The Internationalization of Brazilian software enterprises:

Perceptions of SMEs on the use of the Internet as a novel entry mode

Abstract

This paper aims to understand how Brazilian software SMEs use the Internet, i.e. whether this is done by developing virtual presences in websites and/or by adopting it as a tool to seek information to help them internationalize their businesses. The study has a quantitative nature and utilizes the results of a survey that was sent electronically to 789 Brazilian software enterprises. Responses obtained from 105 of these companies demonstrate that, while Brazilian SMEs cite the importance of using the Internet for internationalization purposes, they are not effective in doing so. Most software companies only give operational attention to the Internet and, thus, do not explore its strategic potential or the possibility of using it to reach new markets and to broaden their international range of operation.

Introduction

Brazilian software companies, stimulated by national protection legislation, have historically focused on the internal market. This has been the case since the industry's inception in this country in the 1970s and 1980s. In spite of the significant changes the rapid opening up the country's market to international trade incurred, – a strategy criticized by many (e.g. Machado, 2004) – the software industry was not affected as negatively as some other sectors. The arrival of foreign competition even motivated the expansion of local software providers, generating demand for complementary or even substitute products to those offered by the multinationals. This occurred because foreign companies faced all sorts of problems in adjusting their products to the peculiarities of the country's economy and legal system. It is this expansion of the internal market that helps explain why many of national companies were able to ignore the opportunities of extension into the global market even after they had had their traditional markets penetrated (Burzynski, Graeml, & Balbinot, 2008; Sampaio, 2006; Gomel, 2005).

The software industry is responsible for an increasing share of the Information Technology (IT) market around the globe. Some studies point to figures as high as US$ 600 billion a year to describe the size of this market (Roselino, 2006), which is dominated by North American companies. The industry is globalizing, however, and there is a trend towards increased participation of players from different countries. Thus, internationalization, a process by which a company gradually changes in response to (a) international competition, (b) the saturation of its local market, or (c) the desire to expand into new and diversified markets (Deresky, 1994), can be viewed as less of an option and more of a requirement for today’s Brazilian local software companies.

The opening up of Brazilian markets from the 1990s on exposed the local software industry to international competition. Despite this external push, opening up paradoxically increased the market by generating new demand.As mentioned above, it also pushed some national companies to attempt exporting their own products in an attempt to transfer the “battle field” to the “enemy’s land”. This response was, in most cases, unsuccessful (Prochnick, 1997).

However, as the Internet became more popular and electronic commerce emerged as a way to promote business Brazilian companies began to reconsider this medium in terms of the opportunities it presented for software export. The Web provided direct access to end customers and allowed for on-line distribution of the companies’ products to traditional and new markets.

This new marketing possibility helped a few SMEs take advantage of virtual environments to expand their businesses and internationalize their markets. An example of this is the case of

Accord, a small music software developer from the Northeast region of Brazil, whose experience in the international market is discussed by Amorim and Dornelas (2007).

In this sense, the Internet became a unique virtual entry mode, which brought important advantages to SMEs: it requiresd fewer tangible and intangible resources, which reduces the risks usually involved in the first stages of internationalization. The virtual presence of Brazilian enterprises on the Internet provides a significant learning opportunity for firms, considering that 1) by increasing the amount of information about the target market, an organization may better assess its attractiveness; 2) by forming virtual networks, the organization may become exposed to the international targeted audience; and 3) the organization may have the opportunity to present its products to new markets and test their acceptability at reduced costs and without the need of great involvement from the onset.

However, as noted by Jonhston and Wright (2004), SMEs do not usually develop the full potential of the Internet. Instead, they mainly use it to communicate via e-mail and to navigate and search for information.

Considering that the Internet could also provide firms with the opportunity to develop a virtual presence in new markets, which could be used as a first step towards the internationalization of software developers in Brazil, the following research question was raised: *How do Brazilian software companies' leaders feel about the Internet and its potential as a tool for the internationalization of their ventures?*

In spite of the importance of the theme, i.e. business internationalization and the use of the Internet, there is remains a paucity of literature on it. Certainly, there seems to be general agreement that the Internet will cause a revolution, or as stated by Drucker (2000), a deep transformation in the economy, markets and the structure of whole industries, their products, services and flows, the segmentation, values and behavior of consumers, labor markets and employment. However, very little has been said thus far about the potential for using the Internet as the mechanism for this revolution, i.e. as the entry mode for the internationalization of businesses, particularly in the case of SMEs.

This paper attempts, therefore, to fill in a few gaps presented in the literature . It speaks to the literature's reasoning about the possibility of using the Internet as a first step towards the internationalization of SMEs, by underlining how this tool may be used as a "shopping window" in which to display their products and services. This virtual shopping window is, furthermore, highly democratic, as it levels the field for competition among market players, regardless of their size. Large and small companies are all given, essentially, the same opportunity to expose themselves to new markets and, unlike the non-virtual market, large firms do not benefit in the virtual context from easier access to resources that would better position them. Another important contribution of this paper is its emphasis on the potential of the Internet as a source of information about external markets and innovation for SMEs, as well as the possible benefits they might gain from the formation of networks involving partners that might undertake different tasks in their supply chains.

The next sections present the literature review, the methodological procedures that were adopted in the study, the results that were obtained and, at last, some final considerations and suggestions for future research.

Benefits of using the Internet to enter new international markets

According to Hamill (1997), there are four major advantages of using the Internet: (1) *cost efficiency;(2) performance improvement based on information integration; (3) increased market share resulting from closer contact with customers;* and, (4) *product transformation.* Albuquerque (2007) adds that (5) *differentiation* and (6) *innovation* may be viewed as other possible motivations for achieving competitive advantage mediated by the use of the Internet.

With respect to the Internet's contribution to *cost reduction,* Teo and Pian (2003) argue that, aside from the substantial cost reduction in obtaining, processing and transmitting information, the way organizations operationalize their business changes. Petersen *et al* (2002) also assert that the worldwide Web contributes to cost reduction by increasing transaction efficiency. The possibility of benefiting from its low cost, its speed, its precision and its ubiquity has also been highlighted by Kent and Lee (1999) among other authors who studied its use as an entrepreneurial resource in the early days of its existence.

Concerning the issue of *performance improvement based on information integration,* the Internet helps the organization reduce search costs for themselves and their customers. The ability to gather information on what customers demand allows it to better adjust its products to their needs and, thus, increases the possibility of success, as it expands its business to foreign markets (Petersen, Welch, & Liesch, 2002). The Internet also contributes to improving the focus on the organization's strategy, avoiding unnecessary or mistaken actions in foreign markets and reducing investment waste. Furthermore, the Internet makes it easier to access market niches (Hamill, 1997) and provides a "longer tail" to the life cycles of products, allowing customers and suppliers of low-demand items to find each other (Anderson, 2006).

With respect to the theme of *increased market share resulting from closer contact with customers,* the Internet helps the organization establish fast and efficient communication along the supply chain thereby increasing the effectiveness of partnerships and providing a cheap and effective communication channel between partners (Teo & Pian, 2003). For Hamill (1997), the Internet has shown itself to be a strong communication means and an important information source about the market and customers' needs, which has made it essential for companies to create and maintain effective communication with its customers and suppliers by means of it.

The reduction of the importance of geographical distances is another advantage of the Internet. According to Bennett (1997), geographical barriers can be all but neutralized, allowing for immediate positioning of products and brands in the international marketplace. This opinion is shared by Drucker (2000), who considers that distance has, essentially, been eliminated in the mental geography of electronic business. Therefore, even small companies should now be able to promote their products globally without incurring prohibitive costs.

Some barriers to the internationalization of SMEs, such as the need to have an international agent and distributors in foreign markets, have become less relevant with the expansion of the Internet (Hamill, 1997). According to Hamill and Gregory (1997, p. 12), “the Internet will revolutionize the dynamics of the international commerce and, in particular, lead to the more rapid internationalization of the SMEs”. Melewar and Smith (2003) confirm that, indeed, companies are using their websites with the purpose of building their images and their products’ images and to interact directly with consumers, eliminating the need of middlemen.

Product transformation, using the Internet and other IT resources, may result from the virtualization of the product itself or of parts of the production process. The virtualization of products is a phenomenon that has affected even academic journals, many of which have now ceased publishing paper copies and now only produce electronic versions of papers thereby reducing their costs while increasing their reach, since there are no inherent logistical restrictions to the distribution of electronic journals, aside from some point of access to the Internet. This has happened to a number of Brazilian journals, such as the *Brazilian Administration Review* (BAR) and the *Revista de Administração Mackenzie* (RAM), among other international publications. When traditionally physical products are converted into information products, they develop new ‘magical’ properties (Geoffrion & Krishnan, 2001), which free them from space and time constraints and allow them to be commercialized premised upon a different, completely new reasoning in which variable costs are less or not relevant at all in determining product price (Shapiro & Varian, 1998). Even when products retain their physicality, the Internet and other IT allow for better and more efficient integration of the supply chain. This stimulates the development of much more collaborative relationships among the agents involved in value-adding activities along the supply chain, such as product development, production, customization, sales, after-sales etc. (e.g. mainly in the stages that involve more information flow than in those that require moving materials or products around).

According to what was said above, the Internet has several characteristics that provide companies that use it with many potential benefits that could improve communication, information gathering and agility within both the production processes and the commercialization of products.

The Internet as a virtual, more democratic, shopping window and the possibility of internationalization of the software industry

There are several reasons for a company to internationalize (Cuervo-Cazurra, Maloney, & Manrakhan, 2007; Dunning, 1988; Dunning, 1980; Bartlett & Ghoshal, 2000; Kogut, 1985). Among other benefits, having an international presence provides an organization with a broad learning field and, as a result, a permanent source of innovation for the business. It also provides the organization with many more opportunities to explore. There are several authors who discuss the process of internationalization as an incremental one (Buckley & Casson, 1998; Root, 1994; Reid, 1981; Cavusgil, 1980; Bilkey & Tesar, 1977).

In the case of the software industry, internationalization based on the Internet allows adopters to use it as a resource to identify and respond to cultural differences while, at the same time, obtaining information on new global trends. And, new managerial practices may also be learned and spread through the Web.

Internationalization is, however, a moment of great uncertainty and this is, perhaps, moreso the case for small enterprises. Organizations live in a universe of limited rationality and scarce resources. As a consequence, they attempt to avoid uncertainty even as they look for opportunities to internationalize, expanding their operations initially to markets that are at a smaller “psychological distance” (Johanson, 1977). The Internet can be a key tool in the process of internationalization because it allows different markets to be explored simultaneously without risking resources and allows for learning and the formation of business networks that reduce the psychological distance and, consequently, the level of uncertainty related to any action.

In addition, according to Balbinot, Graeml and Macadar (2007), the use of the Internet for virtual internationalization allows business networks to be developed at a lower cost. This is possible even for SMEs, which find in the Internet a more “democratic” means of exposure of their products/services than is the case outside this virtual environment. The Internet is labeled more democratic because it is open to companies of all sizes, thereby not providing large companies with an advantage due to scale economies or the requirement of huge amounts of resources to establish their presence, as occurs in more traditional environments.

With respect to the initial investment, internationalization via the Internet seems advantageous not only because virtual settlement in a new market has a much lower cost than becoming physically present but also because it significantly reduces risk in the early stages of the process (Morgan-Thomas & Bridgewater, 2004). In addition, the use of the Internet by Brazilian companies that attempt to virtually locate themselves in foreign markets should be considered an important learning factor, considering that they can obtain more information about the international market and better assess the opportunities provided by it (Balbinot, Graeml, & Macadar, 2007). This exposure to other markets by means of the Internet allows for the development of partnerships and the formation of business networks.

One of the reasons to develop strategic partnerships for entering a specific market is the lack of knowledge about it (Beamish & Killing, 1997; Contractor & Lorange, 1988). Using the Internet, though, there is an increase in the information flow about the intended international market, which allows the company to improve its understanding of it without being physically present there.

During the exchange of information, a virtual network may be formed, making the company better known and closer to the international target market (Stam & Elfring, 2008; Johanson & Vahlne, 1990). This is an important current within the literature because the formation of a virtual network may be key to reducing psychological distances thereby increasing the likelihood of new business occurring (Kali & Reyes, 2007; Coviello, 2006);

Also, the company may be able to test its product/service through this medium, virtually exposing it to the new market while avoiding or postponing an expensive *in loco* market test, which would necessarily involve resources currently assigned elsewhere.

In addition to the learning effect, innovation may also be considered an interesting consequence of virtual exposure to a new market. According to Porter's (1990) diamond model, several international market conditions may generate a positive effect on innovation:

- The more sophisticated the international demand (customers/consumers), the greater the effort that the company will have to make in order to adapt to the new market. The company will feel obliged to improve its products, due to the exposition to more demanding customers, which will also have an impact on its offers to the local market, eventually generating a competitive edge over other local players and, possibly, also over global competitors;

- The company may develop a network with more sophisticated suppliers and business partners thereby enabling it, in many cases, to produce better products/services for a lower price;
- Rivalry in the new market will push the company towards innovation and improvement of its products/services. In other words, the company will innovate in order to reduce costs and improve quality thereby generating more competitive products and services, which are better suited to the new environment.

A final advantage that should not be ignored with respect to the use of the Internet is the possibility of performing direct sales without the intervention of middlemen. A loyalty (or even “virtual intimacy”) relationship may develop with consumers in the international market, when they are served directly using the new communication and sales means provided by the Internet (Treacy & Wiersema, 1993). This prevents the company from having to use the services of other organizations in order to internationalize its products/services which does away with the costs involved in developing a local agent, who would need to be trained according to the company’s values and policies, for each international market. Figure 1 presents the theoretical framework.

<<< FIGURE 1 >>>

The popularization and growth of the Internet since the 1990s generated a new business opportunity for software companies, including small ones that enabled the distribution of products/services directly to the consumer at a low cost. In fact, the Internet has become more than imagined. It is a communication tool for the exchange of ideas and content and it is also a medium for carrying out business, particularly for firms such as those in the software industry whose products can be almost or entirely thoroughly virtualized, i.e. nowadays, not only the product but also its manuals may be downloaded from the company's website, which eliminates the need for the physical flow of products between seller and buyer.

Methodological issues

Considering the novelty of the subject, the authors chose to collect information from the software industry using a survey. The primary assumption was that, by providing companies with the potential for a virtual presence, the Internet has become an important tool for SMEs in triggering their internationalization process.

The authors attempted to use a methodology that could explore and describe the level of adoption of the Internet by Brazilian software companies; their perceptions with respect to the potential of the Internet and its effective use as a strategy to develop international businesses; and their perceptions about the potential of the Internet as a facilitator for the formation of business networks. The software industry was chosen due to its privileged contact with the Internet.

As the authors intended to measure variables that had been previously selected, trying to understand how they related to each other, they chose to use a quantitative method that helped them to describe and explain the research problem.

The study focused on four research variables: Internet adoption, business technology strategy and network relationships were considered independent variables. The internationalization of SMEs was the dependent variable. Such variables were operationalized by means of the Likert scale statements contained in the survey participants were invited to fill in.

The sample was chosen taking into account the universe for the intended research: the Brazilian software industry. In order to reduce the complexity of the data collection process, the survey was sent to companies that are registered in the Softex[1] program website. As Softex only listed the names of companies, a laborious task of finding out their contact information through Web search was performed, resulting in a database with the email addresses of 789 companies, located in twelve Brazilian states.

Considering that the number of potential participants was high and that there were financial and time constraints, the authors chose to use an electronic survey. An email was sent with an invitation to all software companies in the database, including a link to the survey website.

As the respondents needed to have good information about the international connections of their companies in order to provide sound opinions on the issue, the email message with the invitation was addressed to the owner, directors or managers of the listed companies.

The final version of the questionnaire included sixteen questions organized in three blocks: the first block contained preliminary questions that could be answered by companies that perform international activities as well as those that do not. The second block included questions directed at those respondents that did not have any kind of international activity whereas the third block was specifically for companies that had internationalized to some extent. The automated electronic survey skipped section two or section three, depending upon the group to which the company belonged.

Questions could be answered by means of a five point Likert scale. To choose an alternative, the respondent needed only to click on the corresponding check-box, as shown in Figure 2, below.

<<< FIGURE 2 >>>

After a few days, 105 valid responses were obtained. Considering that only companies that accepted the invitation to take part in the study were included, the sample is non-probabilistic.

[1] Brazilian Society for the Promotion of Software Export.

In other words, results cannot be extended to the rest of the population without further verification of sample validity, which was not conducted for this study.

Discussion

We may now begin analyzing the results of the survey carried out according to the methodological procedures described above.

Characteristics of the sample

The respondents were mainly directors, presidents, owners or general managers (78%) of the companies they represented, which indicates that they are people who know their companies well and could, therefore, provide good information and opinions about them. SMEs represented 93% of the sample.

The geographical distribution of the convenience sample was slightly different from the Softex database. Although responses were gathered from all states contained in the database, they did not respect the proportions of those in the database. States like Minas Gerais and Santa Catarina were very participative whereas Pernambuco, Ceará and the Federal District (Brasilia) were underrepresented in the sample, as shown in Table 1 below.

<<< Table 1 >>>

With respect to the segment within the software industry, most of the respondents were in the consulting and design business (61 companies). Customized software is developed by 56 companies, made-to-order software by 50, and a further 40 of them develop applications and provide technical support. There are companies that perform more than one type of activity and that is the reason why this figures do not add to 105.

Among the 105 respondents, the majority (58%) claimed that they do not engage in any sort of international activity, while 37% consider that they have some degree of international involvement. 5% did not answer this specific question.

Level of adoption of the Internet by the respondents

All respondents in the sample use e-mail for communication. This is an obvious conclusion from the fact that the participants had to respond to an email message to take part in the survey.

The great majority of the companies also had a website (94.95%).

An important issue that was surveyed was whether the companies present their products/services on the web in other languages than the local one. The data showed that 67% of the respondents that have international activity present information in more than one language on their websites. This figure decreases significantly in the case of companies that have not internationalized: only 15% of those have multilingual information on their websites.

Perceptions of the companies with respect to the Internet's potential

Using the Internet facilitates access to new markets, providing a fast and efficient way to communicate with customers and partners abroad. With respect to the Internet's potential, respondents expressed themselves as shown in Figure 3.

<<< FIGURE 3 >>>

The advantages of using the Internet for internationalization of a company are several: One of them, which is particularly relevant for small companies, is the low level of investment required in order to have access to international markets. Fewer resources are demanded, regardless of whether these are tangible or intangible, significantly reducing the risk in the first stages of the internationalization process.

The results of this survey show that the respondents acknowledge the advantages mentioned by Morgan-Thomas and Bridgewater (2004): 82% of the participants agree that the costs involved in international business decrease with the use of the Internet. Similarly, 96% believe that international communications cost less when this technology is used and 89% acknowledge that prospecting new markets is easier and cheaper.

The Internet may also be considered as a significant learning tool, since the company is, then, able to analyze the new market in a more thorough way and would have more information available upon which to base its decisions. And, the formation of virtual networks exposes the entering company to international customers, providing it with an opportunity to present and test its products/services in new markets, without the need of physical transportation. These elements also make the Internet a very useful tool for whoever wants to internationalize their operation (Balbinot, Graeml, & Macadar, 2007).

The results of the survey match the findings of previous researchers, as more than 90% of the respondents agree that the Internet is essential for an organization to develop alliances in the international market. Another result of the current study that corroborates previous findings is the fact that 97% of the participants consider the Internet to be an important source of information for the development of business abroad.

Internet as a strategy for international businesses

Albuquerque (2007) and Hammil (1997) believe that the Internet can provide a competitive edge by means of differentiation, cost reduction, innovation, higher market penetration, product transformation and foreign partnerships, depending upon the way the tool is used.

Some questions in the survey intended to capture the perceptions of companies with respect to the Internet’s impact on strategies for the settlement of international businesses. Such questions, which will be discussed in this section, were only presented to respondents that export their products/services or have some other sort of international activity.

When argued if the use of the Internet is essential for the company to reach a competitive edge in the international market by means of innovation, 53% of the respondents thoroughly agreed and other 27% agreed, which produced an 80% agreement rate. Negative answers represented 9% of the sample and 11% of the respondents had no opinion.

The statement about the use of the Internet being essential for the company to reach a competitive edge in the international market based on cost reduction had the highest level of agreement among respondents, with 62% of them thoroughly agreeing and 25% partially agreeing with it, i.e. a total agreement rate of over 87%. Approximately 8% of the respondents disagreed and 5% neither agreed nor disagreed.

The statement concerning the use of the Internet being essential for the company to reach a competitive edge in the international market by providing differentiation as a strategy to develop international businesses was also tested. 54% of respondents thoroughly agreed, 32% agreed, 8% had no opinion and 6% disagreed.

The statement about the company using the Internet as a tool for communication with its international partners was the one that produced the lowest level of agreement. Although 72% of the respondents agreed with it, 14% disagreed and another 14% were indifferent.

The results of the survey correspond to the findings of Albuquerque (2007) and Hammil (1997). The participating companies confirmed the importance of the use of the Internet to obtaining a competitive edge in international markets in terms of innovation (80%), cost reduction (87%), differentiation (86%) and in terms of its use as a communication means with international partners (72%).

Importance of using the Internet to enable the formation of business networks

The research also revealed some factors considered important to the respondents in forming business networks. Some questions asked about the intensity of use of several different factors including: (a) references given by national customers to customers in foreign markets; (b) information obtained from newspapers and magazines; (c) information made available by friends; and, (d) direct use of the Internet to gather information. Results were as shown in Figure 4 below.

<<< FIGURE 4 >>>

Considering the data that was gathered, the most relevant issue for the formation of a business network, according to the responses given, is access to specialized websites and search engines. 97% of the respondents agree or thoroughly agree with the statement that accessing specialized websites is important for the formation of business networks and 90% agree that search engines are essential for the formation of such networks.

Other issues also called the attention due to the high level of agreement: 88% of the respondents consider access to Internet portals or exchanges important; 84% use the information they obtain in newspapers and magazines; 80% consider important references that national customers give to foreign customers; and, 77% take into account the information given by friends.

On the other hand, participation in chat rooms was the least important item, according to respondents: 44% of them disagree with chat rooms being important tools for the formation of business networks.

Development of international activities

Initially, the intention was to find, among respondents, those that had plans to increase their performance in foreign markets. In order to do that, a few questions were posed to internationalized companies as well as to those that do not have international activity. From all respondents, 25% thoroughly agreed, i.e., they demonstrated concrete interest in internationalizing their activities further, 27% do intend to increase their international presence, but with caveats, 40% are neutral about this possibility and 8% are not interested in internationalizing at all.

When questioned if the Internet was a key factor for a company to enter the international market, most companies thoroughly agreed with this statement (85%). Those that did not agree represented 5% of the total and those who did not have an opinion were 10%.

There are a few other statements with which respondents agreed, in general, such as the statement that a company being contacted by a foreign company interested in its products/services is an important factor to help internationalizing the company in the future (85% agreed with that) and that a company being identified by an international purchase agent is a key factor for the internationalization of the company in the future (80% agreement).

Final considerations

Although most existing internationalization studies have developed within the context of large organizations, today the propagation of technological resources levels the ground for competition among SMEs in international markets and allows them to virtually expose their products/services via the Web. However, in spite of the SMEs acknowledgement that the Internet can be an important tool for their internationalization process, they do not seem to be doing all they can to achieve their full potential in foreign markets. The first issue that catches one’s attention is the presentation of information in websites, which in many cases only occurs in the local language.

At a first glance, the percentage of internationalized companies within this sample that have a multilingual website may not seem too bad (67%). However, in a competitive environment such as the software industry, companies should pay more attention to that issue, as the website may be the entry door for potential customers and an important source of information about the company's products/services. The situation is worse in the case of the companies that have not developed any international activity. In this group, 85% do not have their websites translated to any of the major foreign languages.

Companies acknowledge the potential of the Internet as a tool for obtaining information for the development of international businesses, for the reduction of communication costs and for the settlement of business partnerships in foreign markets. However, their actions diverge from their perceptions of its significance. Instead, they seem focused on a very operational use of the Internet, aiming to reduce communication and advertising costs and giving little attention to the possibility of developing new markets and partnerships that might broaden their businesses in foreign markets.

In order to leverage the participation of Brazilian software companies in international markets, the Internet should be used as a mechanism for providing better knowledge of those markets, for identifying profitable opportunities and for resolving the need for adjustments of the products/services to local specificities. The Internet can help with these challenges but not if it is treated, merely, as an operational tool, leaving aside resources that are also available at very little cost, which can undertake a strategic role.

It is important to remark that even companies that do not develop any sort of international activity also believe that the Internet is an important entry factor to international markets. Results show that 85% of those companies agree with that statement. They seem to understand that the use of the Internet can provide them with competitive benefits (i.e. cost efficiency, performance improvement due to better information integration, improved market share due to a closer contact with customers and product transformation) that would represent a first step towards the internationalization of their businesses.

In practical terms, this study contributes to the clarification of the software industry's perception of the importance of exploring virtual environments in a more dynamic way, i.e. using the Internet not just as a communication tool but rather as a strategic weapon to enable their expansion and growth in the external market.

Considering that there remains very little academic discussion about the Internet as a factor for the internationalization of SMEs, more research is required in order to increase our understanding of the Internet's contribution to the internationalization of these particular kinds of companies in our global economy. Research should concentrate not only on the many ways SMEs might benefit from the Internet's technological resources in order to reduce the "distance" to foreign markets they aim to embrace, but also on comparing performance levels in international markets of firms that use the Internet as part of their strategy to conquer foreign markets and those that only have it as an ancillary tool. Finally, future studies should address the possibility of enterprises being "born global", i.e. with the support of the Internet and other IT, in a world that has become much smaller…at least in the mind of some entrepreneurs.

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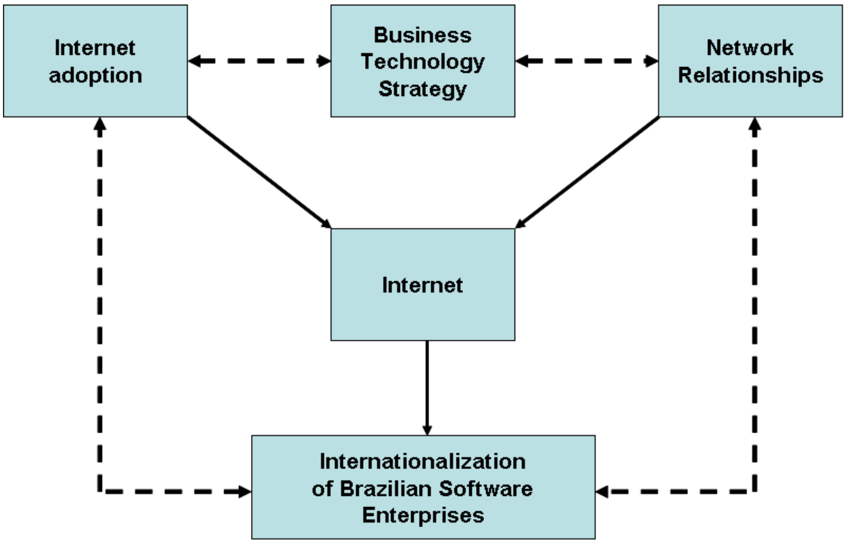

Figure 1: Theoretical Framework

5. For the formation of business networks, you take into account...

	not important	little important	does not matter	important	very important
... on-line news					
... the participation in chat rooms					
... the participation in Internet forums					
... information contained in Internet portals or exchanges					
... Internet search tools					
... information contained in specialized websites in the industry					
... information provided by friends					
... information from newspapers and magazines					
... national customers providing references to international customers					

Other (please, specify)

Figure 2: Example of check-boxes used in the survey (presented to respondents in Portuguese)

Source: extracted from the survey's website.

Table 1 The geographic distribution of companies in the sample and the population

Source: the authors, including field data and data from Softex’s website.

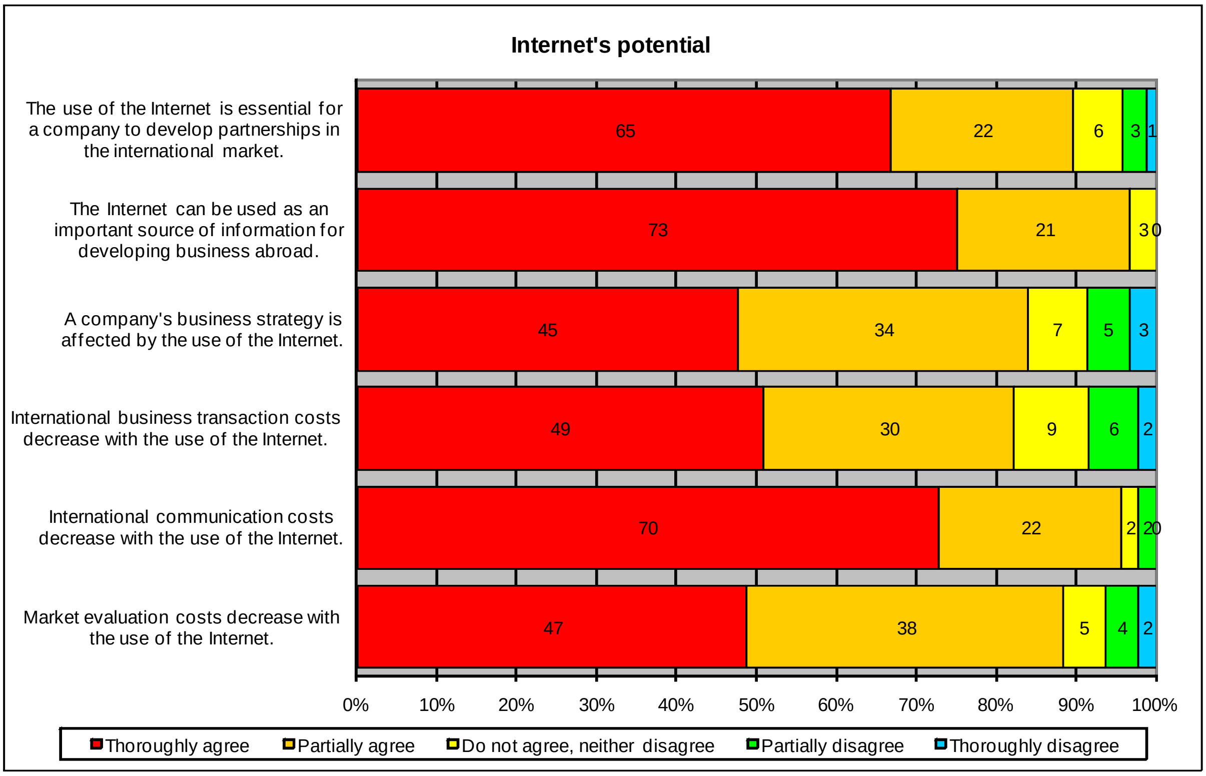

Figure 3: The Internet's potential

Source: prepared by the authors based on data from the field research

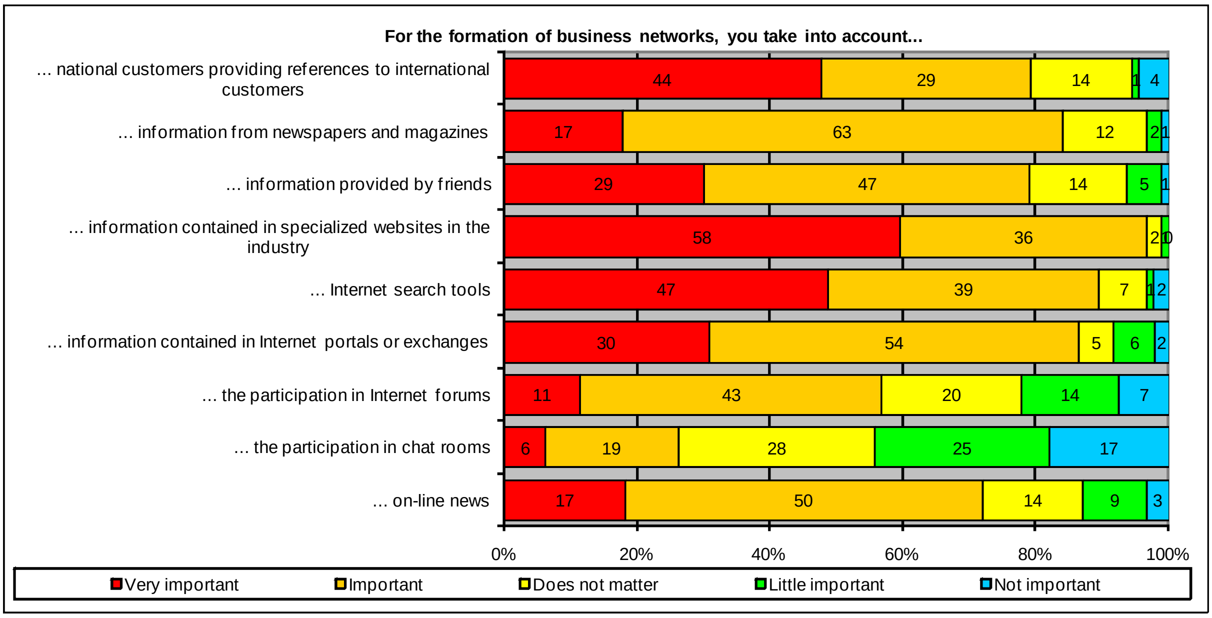

Figure 4: The formation of business networks

Source: prepared by the authors based on data from the field research