the Internet as a business tool arrives at the same kind of conclusions. A total of 41% of SME managers felt that the lack of knowledge about the Internet in their own organisations is preventing them from exploiting the possibilities fully. This is a major hindrance in the business use of the Internet. Managers also thought that the profitability of business in the Internet is questionable (30% of respondents). Two thirds of managers admit that the Internet has very little or non-existing importance in their businesses: Interestingly enough, over 70% feel that the importance will grow within the next few years. It seems that SMEs have gradually awakened to the existence of new technology but the use of the Internet in business operations is still minimal.

3.2. Problems with Marketing the Service

Even if the company is a successful one in creating a value-adding system there remains the problem of spreading the knowledge of the existence of the system, particularly abroad. This is typically true with SMEs, who have problems with marketing outside their local markets. They do not have marketing budgets like large companies and can rarely afford to advertise (in the web or conventional media) in needed scale.

The first problem is related to the “location” in the Internet. Too many companies have obscure domain-names (“www.netti.fi/~ourcompany”). Strong and easy domain-name is a must in the Internet operations (Sterne 1996, Zimmerman and Mathiesen 1998). After establishing Internet-presence with an own domain-name, the company faces the problem how to market their Internet-presence. This is, however, not a simple problem. The solution depends on the nature of company’s business and goals, and, therefore, there is no clear answer to the question.

However, there are several options that at the moment seem both sensible and can be easily implemented. If company has traditionally engaged in advertising in conventional media it can be used in advertising the Internet-presence (domain as a part of other advertising in TV, Newspapers etc.). The domain-name can be included as an essential part of the company profile in business cards and official company material (letters, hand-outs, print-outs etc.) (Sterne 1997, Zimmerman and Mathiesen 1998).

Berg and Karttunen (1998) found out in their study in Finland that SME managers saw the lack of potential buyers or partners in the Internet as the biggest hindrance of the spreading of electronic commerce. This is probably due to many facts. For instance, most SME managers tend to think electronic commerce only as a new medium in selling products and services to consumers instead of improving their services in general. The lack of knowledge about the Internet prevents companies from thinking about its possibilities, potential target groups and needed marketing activities.

3.3. Problems with Logistics, Monetary Transactions and Internal Processes

In this chapter we illustrate briefly the challenges relating to logistics, monetary transactions and internal processes. A company can be successful in getting orders from their site but still be faced with problems related to logistics and monetary transactions. Logistics are usually not a problem within a country or within an economic region (EU) but if a company has little experience with global trade all the difficulties in monetary transactions, transport, insurance, duties and so on may constitute a major problem (Zimmerman and Mathiesen 1998). Once again, this is usually a problem for SMEs trying to widen their markets.

Berg and Karttunen (1998) report in their study that Finnish SME managers see the uncertainty in monetary transactions as one of the major hindrances in the spreading of electronic commerce. They were also concerned about how binding are contracts made in the Internet and other related legal issues.

If the company targets first its existing customer base, it usually faces no new challenges in logistics or monetary transactions. The Internet acts basically only as a new interface to the ordering process. If the ordering and delivery process works, no changes are necessary. However, it might be necessary for the company to rethink its processes, especially if it wishes to broaden its markets or if the Internet makes the old processes inadequate⁷.

4. SME Business-to-Business Electronic Commerce Framework in an Ideal World

We have identified insofar three categories of problems that the SMEs face when establishing their Internet-presence:

1. Problems in knowledge, decision-making and designing the service
2. Problems with marketing the service
3. Problems with logistics, monetary transactions and internal processes

Naturally, there are other categories, such as infrastructure or legislative, but as mentioned our primary interest is on aspects that the company has control over.

The level of general knowledge of the Internet is relatively low (the concept of the Internet as a commercial tool/market is only a few years old). However, we suspect that the importance of the first category will diminish over time as the general level of knowledge rises. There are, however, ways in accelerating this process and, therefore, we call for

⁷ A good example (though not especially SME-specific) of internal processes is the Internet and WAP-based stock trading. Both solutions are mainly marketed to people who wish to be able to follow stock prices and trade stocks in real-time. However, both the Internet and WAP solutions act only as interfaces to current processes within the bank. Stocks are still traded as before, which effectively means that the customer cannot be sure when his/her trade will go through and with what price. Banks in Finland have realised this problem and are currently modifying their internal stock related processes to allow real-time purchases.

governmental and educational policies aimed at spreading the knowledge. These policies could prevent newcomers from repeating the same mistakes as the pioneers did. Consequently, the limited resources of SMEs could be used in a more cost-effective way.

The last two above-mentioned categories constitute a problem that needs more drastic measures. As far as marketing is concerned there could be a major problems if a company does not advertise regularly in conventional media, and even if it is active in advertising, it does not necessarily reach the aimed audience. This is usually a problem with SMEs (<http://www.savonet.fi/~juvanmetalli> is not an URL that is easy to be found) when trying to reach potential customers abroad. With logistics there are similar problems. If a company's business has not involved exporting it can be quite difficult/costly to learn all the needed procedures and skills especially if the company's original strategy has been concentrated on generating additional income.

These problems have been recognised on the national and European level. There are currently numerous regional E-Com programs that are mainly focused on SMEs (see for example Charlton et al. 1998 and www.verkkokaveri.net). This development is encouraging for SMEs, but in our opinion it is only the first step on a long path. Below we suggest a somewhat ideal framework that addresses the problems and possibilities that we have touched on in this article.

- The establishment of Electronic Commerce Centres (ECC) that are partly funded and supervised by the governmental institutions (or the EU). There are regional, national and European centres.
- ECCs would provide companies with an easy access to electronic commerce. In practice, a company would be able to enter the E-com just by concentrating on its core competencies. The centres (regional, national or multinational) would assist SMEs through education and consulting and offer a possibility to establish an Internet-presence within the ECC. We do not mean that the centre's role would be the provider of actual design and coding. Participating in educational programmes does not lead to the actual Internet presence through the ECC. Independent Internet-presence is always an option.
- ECCs would be inter-linked as follows:
- For example in Western Finland (local) there would be a centre (www.vsnet.fi) under which companies operating in that area could do business.
- In Finland there would be a national centre (www.finlandnet.fi) which would consist of all regional centres.
- In Europe there would be a centre (www.eurobusiness.net) consisting of all the national centres of the EU area.
- Additionally, supplier relationships could be form and strengthen. This is especially important in public tendering, as the contracts are often far too large for an individual SME.
- The marketing would be mainly institutionally (ECC) organised. It is easier and more efficient to initially market (500 companies in Western Finland in one address or all the businesses in Finland in one address compared to today's situation) for ECC.
- There would be several ready logistic "pipes" for delivering the products. ECCs would have a lot of bargaining power with logistics companies, which in turn can participate in the whole network.

- ECCs could aim at guaranteeing the binding of contracts and monetary transactions. The introduction of Euro currency is helping the companies in evaluating currency exchange rates (no exchange rates!) between multiple offers.

5. Conclusions

SMEs, being important for local, national and international economies are facing new opportunities and challenges such as internationalisation, networking and new technologies. SMEs and especially very small companies naturally have limited resources with which they can participate in the current change for LSEs are the driving forces in this phenomenon. The frameworks, models, applications and solutions designed for large enterprises or SMEs in the IT-sector are often, in our opinion, non-transferrable to the SME/small business sector. Sectoral differences must also be understood when analysing new business opportunities for SMEs.

Additionally, it is essential to realise that electronic commerce is a potentially global business and this is problematic for many small and medium-sized enterprises. Especially companies located in remote, peripheral countries would greatly benefit from access to new markets. It is however a quantum leap to transfer from a local community company into a global or even national company, so a more logical approach for most SMEs would be to first concentrate to their, usually local and loyal, customers.

In this article, we have pinpointed, in our opinion, the questions that should be addressed prior entering to the B-to-B E-Com. These questions (what, why, whom, what added value?) are sufficiently generic to suit for the needs of the traditional SME sector regardless of the sectoral differences. However, our approach has been normative in a way that we have presented practical solutions and advise for small business managers.

The possibilities presented in this article can be divided into two inter-linked categories, namely transaction and relationship focused approaches. Transaction focused approach deals with lowering the costs (money, time, personnel related) of individual transactions. For SMEs not experienced with E-Com this approach would serve as a suitable starting point. Relationship focused approach consists of all the elements that are important in managing customer relationships with the help of new technology, which is now available even for small companies.

From the SME perspective, it would be ideal that some regional, national and multinational co-ordination centres for electronic commerce would be established. These centres would provide the necessary guidance and technical support otherwise out of reach for small companies. This idea may seem somewhat unorthodox and contrary to all principles of free market activities, that we consider a limited return to hierarchical structure. Hierarchical structure has its limitations and it may consist of elements of competition distortion, especially against the new-media company sector. However, it is obvious that small companies – as well as bigger ones for that matter – need considerable amounts of serious advice on what it really takes in terms of resources in reaching electronic commerce success. If this learning process can be accelerated there will be potential for SMEs to

lower the costs of transactions and improve customer relationships. It would be possible to reach new markets and lower costs without the costly learning phase that the pioneers in the E-Commerce have experienced. From individual SME perspective the advantages of ECCs outweigh the possible market distortions. Additionally, we suggest that the infrastructure behind E-Commerce should be strengthened. In order to get more SMEs to the Internet, there must be an infrastructure, which allows transmitting of goods and payment in trustworthy and timely manner, as well as ensures legal bindings of contracts.

It would be interesting to analyse the current regional programmes for Internet usage and presence for European SMEs. National or international programmes would be the next step in analysing the E-Commerce and European SMEs.

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