

Title of the Paper:

**Internet and Export Marketing: Impact of Internet Use on
Export Revenues of Greek SMEs**

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Abstract

Internet provides SMEs with new opportunities to enhance existing export activities or to find new foreign customers. This study seeks to reveal the impact of Internet on export revenues of Greek SMEs by examining several factors that lead to successful Internet use. Data were gathered via a self-administered mail survey of 312 Greek SMEs identified as having a corporate website (fully operational or under construction and operational within a time span of a month). The findings indicate that the technological infrastructure and internet capabilities of the firm have a significant positive impact on export revenues of Greek SMEs. Psychic distance also had a significant impact on export revenues.

Key Words – Exports, International Marketing, Internet

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Abstract

Internet provides SMEs with new opportunities to enhance existing export activities or to find new foreign customers. This study seeks to reveal the impact of Internet on export revenues of Greek SMEs by examining several factors that lead to successful Internet use. Data were gathered via a self-administered mail survey of 312 Greek SMEs identified as having a corporate website (fully operational or under construction and operational within a time span of a month). The findings indicate that the technological infrastructure and internet capabilities of the firm have a significant positive impact on export revenues of Greek SMEs. Psychic distance also had a significant impact on export revenues.

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Introduction

During the last fifteen years Internet literally changed the landscape of global business arena through a major penetration of companies and households in almost every corner of the planet. The amazing statistics that have been put forward on the growth of the Internet and the WWW, as well as their potential for trade, combined with numerous cases of early successful internet companies like Amazon, Yahoo, eBay, MSN, Google, etc., created the so called Internet Myth, or Internet Bubble. The Internet meltdown, that followed almost seven years of staggering growth and irrational exuberance, is still the subject of extensive analysis and discussion (see for example: Foley and Sutton, 1998; Shama, 2001; Fram, 2002; Rosenbloom, 2002; Constantinides, 2004). Overall, the mood in the e-business circle has swung from extreme exuberance to one of extreme caution (Biswas and Krishnan, 2004, p. 681).

The twin phenomena of e-commerce and globalization pose new challenges and provide new competitive opportunities for both large firms and small and medium-sized enterprises (SMEs). SMEs, in particular, are only beginning to embrace these new opportunities (Tiessen et al., 2001, p. 211). It is, therefore, imperative to develop a better understanding of the impact of Internet on export performance of SMEs by examining several factors that lead to successful Internet use. In order to shed some light on that direction a) a set of hypotheses was generated based on the existing literature, and b) a survey was conducted on a sample of 312 Greek SMEs,

to test the validity of the proposed hypotheses and to reveal which factors have a positive impact on their export revenues.

The paper is organized as follows: first, it delineates the existing research gap on the subject of Internet use for export marketing activities, especially for Greece, followed by a brief and concise description of SMEs in Europe and in Greece. Next, based on the existing literature the research hypotheses are discussed. Then, methodology and findings are presented respectively. Finally, discussion and some managerial implications are highlighted.

Internet and Export Marketing: The Need for Further Research

While there is a large number of studies concerning the role of Internet in international marketing and business activities (see for example: Quelch and Klein, 1996; Hamill, 1997; Hamill and Gregory, 1997; Samiee, 1998a; Avlonitis and Karayanni, 2000; Dou et al., 2002; Lichtenthal and Eliaz, 2003; Moen et al., 2003; Biswas and Krishnan, 2004), relatively little space has been devoted to the potential use of Internet in exporting, even though during the past five years there has been a relative increase of research attempts on the specific scientific area.

The fact that until to date there is a relative dearth of research into the use of Internet as a new and effective channel to export markets, leads to two contradictory implications. On one hand, there are extremely few substantiated theories and empirical research studies to provide a solid and comprehensive theoretical framework, while on the other hand, the challenge to discover and establish the future of this new medium in exporting is big and attractive. Table 1, presents the results of the literature review on the subject of Internet use in export marketing. It includes almost every important study that was published since 1997, grouped according to the approach used. Table 1 provides evidence of the limited research that exists and the relative increase of research attempts in this area during the past five years.

INSERT TABLE 1

The theoretical framework concerning the use of Internet in export marketing is relatively limited and unexplored in the literature. In Greece, there have been only few attempts, to investigate the theoretical background that describes the current situation, as well as some empirical studies funded and conducted either by private Greek companies (e.g. ICAP) or by public organizations like e-Business Forum, Go-Online and the National Observatory for SMEs. The results of these studies, though, are insufficient and of limited usability due to the fact that they simply present some basic indicators like Internet connections, use of e-mail, basic websites that Greek companies visit in order to obtain business information, number of PCs in the company, etc. This study aims to dig deeper in order to provide academics and practitioners with some more substantiated and illustrative theoretical and practical findings.

SMEs in Europe and in Greece

In this study we use the definition of SMEs adopted by the European Union (EU). In 2003, the European Commission adopted the Recommendation 2003/361/EC regarding the SME definition which replaced Recommendation 96/280/EC as of January 2005. This definition uses three basic criteria: number of employees, annual turnover and annual balance-sheet in total, in order to distinguish firms into very small, small, and medium sized enterprises. Table 2 presents the categorization of enterprises based on these criteria.

INSERT TABLE 2

SMEs are often referred to as the backbone of the European and global economy, providing a source for jobs and economic growth, while at the same time the value of the small business sector is recognized in economies worldwide, irrespective of their economic development stage. SMEs play a significant role in every country. According to Eurostat (2008), the main findings regarding SMEs in all member countries (EU-27) are the following:

- SMEs represented 99.8 % of all EU-27 enterprises in the non-financial business economy in 2006, employing 67.4 % of the workforce and generating 57.7 % of total value added.

- SMEs generated more than 80 % of sectoral value added in the EU-27's real estate, recycling and construction activities.
- Within some service sectors, SMEs were more productive than their larger competitors; this was particularly true for the real estate sector and many activities within the services sector.
- SMEs employed 87.6 % of those persons employed in recycling, 88.2 % of the motor trades' workforce, and 88.0 % of those employed in the construction sector.

This evidence highlights the important role of SMEs in Europe. The situation in Greece is more or less the same. According to the National Statistics Organization of Greece (NSOG, 2004), the main findings regarding Greek SMEs are the following:

- SMEs represented 99.5 % (902,631) of all Greek enterprises, while firms that employed 1 to 9 employees (very small firms) constituted 97.4% of the total.
- There is high sectoral gathering around wholesale and retail trade, which was 35% (313,555) of the SMEs.
- There is high regional concentration, since 53% of all Greek SMEs were operating in the Prefecture of Attica (35.6%) and of Central Macedonia (17.4%).

Because SMEs account for a very large part of the Greek business sector, with high sectoral and regional concentration, and because they represent a large part of Gross Domestic Product (GDP) in Greece as well as in EU, they were chosen for the purposes of this study.

Literature Review and Research Construct

In order to identify the factors that influence the impact of Internet use on export revenues of Greek SMEs, the categorization that Morgan-Thomas and Bridgewater (2004, p. 394) used in their similar study, is going to be used here with some adjustments and expansions. In their study, Morgan-Thomas and Bridgewater (2004, pp. 393-402) presented data regarding the subject of the identification of factors affecting successful Internet use in virtual export channels, and they used a sample of 705 British exporters with corporate Web sites. More

specifically, they grouped moderating factors of Internet use into four main areas: a) marketing functions replaced by the Internet, b) the internet capability of the firm, c) existing export activities, and d) market acceptance and use of the Internet.

Due to similarities between the two studies, the categorization of Morgan-Thomas and Bridgewater is going to be used here with some adjustments and expansions that derived by two main reasons. First, in their study Morgan-Thomas and Bridgewater (2004, p. 398) used for their sample both large firms and SMEs, while in this study the focus lies only with SMEs. Due to this focus, and because of the fact that SMEs profitability and ongoing expansion rely heavily on the subjects of management attitude, entrepreneurship and innovativeness (Poon and Swatman, 1997, p.398), it is very important to include those issues in the context of this study. Secondly, the study of Morgan-Thomas and Bridgewater (2004, p. 398) focuses on British companies while the focus of the present study is oriented towards Greek firms, which means that there are important social and cultural differences between these two groups that needs to be taken into account.

Based on the above differentiations between the two research studies, the first area of Morgan-Thomas and Bridgewater's categorization will be altered, because the issues of management approach, entrepreneurship and innovativeness are of great importance for the survival and growth of Greek SMEs, and it will be named "Management's entrepreneurship and attitude towards Internet". For the purposes of this study, the issue of "Marketing functions replaced by the Internet" is incorporated into the second main area. In addition, due to important social and cultural aspects of Greek reality and daily life, a fifth area entitled "Psychic Distance" is going to be included in order to gain better insight on those specific aspects. The nature of research construct for the present study is presented in Figure 1.

INSERT FIGURE 1

Management's entrepreneurship and attitude towards Internet

SMEs share some common attributes with their larger counterparts, such as the need for long-term profitability, but in many respects they behave in a distinctly different manner due to factors such as resource constraints and the impact of owners/managers exerting a high degree of locus of control in decision making. It is very important to highlight the fact that there are differences in attitude towards embracing Internet and e-business in SMEs because of core owner/manager factors not found in firms of other sizes (Fillis et al., 2004, pp. 178-179). Two of these factors which are very important are the following: a) management's enthusiasm and b) management's level of entrepreneurship. Management's "laager" mentality, which has locked several SMEs into an insular, inwardly oriented way of thinking, can be a great obstacle to the diffusion and adoption of Internet use for exporting purposes (Moodley, 2002, p. 649). Research suggests that companies with owners or managers being proactive and eager to adopt and promote Internet use for exporting purposes, are more likely to perform better results in their performance (Poon and Swatman, 1997, pp. 394-395; Rosson, 2004, p. 174).

Accordingly, a large number of research studies support the view that entrepreneurial orientation improves a firm's financial performance in terms of sales growth and profitability (see for example: Schoollhammer, 1982; Namen and Slevin, 1993; Brown, 1996; Wiklund, 1999; Barrett et al., 2000). Moreover, there is evidence that owners/managers of SMEs with high entrepreneurial orientation are more likely to exploit Internet enabled opportunities and lead to an improvement of the firm's financial performance via a significant growth of export sales and profitability (Mostafa et al., 2006, pp. 299-300). As such, the following hypothesis is offered for testing:

H1: The level of management's entrepreneurial orientation and enthusiasm in promoting Internet use has a positive impact on SMEs export revenues.

The Technological and Internet Capability of the Organization

a) IT and Internet literacy within the firm. The literature identifies different types of organizational learning while at the same time it contends that experiential knowledge may play a significant role in order for firms to apply new technology effectively and to improve the likely success of technological introduction (Morgan-Thomas and Bridgewater, 2004, p. 396). Moreover, practice has identified the firm's level of technological know how as one of the most important Internet competencies (Fillis et al., 2004, p. 186). Several research studies revealed that the level of IT and Internet knowledge and experience within a firm had a significant impact on export performance and Internet adoption (Bennett, 1997; Dholakia and Kshetri, 2004; Morgan-Thomas and Bridgewater, 2004; Mostafa et al., 2006). In addition, it is suggested that the successful use of Internet and e-commerce as a strategy for expansion into new markets is likely to be influenced by factors such as the technical infrastructure and the availability of IT literate personnel (Moodley, 2002, p. 653). As such, the following hypothesis is offered for testing:

H2: The level of IT and Internet knowledge and experience within a firm has a positive impact on its export revenues.

b) Level of technological infrastructure and investment on Internet within the firm. Although technology is not the final arbiter of success, it is important because it provides firms with the ability to enhance their activities. Due to the fact that technology evolves rapidly, firms need to perform periodic upgrades for hardware as well as software in order to offer functionality to themselves, to partners, and to customers (Rosson, 2004, p. 174). Therefore, it is suggested that firms with important resources and adequate infrastructure are hypothesized to be better able to adopt and use the Internet effectively (Morgan-Thomas and Bridgewater, 2004, p. 396).

While there are several research studies denoting that the Internet has the potential of neutralizing some existing advantages of bigger corporations and thus creating a level playing field for almost any interested SME to obtain a presence on the Internet and to list its address on

various directories and Internet search engines (Quelch and Klein, 1996, p. 60; Hamill and Gregory, 1997, p. 9; Hoffman and Novak, 1997, p. 49; Moodley, 2002, p. 652; Wilson and Abel, 2002, p. 88; Moen *et al.*, 2003, p. 129), there are other researchers expressing a different point of view by underlining the fact that large firms still enjoy a substantial competitive advantage mainly because of larger resources (Samiee, 1998b, p. 425; Samiee, 1998a, pp. 18-19; Arnott and Bridgewater, 2002, p. 94; Moodley, 2002, p. 652; Eid and Trueman, 2004, p. 25). In order to set up and run a successful corporate website, SMEs need several investments that include financial resources for: i) the development and implementation of the website, ii) covering running costs, maintenance and upgrading, and iii) acquisition and training of the staff that coordinates the integration of the Internet with existing marketing processes (Morgan-Thomas and Bridgewater, 2004, p. 395). Hence, the literature hypothesizes that there is a link between resource commitment to the Internet and the success of its implementation for exporting purposes. As such, the following hypothesis is offered for testing:

H3: *The level of technological infrastructure and investment on Internet within a firm has a positive impact on its export revenues.*

Export Experience

There have been numerous attempts in international literature to describe and reveal the impact of export experience on export performance and market research (see for example: Wiedersheim-Paul *et al.*, 1978; Bilkey, 1982; Gripsrud, 1990; Ali and Swiercz, 1991; Da Rocha and Christensen, 1994; Hart *et al.*, 1994; Katsikeas and Morgan, 1994; Ogbuehi and Longfellow, 1994). On the other hand, very few research studies refer to the link between export experience and successful Internet use (see for example: Moodley, 2002; Morgan-Thomas and Bridgewater, 2004). Literature contends that high levels of export experience do not appear to have a beneficial effect on exporters' ability to use the Internet effectively as a channel to market (Quelch and Klein, 1996, pp. 65-69). A lack of alternative channels to

international markets forces Internet start-ups and less experienced exporters to rely on technology to a much greater extent. In that way, they may generate greater benefits as they are more proactive in adopting new technologies and especially Internet (Morgan-Thomas and Bridgewater, 2004, p. 397). As such, the following hypothesis is offered for testing:

H4: The level of firm's export experience has a negative impact on its export revenues attributable to the use of Internet.

Market competition, acceptance, and use of the Internet

Adoption of the Internet is influenced by and has an influence on other firms and customers within the market (Grewal et al., 2001, p.30). In their research, Poon and Swatman (1997, p. 396) observed that if a small business has more customers and business partners using the Internet, it was itself more willing to use the Internet for its business. They stated the fact that there seemed to be a “peer encouragement” effect, particularly if all parties had convincing evidence that the use of Internet would support their business operations. In their study on the effect of the Internet on international trade, Freund and Weinhold (2004, p. 172) found that growth in the number of corporate web sites in a country helped to explain export growth in the following year. Moreover, Katz and Shapiro (1994, pp. 103-105) suggest that the benefits of using the Internet increase with the number of users and the size of the network. The ways in which benefits increase with larger networks (Network Effects) include, for example, increased ability to communicate with other suppliers, partners, or customers, greater search capability, overcoming compatibility teething problems and the danger of being excluded from a business community which has switched to the new technology.

Morgan-Thomas and Bridgewater (2004, p. 395) claimed that if a new technology is widely accepted as a channel of communication and/or transaction by customers and competitors within the market, other firms may have to adopt the specific technology to maintain their competitive position. Use of the Internet by a dominant competitor may

encourage its use by others, as it suggests that the technology has revenue-generating potential.

As such, the following hypothesis is offered for testing:

***H5:** The level of Internet usage by suppliers, partners, customers, and competitors in the foreign export market has a positive impact on SMEs export revenues.*

Psychic Distance

Although the term “psychic distance” has been used in prior research (Beckermann, 1956), early studies of Nordic multinationals generally are taken as the starting point in discussions and research on the concept of psychic distance (O’Grady and Lane, 1996, p. 311). Psychic distance concerns such matters as differences in language, cultures, business practices and levels of economic development between the exporter’s home nation and the relevant foreign country (Bennett, 1998, p. 28).

It has been argued that information technologies and, in particular, the Internet are shrinking the world, making access to international markets faster, cheaper and easier, bringing suppliers closer to foreign countries, and turning global business arena into a small and relatively homogeneous place (Bennett, 1998, p. 29). According to Ghemawat (2001, p. 138), that’s not only an incorrect assumption, but it is also a dangerous one. Distance still matters, and companies must explicitly and thoroughly account for it when they make decisions about global expansion.

A very interesting approach on the effect of distance on global business expansion has been made by Ghemawat (2001, p.140) through a four dimensional framework, which he called the “CAGE Distance Framework”. The first dimension of the framework is called “Cultural Distance” and it is created between two countries when there are four main attributes: a) different languages, b) different social norms, c) different religions, and d) different ethnicities. These attributes can have a huge impact on international trade as well as on the adoption of new technologies as commercial mediums, like the Internet. For example, all other things being

equal, trade between countries that share a language will be three times greater than between countries without a common language.

Some cultural attributes, like language, are easily perceived and understood while others are much more subtle. Social norms, the deeply rooted system of unspoken principles and common social habits that guide individuals in their everyday choices and interactions, are often nearly invisible, even to people who abide by them (Ghemawat, 2001, p. 142). Cultural aspects, and more specifically language and social norms have a strong influence on the comprehensiveness and the efficacy of Internet-based exporting strategies (Bennett, 1997, p. 337; Samiee, 1998b, p. 421).

Although English is the global language of business, exporters must be acutely aware that English fluency, even in developed nations, is not broad based. For customer-oriented Greek SMEs who wish to overcome the problem of psychic and cultural distance, this means that they have to develop multi-language corporate websites to successfully reach their target markets and to communicate more effectively with their clients and suppliers (Samiee, 1998b, pp. 422-423). As such, the following hypothesis is offered for testing:

H6: The number of languages in which the firm's corporate website is translated into has a positive impact on its export revenues.

Finally, the successful Internet use for expediting export business processes and fulfilling revenue enhancement goals is likely to be influenced by cultural social norms. Some international transactions, particularly with high-context cultures like the Greek one, revolve around personal contacts (Samiee, 1998b, p. 423). International customers from high-context cultures seek personal contacts and face-to-face meetings with the firm in order: a) to retrieve as much information as possible about the products of their interest, b) to have a direct dialogue that will help them satisfy their needs in a better way, like for example expressing directly their possible complaints, or having the opportunity to return problematic products and replace them with new ones in a short period of time, and c) to build a more personal business relationship

with the firm's staff that will enable them to have a higher level of trust on their business transaction. In order for exporting firms to fulfill the customers' need for personal contact with them, they are obliged to obtain foreign representation (Bennett, 1998, p. 40).

Internet, on the other hand, is by nature an international communication medium that enables exporting firms: a) to include in their corporate websites as much information about themselves as they wish, b) to fully explain and demonstrate a product, c) to make direct sales via interactive dialogue, d) to obtain the opportunity to be local in many foreign markets through the adaptation of information to local users, thus relieving them from the obligation and the costs of seeking foreign representation, e) to collect specific information directly and to involve the visitor in a continuing dialogue, f) to offer online customer support, and g) to obtain instant reaction to its offers from distant markets (Bennett, 1997, p. 325; Bennett, 1998, pp. 27-28; Rosson, 2004, p. 148). Based on the advantages described above, the use of Internet with international customers from high-context cultures may be regarded as an alternative, or a new medium, to conventional international marketing based on personal contacts (Bennett, 1997, p. 337) replacing foreign representation and enhancing export performance and profitability. Hence, it is suggested that Internet can help exporting SMEs to satisfy their customers need for personal contact in a very efficient way, resulting in an increase of their export revenues. As such, the following hypothesis is offered for testing:

H7: The use of Internet by exporting firms with international customers that have a high need for personal contact has a positive impact on its export revenues.

Methodology

The study was based on an empirical investigation of Greek exporting SMEs that had a corporate website (fully operational or under construction and operational within a time span of a month). In order to identify the size of each firm and to exclude large companies from the

sample, the two most commonly used criteria from the new Recommendation 2003/361/EC of the European Commission, the number of employees and annual turnover, were used.

A questionnaire was developed and pre-tested using a small sample of Greek exporters. The final instrument was e-mailed and a cross-sectional survey was used to collect the data from a sample of 312 Greek SMEs identified from the Greek Export Directory 2007-2008 published by the Athens Chamber of Commerce and Industry (ACCI). The research generated 80 usable questionnaires, accounting for an effective response rate of 25.6 percent which is considered to be adequate (Groves, 1990) as similar response rates have been achieved in prior international and export marketing research by Morgan-Thomas and Bridgewater (2004, p. 398). All the constructs in the study that examined the use of the Internet in exporting evolved from the literature (Bennett, 1997; Poon and Swatman, 1997; Samiee, 1998b; Morgan-Thomas and Bridgewater, 2004; Mostafa et al., 2006). Almost all items were measured via a five-point scale. Only export experience was measured via a three-point scale in order to categorize it into three groups (limited, average, and extended experience), and number of languages via a seven point scale in order to be able to include a more detailed measurement.

The sample includes firms spanning a size range from 2 to 249, with an average of 62 employees. Twenty three categories of industrial sectors were identified, with food industry to account for 18.8 percent, manufacturing for 10 percent, computers and office machinery for 7.5 percent, and agricultural products for another 7.5 percent. The remaining percentage of 56.2 percent breaks down into clothing industry (6.3 percent), furniture (6.3 percent), textile (6.3 percent), metal products, raw materials, plastic products, wines, refreshments and alcohol drinks, chemicals (3.8 percent each), hi-tech (2.5 percent), leather and furs, publishing, traditional art, machinery/components, wood products, petroleum/fuels, footwear, medical/drugs (1.3 percent each), and other (6.3 percent). The majority of the respondents are located in the prefectures of Attica (27.5 percent) and of Central Macedonia (41.3 percent).

The literature proposes that the appropriateness of the Internet for an exporter should be viewed primarily in terms of incremental revenue attributable to the use of Internet in exporting (Poon and Swatman, 1997, p. 392; Samiee, 1998a, pp. 413-414; Moodley, 2002, p. 654; Morgan-Thomas and Bridgewater, 2004, p. 398; Rosson, 2004, pp. 1-2) and secondarily in light of its direct and indirect costs and benefits (Samiee, 1998a, p. 414; Moodley, 2002, p. 654; Rosson, 2004, pp. 1-2). Thus, the dependent variable for this study is going to be measured in terms of incremental revenues (primary focus) attributable to the use of Internet in exporting based on firms' change of export revenues during the past 12 months.

All items included in this study were measured according to previously validated scales identified by the literature. More specifically, management's entrepreneurship and attitude towards Internet were measured via items that tapped the extent: a) of how fast the firm adopted Internet in comparison to other companies that belong to the same sector (Poon and Swatman, 1997), b) to which management supports with enthusiasm the promotion of Internet use (Morgan-Thomas and Bridgewater, 2004), c) to which management is willing to take on some risks in order to promote Internet use, and d) to which firm's management adopts new strategies and innovations regarding Internet use (Fillis et al., 2004, Mostafa et al., 2006).

IT and Internet literacy within the firm were measured via items that assessed: a) staff's level of certified IT knowledge, and b) the level of staff's experience on Internet use (Bennett, 1997; Morgan-Thomas and Bridgewater, 2004). The technological infrastructure and investment on Internet was measured via items that tapped the level of the firm's: a) technological infrastructure, b) initial investment in Internet-related hardware/software, c) ongoing investment in Internet-related hardware/software, d) strategic planning for Internet activities, and e) overall Internet investment in terms of time and resources (Morgan-Thomas and Bridgewater, 2004). Export experience was measured in terms of years that the firm operates in foreign countries (Morgan-Thomas and Bridgewater, 2004).

Market competition, acceptance and use of the Internet were measured via items that tapped: a) the level of a firm's pressure derived from foreign suppliers and customers to adopt the Internet, b) the number of competitors in foreign markets that use the Internet, c) the level of Internet usage by competitors in foreign markets, and d) the number of competitors in the firm's main export market (Morgan-Thomas and Bridgewater, 2004). Psychic distance was measured via two separate items/scales. First, the number of languages in which the firm's corporate website is translated into, and second customers need for personal contact with the firm (Samiee, 1998b). Due to the fact that these two variables are measured via different distributional characteristics of data (a five-point scale for customers need and a seven-point scale for number of languages), they are going to be treated as separate items. The final reliabilities for almost all scales were greater than 0.70, with one being over 0.80 and one being slightly lower than 0.70. Table 3 provides a summary of the constructs along with alpha reliabilities.

INSERT TABLE 3

Statistical Analysis and Findings

A multiple regression was conducted to examine the relationship between the incremental revenues attributable to the use of Internet in exporting of Greek SMEs as a dependent variable and the seven items discussed in the section "Literature Review and Research Construct" as the independent variables. Table 4 presents the results of multiple regression analysis, which indicates that the combined effects of the explanatory variables (which were not multicollinear to any damaging extent) were strongly significant ($F = 4.354, p < 0.001$).

INSERT TABLE 4

The analysis resulted in an $R^2 = 0.297$ suggesting that the seven independent variables explained 29.7 percent of the variation in the incremental revenues attributable to the use of Internet in exporting of Greek SMEs. Overall, three coefficients concerning the research

hypotheses, Technological infrastructure and investment on Internet (H3), number of languages (H6), and customers need for personal contact with the firm (H7), are significant at the level of 0.05 or higher. The rest of the hypotheses are not supported. In terms of the magnitude of effects, the results revealed that the firm's technological infrastructure and investment on Internet represents the strongest factor in enhancing its export revenues (0.343). This is followed by the number of languages in which the firm's corporate website is translated into (0.232), and by customers need for personal contact with the firm (0.213).

Discussion and Managerial Implications

This research study identifies a number of findings which make a contribution to the understanding of the extent to which Greek SMEs can enhance their export revenues from the use of Internet. The presentation and discussion of these findings follows the headings presented in Figure 1.

Management's entrepreneurship and attitude towards Internet

Previous research suggests that companies with owners or managers being proactive and eager to adopt and promote Internet use for exporting purposes, are more likely to perform better results in their performance (Poon and Swatman, 1997, pp. 394-395; Rosson, 2004, p. 174). Moreover, there is evidence that owners/managers of SMEs with high entrepreneurial orientation are more likely to exploit Internet enabled opportunities and lead to an improvement of the firm's financial performance via a significant growth of export sales and profitability (Mostafa et al., 2006, pp. 299-300). The results of this paper do not support those suggestions. The findings showed that there is no significant relation between management's entrepreneurial orientation and enthusiasm in supporting Internet use and the firm's export revenues. Even though there is a positive impact (0.341), this impact is not significant. This could be true due to several reasons like restricted financial resources of Greek SMEs, low cash flow in the Greek market, and the world financial crisis. All these factors have a negative effect on management's

entrepreneurial orientation because they can impose certain financial restrictions on the implementation of new strategies and innovations that demand specific funding and cash flows.

The Technological and Internet Capability of the Organization

International literature suggests that the successful use of Internet and e-commerce as a strategy for expansion into new markets is likely to be influenced by several factors. Among these factors, the availability of IT literate personnel is of great importance (Moodley, 2002, p. 653). In addition, the results of a number of research studies showed that the level of IT and Internet knowledge and experience within a firm had a significant impact on export performance and Internet adoption (Bennett, 1997; Dholakia and Kshetri, 2004; Morgan-Thomas and Bridgewater, 2004; Mostafa et al., 2006). The findings of this paper do not support this suggestion, since there seems to be a negative (-0,329) and insignificant impact of staff's level of Internet knowledge and experience on firm's export revenues. This negative and insignificant impact could be caused by the fact that extensive IT knowledge and Internet experience creates the illusion of technological security within the firm, thus making managers less proactive and energetic towards Internet use for exporting purposes.

Research suggests that firms making a larger financial and managerial investment in technology as a whole, reap higher rewards from the Internet than those who do not (Chatterjee et al., 2002). This suggestion creates a link between resource commitment to the Internet and the success of its implementation for exporting purposes. This hypothesis is supported in the research of Morgan-Thomas and Bridgewater (2004), as well as in the present study. Moreover, it is suggested that firms with adequate technological infrastructure are hypothesized to be better able to adopt and use the Internet effectively (Rosson, 2004). Despite the fact that the results of Morgan-Thomas and Bridgewater (2004) showed that there is no support for that suggestion for British companies, the findings of this research regarding Greek SMEs revealed

that the firm's technological infrastructure has a strong and significant positive impact (0.749) on its export revenues.

Export Experience

Literature contends that high levels of export experience do not appear to have a beneficial effect on exporters' ability to use the Internet effectively as a channel to market (Quelch and Klein, 1996, pp. 65-69). Morgan-Thomas and Bridgewater's (2004) provided more evidence on that direction, denoting that firms with less export experience succeed better with virtual export channels. The results of our study revealed that for Greek SMEs there is indeed a negative (-0.09) relationship between the firm's export experience and its export revenues, but this relationship is not statistically significant and thus this hypotheses is not supported. One possible explanation for the negative relationship between export experience and the export revenues attributable to Internet use, is that firms with lower levels of export experience are more committed to Internet technology and more proactive when faced with technological change (Morgan-Thomas and Bridgewater, 2004, p. 401).

Market competition, acceptance, and use of the Internet

The existence of network effects for the Internet suggests that the value of the Internet does indeed appear to lie in its connectivity (Hamill and Gregory, 1997, pp. 19-23). Moreover, it is proposed that the value of the Internet to exporters will increase with increases in its connectivity (Morgan-Thomas and Bridgewater, 2004, p. 400). The findings of Morgan-Thomas and Bridgewater's (2004) showed strong support for the existence of network effects. The more other firms are linked to the Internet, the more information can be accessed. In contradiction with the literature, our research yielded a negative (-0.237) but insignificant relationship between the level of market competition, acceptance, and use of the Internet and the firm's export revenues. This negative relationship cannot be explained thoroughly and sufficiently, due to the fact that there is no available information: i) on both the number and the

identity of foreign export markets that the firms of the sample are operating, and ii) regarding the level of market competition, acceptance, and use of the Internet in these markets.

Psychic Distance

Literature contends that SMEs who wish to overcome the problem of psychic and cultural distance, have to develop multi-language corporate websites to successfully reach their target markets and to communicate more effectively with their clients and suppliers since English fluency, even in developed nations, is not broad based (Samiee, 1998b, pp. 422-423). As a consequence, Greek SMEs that are able to have their corporate website translated into several languages will overcome more effectively the problem of psychic distance. In accordance with Bennett's (1998, p. 37) results, our research showed a strong positive (0.303) and significant impact of the number of languages in which the firm's corporate website is translated into on its export revenues, and thus this hypotheses is strongly supported.

Concerning the issue of foreign customers' need for personal contact with the firm, our results are in accordance with the literature, suggesting that Internet can help exporting SMEs to satisfy their customers need for personal contact in a very efficient way, resulting in an increase of their export revenues. More specifically, findings support this hypothesis yielding a strong positive (0.395) and significant relationship between the level of international customers need for personal contact with the firm and its export revenues attributable to Internet use.

The present study makes a valuable contribution by extending the literature on the relationship between the Internet and SMEs export revenues in several areas within the specific Greek context. First, it classifies the market and firm-level capabilities that may have an impact on how effectively firms can use Internet in order to enhance their profitability and distinguish them into five main categories presented in Figure 1. Second, the constructs developed here can serve as a foundation for further research into the Internet and SMEs enhancement of export revenues. Third, the study has contributed to a more comprehensive understanding of the

success factors in export marketing and the role the Internet plays. Fourth, evidence has been provided that the firm's technological infrastructure and overall investment on Internet will have a strong positive impact on its export revenues. Finally, the management of Greek exporting SMEs need to be aware of the fact that the use of Internet can reduce the effects of the psychic distance dimension and enhance their export profitability. Therefore, it is strongly suggested that they develop multi-language corporate websites to successfully reach their target markets and to provide their clients and suppliers in foreign countries with a lot of product information and with the opportunity for an interactive online dialogue.

Conclusions

This study provides an insight on the current situation of successful Internet use for exporting purposes by Greek SMEs. The results are broadly consistent with those of previous research in both the export marketing and Internet applications fields. Greek exporting SMEs need to obtain a strong technological infrastructure as well as to invest on Internet technology in order to increase their export revenues, while it seems that when they operate several corporate websites in several different languages, they have better results regarding their export profitability. Furthermore, it seems that the use of Internet can help Greek SMEs to satisfy their international customers need for personal contact in a very efficient way, resulting in an increase of their export sales. Management's entrepreneurial orientation and enthusiasm in promoting Internet's use for exporting purposes, IT and Internet literacy within the firm, exporting experience, and export market's competition, acceptance, and use of Internet are factors that Greek exporting SMEs have to take into account, but not as their primary focus.

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Tables & Figures

Table 1: Research studies on the subject of Internet use in export marketing

| | Theoretical Approach | Theoretical & Empirical Approach Using the Method of Case Studies | Empirical Approach Using the Method of Mailed Questionnaires | Theoretical & Empirical Approach Using the Method of Mailed Questionnaires |
|----|-----------------------------|--|---|---|
| 1 | Auger and Gallagher (1997) | Poon and Swatman (1997) | Bennett (1997) | Freund and Weinhold (2004) |
| 2 | Samiee (1998b) | Rosson (2004) | Pitis and Vlosky (2000) | Morgan-Thomas and Bridgewater (2004) |
| 3 | Petersen et al. (2002) | | Moodley (2002) | Nguyen and Barrett (2006) |
| 4 | Fillis et al. (2004) | | Sorensen and Buatsi (2002) | |
| 5 | Karavdic and Gregory (2005) | | Dholakia and Kshetri (2004) | |
| 6 | Lu and Rao (2008) | | Julian and Holvedahl (2005) | |
| 7 | | | Loane (2006) | |
| 8 | | | Mostafa et al. (2006) | |
| 9 | | | Lu and Julian (2007) | |
| 10 | | | Clarke (2008) | |
| 11 | | | Lu and Julian (2008) | |

Table 2: Definition of SMEs according to the new Recommendation 2003/361/EC by European Commission

| | Very Small | Small | Medium |
|---|-------------------|----------------|-----------------|
| <i>Number of Employees</i> | < 10 | < 50 | < 250 |
| <i>Annual Turnover (in mil. Euros)</i> | < 2 | < 10 | < 50 |
| <i>Annual Total Balance-Sheet (in mil. Euros)</i> | < 2 | < 10 | < 43 |

Source: http://ec.europa.eu/enterprise/enterprise_policy/sme_definition/index_en.htm

Figure 1: Nature of construct

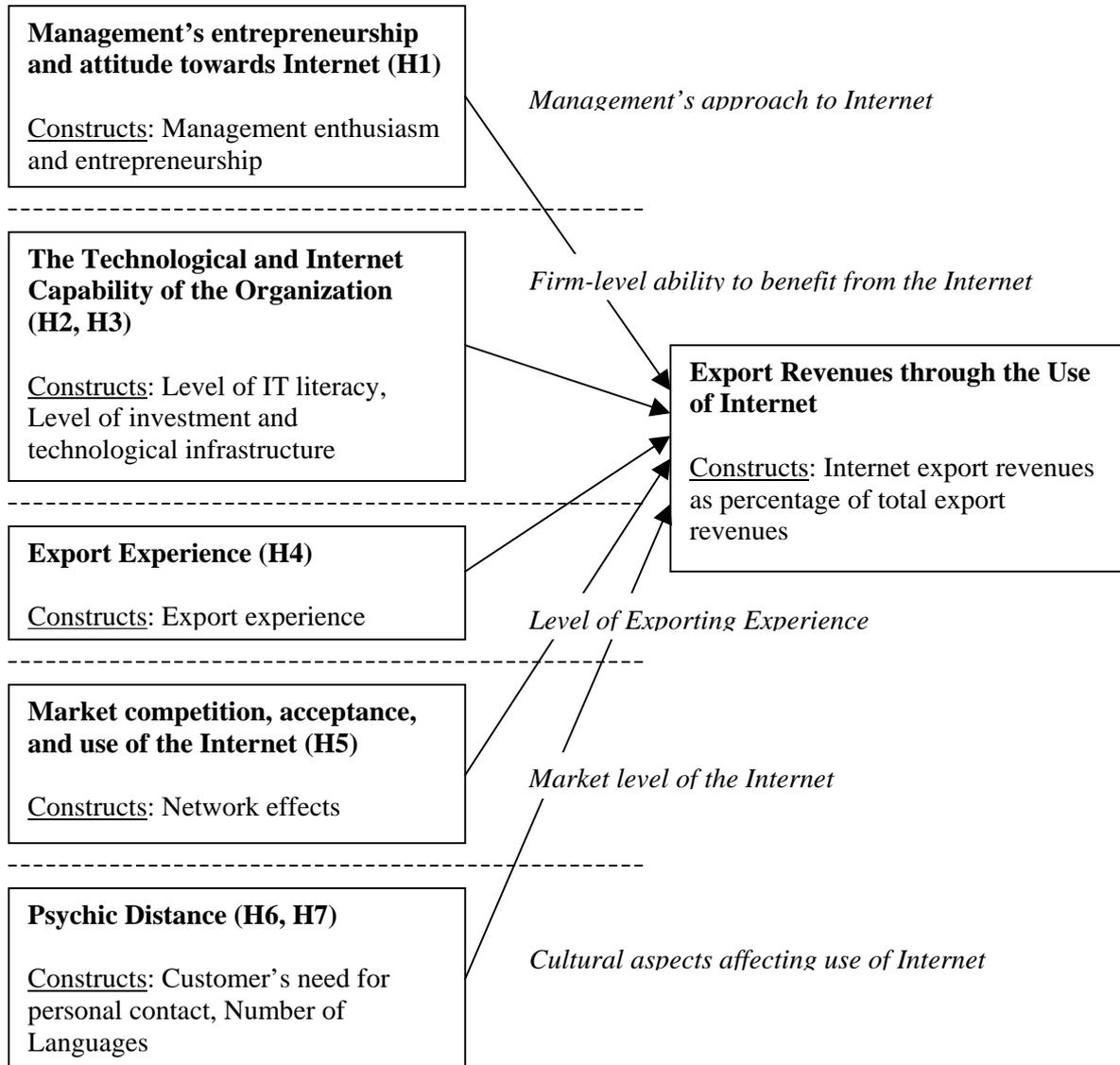


Table 3: Summary of constructs and alpha reliabilities

| Variable name | Measured Items | Cronbach's Alpha |
|---|--|------------------|
| Management's entrepreneurship and attitude towards Internet | i. Firm's Internet adoption rate ii. Level of firm's management enthusiasm iii. Willingness of firm's management to take on some risks iv. Level of firm's management adoption of new strategies and innovations | 0.686 |
| IT and Internet literacy within the firm | i. Staff's level of certified IT knowledge ii. Level of staff's experience on Internet use | 0.700 |
| Technological infrastructure and investment on Internet | i. Technological infrastructure ii. Initial investment in Internet-related hardware/software iii. Ongoing investment in Internet-related hardware/software iv. Strategic planning for Internet activities v. Overall Internet investment in terms of time and resources | 0.886 |
| Market competition, acceptance and use of the Internet | i. Level of firm's pressure derived from foreign suppliers and customers to adopt the Internet ii. Number of competitors in foreign markets that use the Internet iii. Level of Internet usage by competitors in foreign markets iv. Number of competitors in the firm's main export market | 0.709 |

Table 4: Multiple regression analysis

| Independent Variables | B | Beta | t | Sig. | Hypothesis | Supported? |
|-----------------------|--------|--------|--------|-----------|------------|------------|
| Entrepreneurship | 0.341 | 0.139 | 1.081 | 0.283 | H1 | No |
| Literacy | -0.329 | -0.139 | -1.280 | 0.205 | H2 | No |
| TechInfrastructure | 0.749 | 0.343 | 2.715 | 0.008**** | H3 | Yes |
| ExportExperience | -0.090 | -0.042 | -0.402 | 0.689 | H4 | No |
| NetworkEffects | -0.237 | -0.108 | -1.008 | 0.317 | H5 | No |
| NumLanguages | 0.303 | 0.232 | 2.286 | 0.025*** | H6 | Yes |
| NeedforContact | 0.395 | 0.213 | 2.062 | 0.043*** | H7 | Yes |

$R^2 = 0.297$ $n = 80$ $df = 7$

Notes: ***Significant at $p < 0.05$; ****Significant at $p < 0.01$