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RESUMO/ABSTRACT

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The way that organizations explore the Internet has been the focus of a substantial body of scientific studies and non-academic reflection. The main goal of this study is to analyze the potential of the internet as a mode of internationalization and the factors that influence the results of the adoption of this mean to access foreign markets. For this purpose, we examine the determinants of the level of international sales made via internet estimating an ordered probit model. The results show that the importance of previous experience in using the internet and developing international activity, together with the level of internet marketing budget, the level of investment on internet sophistication, the firm dimension, the business age and the type of activity are variables that determine the results obtained in the international sales through the internet.

Keywords: Internationalization, internet, virtual marketplaces

JEL Codes: J20, J23, M32

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INTERNET SALES AS A NEW MODE OF INTERNATIONALIZATION

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Abstract

The way that organizations explore the Internet has been the focus of a substantial body of scientific studies and non-academic reflection. The main goal of this study is to analyze the potential of the internet as a mode of internationalization and the factors that influence the results of the adoption of this mean to access foreign markets. For this purpose, we examine the determinants of the level of international sales made via internet estimating an ordered probit model. The results show that the importance of previous experience in using the internet and developing international activity, together with the level of internet marketing budget , the level of investment on internet sophistication, the firm dimension, the business age and the type pf activity are variables that determine the results obtain in the international sales trough the internet.

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SECTION 1. INTROCUCTION

Evidence that the Internet has affected international trade is everywhere. The assessment of international sales has long been an issue of interest in the literature, reflecting both a macro policy concern associated with the international activity of firms' and a micro focus on competitiveness in foreign markets. Advances in information technology (IT) have vastly expanded the range of products and services that can be traded internationally. Thus, the number of firms that tends to adopt and explore these technological functionalities increases over the years as well as the number of firms that expand their business internationally. The introduction of e-commerce has unveiled new opportunities in terms of international sales process. Indeed, one of the primary benefits of the Internet for business is its access to potential suppliers and customers both within a particular country and past national boundaries. However, the way this question has been approached differs considerably between the various studies. The alternative approaches can be classified on the basis of three criteria: whether the study considers firms that adopt Internet as a path to develop international sales or only firms using Internet in other dimensions different from sales; whether the purpose of the study is merely descriptive or exploratory; and whether external factors, internal factors, or both are considered.

Based on the notion that IT, and specially the Internet, influences the process of internationalization of the firm, we aim to address this subject focusing on the new marketplace provided by the Internet and analyse the factors involved on online international sales.

The paper is organized as follows. Next section includes the literature review. Section 3 describes the theoretical framework and hypotheses. Section 4 presents the methodology and results discussion and conclusions are summarized in section 5.

SECTION 2. LITERATURE REVIEW

The developments occurred recently in Internet-based information and communication technologies (ICTs) together with the growing of a global and commonly accessible marketspace (Rayport & Sviokla, 1994) on the Internet have offered firms' new opportunities of doing business and have led a number of authors to challenge existing theories relating to the internationalisation process of firms (see, Quelch & Klein, 1996; Hamill, 1997).

Before reviewing the foundations of international sales implied by a range of theoretical perspectives in the entrepreneurship and international marketing literatures, we begin this section by highlighting the process of internationalization of a firm. Our literature review then focuses on the potential embedded in virtual markets and the motors of international sales through Internet. For each of these perspectives, we describe the main theoretical approach and discuss the implications of the activity in Internet.

The Process of Internationalization

A reference model that explains how firms internationalize was developed by Johanson and Vahlne (1977, 1990). Their model, known as the Uppsala model of internationalization, assumed that foreign market knowledge influenced the location and mode of internationalization.

The Uppsala model assumes that the internationalization of a company is a path dependent learning process. Internationalization is considered to be the result of the interaction between increasing commitments and knowledge about foreign markets. A number of succeeding studies supported the Uppsala model, although some limitations have been pointed out (see, Jarillo & Martinez, 1991).

Another relevant contribution to the understanding of internationalization processes is the Stages Model (see, Cavusgil, 1980; Reid, 1981), which assumes that firms begin their internationalization by indirect exports, a less risky entry mode, and subsequently would use an export agent or distributor, to later open a commercial office and finally to establish a subsidiary abroad. Both these approaches attribute to knowledge and information the fundamental aspect conditioning the internationalization process.

Williamson (1975) finds that transaction process is caused by human and environmental factors, which may result in market failure and cause transaction cost (TC) problem, human factors include bounded rationality and opportunist behaviour, whereas environmental factors include uncertainty and complexity, information asymmetry and cooperation atmosphere. The transaction costs derive from incomplete contractual relationships: (1) consultation and information costs (Douma & Schreuder, 1992); (2) bargaining and decision making costs (Heide, 1994); (3) monitoring costs (Dahlstrom & Nygard, 1999); and (4) mal adoption cost (Heide, 1994).

Buckley and Casson (1976) presented a landmark study on the economic analysis of the multinational enterprise (MNE) that is one of the building blocks of the modern transaction-cost-based theory of the MNE, which results from Williamson (1975) assessment, and has been developed by Teece (1977) Rugman (1981), Williamson (1981), and Hennart (1982).

Buckley and Casson (1976) emphasized general forms of imperfect competition stemming from the costs of organizing markets. Developing a special attention to the imperfections in the intermediate products markets, knowledge and expertise embodied in patents and human capital. Such imperfect international markets leads to the creation of MNEs.

The parallels between internationalization theory and resource-based view (RBV) in strategy (Wernerfelt, 1984) derive from the focus on the resources, assets and capabilities that a firm controls. According to RBV, resources that are unique, proprietary, and difficult to imitate or substitute provide firms with sustainable competitive advantages (Barney, 1991; Amit & Schoemaker, 1993). Further, RBV emphasizes intangible assets as central determinants of a firm's sustainable competitive advantage (Hall, 1992) because they are developed through socially complex process, and as such are difficult to trade, imitate, or substitute (Barney, 1991). Further intangible assets are also more likely to be deployed in international growth strategies because they are more flexible and do not depreciate with use.

Network relationships role in internationalization has acquired significance in the literature in recent years (Holm et al. 1996; Johanson & Mattson, 1988; Oviatt & McDougall, 1994). Invoking social capital theory in the context of internationalization suggests that social capital leads to the creation and acquisition of knowledge and that those firms must have the organizational capability to leverage inter-firm relationships effectively (Prashantam, 2005; Lorenzoni & Lipparini, 1999).

The primary tenant of social capital theory is that benefits accrue to actors from their social networks (Burt, 1992; Coleman, 1988). In the context of internationalization, social capital could emanate from a variety of network relationships, including those with customers, suppliers, distributors and strategic partners (Yli-Renko et al., 2002). Arenius (2002) proposed that a new venture's social capital positively influences its speed of internationalization growth. Yli-Renko et al. (2002) demonstrated that social capital can influence market knowledge and knowledge intensity, which in turn positively influences firm's international growth and international performance.

Network theory has been offered as a framework for explaining the internationalization of organizations (Chetty & Holm, 2000; Johanson & Mattsson, 1988; Vahlne & Nordstrom, 1988). This theory conceptualizes networks as value chains that consist of organizational relationship rather than the more formal contracts between organizations implied by TC (Robicheaux & Coleman, 1994; Vahlne & Nordstrom, 1988). Such a theory appears to be much more consistent with the new business models being created by the emergence of technology-enables global supply chains in which procurement and production cross national borders and supply and demand lines extend worldwide.

The Internet and the Process of Internationalization

The Internet has almost doubled in size every annually in recent years and now spans the globe, facilitating the exchange of all matter of products, services and data. Recent development has been categorized by an explosion in new commercial activity. Afuah and Tucci (2001) stated that from Internet many properties some stand out in the way they change business: distribution channel, universality, mediating technology, network externalities, time moderator, low cost standard, information asymmetry shrink, and transaction cost reduction and creative destroyer.

As a consequence fresh paradigms might be needed to describe the process of company internationalization in the Internet era (Hoffman & Novak, 1996; Hamill, 1997). Above all, the conventional knowledge on how businesses internationalize their operations has been challenged by the fact that Internet could provide a low-cost gateway to global markets for small and medium sized enterprises (Hamill & Gregory, 1997). Numerous researchers on internationalization have suggested that firms typically adopt international activities by the use of an evolutionary series of sequential paths (see Johanson & Vahlne, 1990; Andersen, 1993; Calof & Beamish, 1995). However, it is argued that businesses do not necessarily internationalize in this manner (Turnbull, 1987; Millington & Bayliss, 1990).

In the Uppsala Model, internationalization is considered as the result of the interaction between knowledge and commitment to foreign markets. Arguably, the rise of the Internet decreases the costs of information, providing firms' with availability and higher quality of knowledge (Castells, 1996). Therefore the Internet can influence the traditional way of accessing international markets in the way it shifts the access to knowledge and reduces the risks and uncertainty connected with the internationalization process.

With Internet, some of the main aspects pointed out as crucial in the internationalization process suffers modifications. Specially, because Internet provides the environment for new forms of business, such as electronic matching of sellers and buyers, or enabling a direct exchange between sellers and buyers (Buxmann & Gebauer, 1998). In this way Internet reduces transaction costs, by facilitating the transaction and the acquisition of knowledge.

The flexible, open, and standard infrastructure provided by the Internet is capable to provide new opportunities of business to firms regardless to their location, size, and industry and even past experience. Internet is affecting the internal and external factors considered as determinants of internationalization (Zou & Stan, 1998). To Ellsworth and Ellsworth (1995), Internet breakdown some of the barriers existent related to firms' dimension, re-shaping resources role in internationalization. Another firm competence relevant to international activities is the ability to establish and develop relationships with partners in foreign markets. The location of the firm can be determinant in the choosing the foreign markets, because it influences the type of relationship that can be establish. According to the research of Johanson and Weidersheim-Paul (1975), Kogut and Singh (1988) and Mitra and Golder (2002) firms' prefer to internationalize to markets that are closer by cultural and language similarities or physical distance. The Internet constitutes a fundamental basis of networking that cuts trough time zone differences, adopts a international language and creates is own culture, therefore cutting distances and developing social capital networks.

SECTION 3. CONCEPTUAL FRAMEWORK AND HYPOTHESIS

The research question that guides this study is the: *What are the factors determining Internet International Sales?* considering virtual marketspaces as an international market for business and the Internet as an alternative mode of entry in international markets. We focus on the international sales through the Internet as a diverse base of doing business in all activities rather than the specificities of the internationalization process of business providing Internet services.

The conceptual framework is premised on the idea that internet international sales are based on balancing firm's internet commitment, international experience and firm's characteristics. Therefore we take internationalization process theory and technology-organization-environment framework (TOE) to develop an integrative model to study the determinants of internet international sales.

The research model developed for this study is modified from the work of Tornatzky and Fleischer (1990) and Chau and Tam (1997). This model has been featured in research on internet activity (see, Gibbs & Kraemer, 2004; Zhu et al., 2003; Chwelos et al., 2001). The Tornatzky and Fleischer (1990) model considers three components impacting the adoption and implementation of any technological innovation: (i) factors of technological nature; (ii) organizational elements; and (iii) factors from external environments.

An exploratory research project on the adoption of open systems, carried out by Chau and Tam (1997), found that the framework established by these authors was suitable for describing the organizational process of adoption of IT. Nevertheless, these authors pointed out that a wider framework should be considered, including more context-based approaches. In this line of research, it has been proved that this model can be applied to any organization, unit of analysis or region (Scupola, 2003; Tornatzky & Fleischer, 1990).

- Insert figure 1 about here -

Both innovation and marketing literatures emphasises the role of technological, environment and organizational characteristic in the adoption and use of any technological-driven feature, as the internet. Thus, when operationalizing the elements, the research items relied in previous investigations carried out in the last decade. The technology-organization-environment model of Tornatzky and Fleischer (1990) has been used to explain intra- and inter-organizational factors that influence adoption of any ICT, and therefore is our starting point of analysis.

Technological Context

According to Kuan and Chau (2001) the technological context includes both internal and external technologies of the firm. In terms of internal technological context, there are several studies that emphasized how prior IT investments and practices influence the adopting of new technological features. Tornatzky and Fleischer (1990) list it as one of the key aspects of a firm's adoption decision in their framework. Other works also found that IT investments can also capture organizational differences in terms of Internet adoption process (see, Bresnahan & Greenstein, 1996; Forman, 2005), especially IT sophistication, also known as technological readiness (Chwelos et al. 2001; Iacovou et al. 1995).

The works of Kuan and Chau (2001) and Zhu et al. (2003) reinforce these ideas and consider that firm's IT infrastructure, IT expertise and e-business know-how can be a strong enabler force in the adoption of different modes of Internet exploration.

Combining these lines of research with the works of Ainscough and Luckett (1996) and Cox and Koelzer (2004), which pointed out the existence of different modes of exploring Internet potentials, reflected on the sophistication level of the website, it's possible to assume that sophistication is a reflex of the technological context of the firm.

In accordance with the research developed by Raymond and Paré (1992) and Colecchia et al. (2000), technological sophistication denotes the number, mode and diversity of information technologies used by organizations, and is a key component of IT sophistication. Thus, technological sophistication is not only the level of investment made, but also the know-how and intangible resources associated with the use of ICT.

Organizational Context

Xu *et al.* (2002) in their research refer that one of the main gaps in marketing and IT literature is the empirical analysis of the relationship between organizational context and e-business adoption by firms. In the IT field, research concerning the adoption of IT elements identifies several factors of organizational nature as crucial to the success and implementation of these elements. Kwon and Zmud (1987) suggested that IT adoption was conditioned by top management support, firm size, end user involvement, quality of IS, available resources and main products. These findings were also endorsed by more recent literature. Kuo and Chau (2001) suggested the definition of organizational context in terms of characteristics of a firm's managerial structure, size and scope, and quality and degree of its human and slack resources.

Prior research on the diffusion of innovations' literature has consistently shown a positive relationship between organization size and adoption of Internet technologies. The works of Charles et al. (2002) and Forman et al. (2002) conclude that the adoption of Internet associated tools varies with establishment size, indicating smaller adoption rates of more complex tools associated with SMEs establishments. However, and according to the works of Oviatt and McDougall (1994), Zahra et al. (2000) and Autio et al. (2000), the SMEs are taking clearly advantage of Internet as a size inhibitor, and therefore an increasing number of firms are born global or becoming international only a few years after being set up in the virtual context.

Nevertheless, this line of approach adds elements to the research, such as the importance of concrete internal resources (Knight & Cavusgil, 2004; Madsen & Servais, 1997) and the usefulness of networks (Johanson & Vahlne, 2003). In the field of internal resources, some researchers have attempted to address the problem of quality of IS, and user involvement and available resources, since new information technology often tends to change the organization of work within firms. Hubbard (2000) found two internal benefits driven from the adoption of ICT, especially Internet: (i) lowering agency costs; and (ii) improving resource-allocation decisions. The studies of Hitt and Brynjolfsson (1997) and Bresnahan et al. (2002) reinforce the concept that the use of ICT allows better decentralized decision process and improve innovative human resource practices and workplace investments.

External Environment

Teo et al. (2003) referred that researchers tend to presuppose that the adoption of innovations is a rationalistic decision meant to improve technical efficiency. Nonetheless, embracing interactive technologies to support business activities, as Internet, may be more influenced by the institutional environment in which the firm is embedded.

According to the model' presented by Tornatzky and Fleischer (1990) and Chau and Tam (1997), the external environment or institutional environment in which firms carry out their business is noted as being fundamental, which is related to the firm's industry and dealings with business partners, as well as competitors, government and other stakeholders.

Hence, this study draws on a conjoint approach based on the TOE model and the institutional theory, taking in to account the institutional theory as a model in which the emphasis is put on the importance of institutional environments in shaping organizational actions and structure (Scott 2001; Scott & Christensen 1995).

Considering the results of several empirical studies (Adam et al., 2002; Hofstede, 2001; Grover et al., 1994; Aiex, 1995; Nath et al., 1998) combined with the institutional theory, another of the elements that can be analysed is the country of origin of the firm. According to these works the level of adoption and use of new technologies varies among countries. However, this is not the only factor country-related that needs to be considered.

The works of Kotabe and Helsen (2004), Chan and Swatman (2000), Hofacker (2001), Palumbo and Herbig (1998), Samiee (1998) and White (1997), among others, consider that national culture can be determinant of diffusion and adoption of Internet.

Furthermore, the theory establishes that firms become more similar and tend to adopt and use Internet as a business tool by external pressures of country nature, as competitors, trading partners, customers and government. The works of Hofstede (2001), Nath et al. (1998), Aiex (1995) and Grover et al. (1994) lead us conclude that business models and marketing practices over Internet vary with the country of origin, due to customer behaviour and competitive national environment.

In the line with the considerations driven from Tornatzky and Fleischer (1990) study, the industry of belonging was one of the elements consider.

There are several researchers supporting the notion that firms act differently in marketspace and marketplaces, according to their industry of affiliation (see, Barwise et al., 2002; Srinivasan et al., 2002; Lynch & Ariely, 2000; Alba et al., 1997; Burke, 1996; Hoffman & Novak, 1996; Benjamim & Wigand, 1995; Bakos, 1991). The difference seems to be enlarging if the dichotomy product versus services is considered.

Based on the conceptual model presented previously we operationalised it through the use of the following variables for each component, namely international and internet previous experience, organizational, technological and environment context and the definition of Internet international sales indicator.

We consider the past experience in international business, defined by the level of international sales to total sales. Although internationalization can be measured in different forms, which can range from the number of foreign countries entered, the use of different types of internationalization modes, the percentage of international in total activity, we used this definition considering that it can evaluate the level of exposure to international environments. In include also the level of internet sales as a previous experience element that can explain the success on international sales through the internet. Therefore we establish the first hypothesis which states that:

h1. Internet international sales are positively related to the level of international sales and internet sales

Second, we specify two technological contextual aspects for the firm, namely the level of internet commitment characteristics measured by the Internet budget and the level of sophistication in terms of Internet presence.

The idea is to capture Internet involvement and experience, namely identifying the level of effort devoted to the Internet strategy and also the level of experience in developing this Internet activity. Based on these ideas we established the second hypothesis:

h2. Internet international sales are positively related to the Internet Budget and/or Internet sophistication.

As firms' organizational factors we considered the dimension and experience representing a resource-based-view of the firm and also a life-cycle perspective of the firm's development.

The dimension was measured by the number of employees and the experience by the number of years the firm had in business. Taking these elements as organizational context factors we defined the third hypothesis as follows:

h3. Internet international sales are positively related to the number employees and/or number of years in business.

The sector or industry type is taken as an environmental determinant of adoption of Internet international sales, considering that internet potential can vary according to industry type.

We can argue that having an industrial activity can represent different business operating models and customer relationship, rather than a commercial or trading activity or a services and financial activity.

In the same sense having a business to consumer (B2C) activity involves different aspects than a business to business (B2B) activity. Based on these arguments we established hypothesis 4:

h4. Internet international sales are influenced by the type of sector /industry.

The measurement for Internet international sales we used the percentage of Internet international sales on total sales. We use this indicator since it accounts for the relative importance of Internet international sales in the total activity.

SECTION 4. METHODOLOGY AND RESULTS

This paper is based on an electronic survey that inquires into the use of electronic commerce by firms all over the world. An e-mail was sent to senior managers or IT directors of firms, providing them with an explanation of the research project and a link to the electronic questionnaire. In order to reach the highest number of responses possible and encourage them to respond thoroughly to the electronic questionnaire or to send it field out by email.

The dependent variable used is Internet international sales that are measured on an ordinal scale that assumes three levels: (1) non, (2) up to 15% and (3) more than 15%, regarding this have on total sales.

The explanatory variables are international previous experience, measured by the level of international sales on total sales; the internet sales, measured by the level of sales done by the internet in total sales; the technological context, defined in terms of involvement and experience and measured by the percentage of Internet Marketing budget in total marketing budget and Internet sophistication defined based on a classification of Internet application uses in terms of distribution channel, marketing/promotion and customers relationship management and established in a three level scale: (1) low, (2) medium and (3) high; organizational aspects, defined as dimension and experience and measured by the number of employees and the number of years in business; the environmental aspects considering the sector or industry type and measured in three categories: (1) agriculture and primary sector activities; (2) industry and (3) services.

Given the ordinal characteristic of the alternative answers, the selected model – ordered probit model, seems appropriate (see Greene, 1998).

Considering that the firm's propensity in grabbing a specific answer (level) is determined by the following equation:

$$I_i^* = \beta' X_i + \varepsilon_i \quad i=1, 2, \dots, N \quad (1)$$

Being I_i^* the latent variable (not observed), β is the vector of the parameters to be estimated, X_i is the vector of the explicative variables and ε_i shows a stochastic component which assumes itself to be independent and identically distributed $N(0, 1)$.

However, what is observed in the sample is not the variable I_i^* but an I indicator which represents the level to which belong the firm. According to the model we may observe:

$$\begin{aligned} I = 0 & \quad \text{if} \quad I^* \leq \mu_0 \\ I = 1 & \quad \text{if} \quad \mu_0 < I^* \leq \mu_1 \\ I = 2 & \quad \text{if} \quad I^* > \mu_1 \end{aligned} \quad (2)$$

The boundaries μ_k ($k=0,1$) constitute a parameters division of standard normal distribution to be estimated along with β . The probabilities that the firm will be found in one of the three possible alternatives are given by:

$$\begin{aligned} P(L = 0 | X_i) &= P(I^* \leq \mu_0) = P(\varepsilon_i \leq \mu_0 - \beta' X_i) = \Phi(\mu_0 - \beta' X_i) \\ P(L = 1 | X_i) &= P(\mu_0 < I^* \leq \mu_1) = P(\mu_0 - \beta' X_i < \varepsilon_i \leq \mu_1 - \beta' X_i) = \\ &= \Phi(\mu_1 - \beta' X_i) - \Phi(\mu_0 - \beta' X_i) \\ P(L = 2 | X_i) &= 1 - P(I^* \leq \mu_1) = 1 - \Phi(\mu_1 - \beta' X_i) \end{aligned} \quad (3)$$

where Φ indicates the cumulating standard normal distribution function.

Estimation Method

The model can be estimated through the maximum probabilities method. Given the probabilities defined in (3), the maximum probabilities function is presented as follows:

$$L = \prod_{i=1}^N \prod_{j=0}^2 \left\{ \Phi(\mu_j - \beta' X_i) - \Phi(\mu_{j-1} - \beta' X_i) \right\}^{Z_{ij}} \quad (4)$$

where Z_{ij} is the indicative function of the following type:

$$\begin{aligned} Z_{ij} &= 1 & \text{if} & & i \in j \\ Z_{ij} &= 0 & \text{if} & & i \notin j \end{aligned} \quad \begin{array}{ll} i = 1, \dots, N & j = 0, 1, 2 \end{array}$$

However, what is usually maximized is the following function:

$$\text{Log} L = \sum_{i=1}^N \sum_{j=0}^2 Z_{ij} \log \left\{ \Phi(\mu_j - \beta' X_i) - \Phi(\mu_{j-1} - \beta' X_i) \right\} \quad (5)$$

As long as X_i encloses a constant term, the parameters to be estimated are not identified. To overcome this problem is usual to define $\mu_0 = 0$.

Table 1 includes some sample statistics. We used a total of 105 observations and there were 51 firms without international internet sales, 33 with less than 15% of total sales done through these means and 21 with more than 15%. The sample includes 60 firms with more than 50 employees (57.2%) and 28 with more than 250 employees (26.7%).

- insert table 1 about here -

The majority of firms in the sample are services providers, 46 firms (43.8%), followed by industrial firms, 45 firms (42.9%) and agriculture and primary sector firms represent the smaller number, 14 firms (13.3%).

In terms of international sales experience, 51 firms (48.6%) had more than 30% of total sales coming from international markets, 44 firms (41.9%) up to 30%, and 10 firms (9.5%) had no international sales. In terms of internet sophistication, 54 firms (51.4%) were classified as highly sophisticated, 30 firms (28.6%) as medium, and 21 (20.0%) as low. The average percentage of internet sales was 15.7%, the average percentage of internet marketing budget on total marketing budget was 8.9%, and the average business age was 39 years.

The estimation results permit us to reject the null hypothesis that exogenous variables have no explanatory power since the Chi-Square test is above critical values and the Pseudo R-Square from Cox and Snell is 0.58, at a level of 1%.

- insert table 2 about here-

The estimation results reveal that, internet sales level, internet budget, site sophistication, business age and, the number of employees are positively associated with higher international internet sales (going from level 0 to level 2), at a level of significance of 5%. The sector or industry and the international sales level are also significant, but at a significance level of 10%.

These results permit us to consider that the overall model is significant and that the variables considered as determinants of the propensity for a higher level of Internet international sales have explanatory power.

Furthermore, we can verify that the level of Internet international sales varies positively with existence of previous experience of developing international sales and that the experience of the use of the Internet based activities has also significant relation to the development of Internet based international sales, confirming hypothesis one.

Regarding the influence of the technological elements considered, the results show that the percentage that the Internet marketing budget represented in the total marketing budget as proved to be significantly related to higher internet international sales. The same occurs regarding the other variable of the technological environment considered of Internet adoption sophistication, thus confirming hypothesis two.

The model estimation confirmed that the organizational environment variables were significant and positively associated with higher internet international sales. More specifically we found that dimension and age have a positive effect to increment the probability of a firm belonging to the level 2 (more than 15% internet international sales), than being in level 0 (no internet international sales). These results confirm hypothesis three.

The sector or industry proved to be also a significant variable, namely that industry and services had a higher internet international sales than firms on the agricultural or primary sector. The industrial and services sectors do not reveal significant effect on the probability increase from a lower to a higher internet international sales level.

Nevertheless, if these sectors were divided in to a more detailed classification the results might prove different and show more contrasts.

Still these results confirm hypothesis four, that proposed that environment elements can affect the internet international sales level

SECTION 5. DISCUSSION AND CONCLUSIONS

The primary objective of this study is to present and test a conceptual framework concerning the factors influencing Internet international sales.

This study contributes to the literature with the confirmation of two theoretical arguments that explain the level of internet international sales obtained by the firms: first, the importance of previous experience and second, the importance of environmental aspects.

The previous experience is relevant at two levels, (1) in terms of international activity and (2) internet use. This first result shows that internet international sales has an internationalization mode aren't disconnected from the classical theoretical arguments that stress the importance of knowledge to enter foreign markets.

Although the internet provides knowledge and may accelerate the process of experimenting international contacts still we found that having more international experience is also fundamental to develop a higher performance in terms of sales obtained through the internet.

The second result reveals that having experience in using the internet is relevant for internet international sales and reinforces the idea that using this mean implies specific knowledge and skills.

The argument, that environmental elements are determinant in the capacity of a firm being successful using this mean confirms the idea that the internet can not be seen as a universally available tool that fits all in every situation. In fact internet marketing is fundamental in sustaining a strategy of segmentation that can direct the marketing efforts in universe where the level of offers and background noise is very high and the sophistication in the use of the internet shows that using this means requires skilled workers and investment.

The dimension proves that resource-based-view theories are relevant in internet exploration and although the fact that this mean can permit the access of small and medium size companies to foreign markets, resources are determinant to implement this strategy.

The business age shows that in overall there are benefits from a maturation process in the firm and that business using the internet as a means to internationalize should not be confused with the internationalization process of internet technology firms.

The sector or industry of affiliation is also a fundamental environmental element that as to be taken in consideration and different competitive environments and dynamics associated with operational characteristics that can differ significantly is going to have impact on the use of internet as an internationalization mode.

As practical implications for managers we underline the importance of experience, a commitment of available resources and a mature organization to take full advantage of the internet has an internationalization mode. The industry dynamics and characteristics have to be taken carefully in order to do not import solutions that are out of context.

More than any thing we reinforce the importance of international experience in obtaining results when adoption this mean. Indeed, not only international experience, but also internet experience. Therefore, managers should be aware of these facts in order to not expect what internet can not provide without the presence of necessary conditions.

The results of this study need to be interpreted with caution for several reasons. Firstly, this research uses firms in known activity in Internet as respondents to implement an online survey. Thus, the sample may not match the profile of the population and bias may occur because the sample selection.

Secondly, the level of analysis is also a limiting factor, because several others influencing variables could be added to the model. There can possibly be more predictors such as perceived risk, global marketing strategy, management commitment, among others, that may have an influence on internet-base sales adoption.

Hence, future research may investigate the influence of these additional variables to better understand the usage of Internet as an internationalization path.

A broad outcome that can be predicted is that there will be increasing interdisciplinary research, especially due to the fact that domains of international business are becoming more complex as globalization increases.

As consequence of this richer explanations of the phenomenon will be needed, consecutively involving new insights from innovative theories and models.

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-TABLES AND FIGURES TO INSERT IN THE TEXT-

Figure 1 – Conceptual Framework

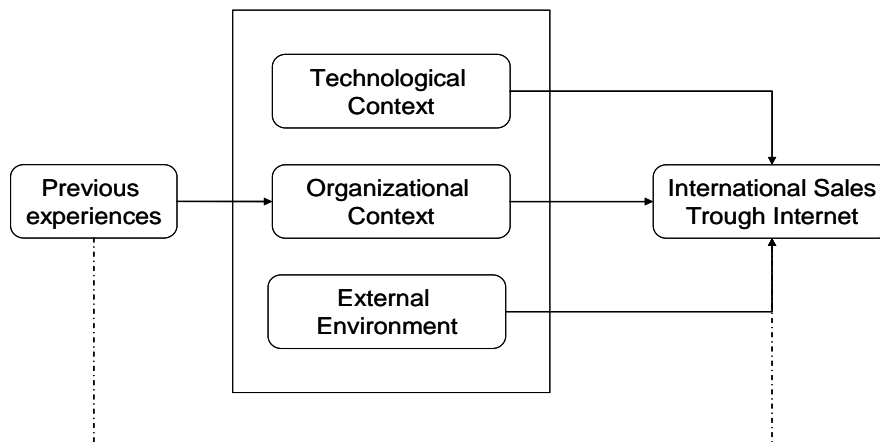


Table 1 – Variables Frequency Distribution

Variables	Scales	N	Percentage
Internet international Sales	Non	51	48,6
	0-15%	33	31,4
	> 15%	21	20,0
International sales	Non	10	9,5
	0-30%	44	41,9
	> 30%	51	48,6
Site Sophistication	Low	21	20,0
	Medium	30	28,6
	High	54	51,4
Employees	0-9	16	15,2
	10-49	29	27,6
	50-250	32	30,5
	+ 250	28	26,7
Sector/Industry	Agriculture	14	13,3
	Industry	45	42,9
	Service	46	43,8
Total		105	

Table 2 – Ordered Probit Model Estimation Results

Variables	Scales	Estimate	Std. Error	Wald	df	Sig.	
Internet International Sales	Non	3,47	1,02	11,67	1,00	0,00	**
	0-15%	4,73	1,14	17,19	1,00	0,00	**
Internet sales	% total sales	2,75	1,28	4,64	1,00	0,03	**
Internet Budget	% total budget	3,37	1,44	5,51	1,00	0,02	**
Business Age	yerras existence	0,02	0,01	6,16	1,00	0,01	**
Number Employees	0-9	2,18	0,95	5,28	1,00	0,02	**
	10-49	0,93	0,87	1,14	1,00	0,29	
	50-250	0,59	0,71	0,70	1,00	0,40	
	> 250 (Ref.)	0,00 .	.	.	0,00 .		
Sector\Industry	Agriculture	-2,69	1,59	2,86	1,00	0,09	*
	Industry	-0,47	0,51	0,82	1,00	0,37	
	Service (Ref.)	0,00 .	.	.	0,00 .		
Site Sophistication	Low	-2,40	1,50	2,55	1,00	0,03	**
	Medium	1,33	0,62	4,64	1,00	0,11	
	High (Ref.)	0,00 .	.	.	0,00 .		
International Sales	Non	-2,96	1,69	3,07	1,00	0,08	*
	0-30%	-0,61	0,57	1,14	1,00	0,28	
	> 30% (Ref.)	0,00 .	.	.	0,00 .		

*** 99% Significance; ** 95% Significance; * 90% significance