

Title of the Paper:

**A Stages Model of Internet Adoption by Exporting SMEs:
An Empirical Investigation**

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Introduction

Since the second semester of 2008, Greece is facing an ongoing economic, social, fiscal and financial crisis that puts into test all fundamental structures of the country. At the end of 2009, the crisis was enhanced in such a level that help was asked from European Union and IMF in order to support all aspects of social welfare and business activities. The first six months of 2010 were very difficult for every Greek company due to several reasons like for example a lack of financing caused by the decrease of cash flows in the banking sector, a decrease of Greek consumers' activity, an increase of direct and indirect taxes, the existence of bureaucracy regarding the majority of transactions with the public sector, the existence of political and legal corruption, the non-existence of measures supporting foreign investments and domestic economic growth, etc. The negative effect of this crisis was even stronger on Greek SMEs since they face more problems on finding new customers, on keeping prices steady and on obtaining new financial resources comparing to their larger counterparts.

A possible solution for some of the main problems of Greek SMEs is potentially offered by the use of Internet. Firms from several countries of the world became interested in the Internet and the WWW almost as soon as it appeared. Internet has made possible international transmission of services on a scale that was not possible via fax and telephone. Apart from the user-friendly and consumer oriented homepages, the present popularity of Internet as a commercial medium is due to its ability to facilitate global sharing of information and resources, as well as its potential to provide companies with an efficient channel for

advertising, marketing and even for direct distribution of certain goods and information services (Ng et al., 1998). Through the Internet, businesses are able to find suppliers and buyers, conduct valuable market research, and post information on their products and services. At an even more sophisticated level, exporters can use the Internet to do everything from submitting documentation to booking a container on a ship (Larson, 1996).

This paper is organized as follows: first, it delineates Internets' contribution (advantages, problems, challenges) to the internationalization process of small and medium-sized enterprises, followed by a literature review on the subject of identified stages of Internet use at company level. Next, based on the existing literature a theoretical stages model of Internet adoption at company level for exporting SMEs is proposed. Then, the implementation of the proposed theoretical model is described through an empirical research that was conducted on a sample of 80 Greek exporting SMEs, followed by the presentation of methodology and findings of the empirical investigation. Finally, discussion, some managerial implications and general conclusions are highlighted.

Internets' Contribution to the Internationalization Process of SMEs

In recent years, the adoption of the Internet as a new channel for firms' international development has captured the imagination of various scholars (see for example: Quelch and Klein, 1996; Hamill, 1997; Samiee, 1998a,1998b; Avlonitis and Karayanni, 2000; Dou *et al.*, 2002; Moodley, 2002; Petersen *et al.*, 2002; Lichtenthal and Eliaz, 2003; Moen *et al.*, 2003; Biswas and Krishnan, 2004; Clarke and Wallsten, 2004; Freund and Weinhold, 2004; Clarke, 2008; Shneor and Flaten, 2008; Shneor, 2009). Moreover, several authors and academics have proposed the use of Internet as a tool to facilitate the internationalization especially of the SMEs (Angelides 1997; Auger and Gallagher, 1997; Hamill 1997; Hamill and Gregory 1997; Poon and Jevons 1997; Wilson and Abel 2002; Kula and Tatoglu, 2003; Moen *et al.*, 2003; Chrysostome and

Rosson, 2004; Dholakia and Kshetri, 2004; Rosson, 2004; Hinson and Sorensen, 2006; Loane, 2006; Mostafa *et al.*, 2006).

Internet can be a very helpful tool for managers of small and medium sized enterprises (especially during the current crisis in Greece) in their internationalization effort due to a large number of potential advantages that can be derived from its use, like for example its global nature, the low cost of acquiring information, the continuous (24/7) and low cost advertisement and promotion of the products, the access to new unexploited markets, the low costs of initiation and maintenance, the higher efficiency of business transactions, the high speed along with the low cost of communications, the removal of all geographical constraints, and the enhancement of market research and analysis (Ainscough and Lockett, 1996; Pallab, 1996; Quelch and Klein, 1996; Poon and Swatman, 1997; Bennett, 1997; Bennett, 1998; Breitenbach and Van Doren, 1998; Kiang *et al.*, 2000).

On the other hand, Internet can also be a nightmare for SMEs that are not aware of the challenges that the Internet creates (Palumbo and Herbig, 1998). The main problems in this new environment regarding the internationalization process are lack of security, lack of privacy, lack of censorship, absence of unified international law, lack of protection of the intellectual property, cultural aspects (such as different languages, different perception of images, gestures and colors), personal computers' availability (especially for developing countries), the different popularity of credit card use across nations (Palumbo and Herbig, 1998; Melewar and Smith, 2003), the reduced selectivity of audience since websites can be accessed by anyone on the Internet, the intense competition generated by the existence of thousands of other homepages, all of which are trying to attract and retain visitors, the existence of choice for Internet users (the user must actively decide to visit the website), unlike radio and TV (Breitenbach and Van Doren, 1998), and the accessibility (Pallab, 1996).

A great deal of discussion among researchers is related to the subject of Internets' contribution to the internationalization process of SMEs. While there are several research studies

denoting that the Internet has the potential of neutralizing some existing advantages of bigger corporations and thus of creating a level playing field for almost any interested small and medium-sized enterprise to obtain a presence on the Internet and to list its address on various directories and Internet search engines (Quelch and Klein, 1996; Hamill and Gregory, 1997; Wilson and Abel, 2002; Moen *et al.*, 2003), there are other researchers expressing a different point of view by underlining the fact that large firms still enjoy a substantial competitive advantage because of larger resources, more visibility among prospective customers worldwide, more elaborate and extensive Internet-based activities, better image and more recognizable brand names (Samiee, 1998a; Samiee, 1998b; Arnott and Bridgewater, 2002; Eid and Trueman, 2004). Consequently, it can be said that the use of Internet for international marketing purposes has the potential to enhance the internationalization process of SMEs, but the playing field is by no means level (Samiee, 1998b).

In the following section, a literature review on the subject of identified stages of Internet use at company level is presented. The objective is to establish the theoretical background of a model of Internet adoption and use by exporting SMEs described at a later section, which emerged from the investigation of six research studies.

Stages Models of Internet Adoption and Use at Company Level: Literature Review

Despite the fact that there is a limited number of research studies referring to the subject of identified stages of Internet use at company level, there were some interesting attempts to describe the conceptual framework of the specific research area.

Rowley (2001, p. 204-206), in her attempt to highlight the impact of Web presence on the role of marketing communications in business, listed four stages of Internet use at company level for service development. At stage one, the contact stage, the Internet is simply an additional channel through which marketing communication can be delivered and the emphasis is on website content. The characteristics of this stage are the promotion of corporate image and the publication of corporate and contact information. At stage two, the interact stage, Internet provides enhanced

information exchange with customers and trading partners. At this stage, Web pages are also providing links to facilitate communication. At stage three, the transact stage, catalog order/fulfillment, interaction with trading partners and online transactions are available. At this stage, e-commerce and e-shopping are becoming features of corporate websites. At the final stage, the relate stage, websites are providing a two-way customer relationship, with full integration of Internet capabilities into the business. At this stage, service interface is integrated with delivery and other business operations.

Sharma (2002, p. 78-80), focused on the subject of Internet use at company level for B2B marketing purposes, and described a five-stage model. At stage one, the information stage, firms are providing information to customers, but the flow of information is one-way, from the marketer to the customer. At stage two, the knowledge stage, firms attempt to collect more information regarding such concerns as preferences, attribute importance, channel preference, purchase cycle and purchases, through both internal databases and actual behavior on their websites. At stage three, the conversations stage, B2B marketers use the Internet to begin two-way conversations in the ways that letters and telephone conversations were used in the past. At stage four, the relationship stage, firms use the Web to develop relationships with their customers through communication and design of the interaction platform. At the final stage, the e-commerce stage, firms conduct commerce through the Internet and all the systems are tied together in order to reduce costs related to transactions, as well as other inefficiencies such as cycle times. The evolution to the e-commerce stage will increasingly lead to a common information platform (the Internet) that encompasses all the functions of a firm and of external suppliers and customers.

Sorensen and Buatsi (2002, p. 483-484), described three levels of Internet use as part of the business strategy at company level. At level one, the brochure or publishing level, the company provides common information materials through its own website while there is no possibility for interaction. This stage primarily aims in cutting costs through digitalizing present market activities. At level two, the manual or database level, information is extended with the ability to get responses

on user requests. At this stage, there is limited interaction, so restricted as it is to ask-response interaction. At level three, the e-commerce and personalization level, the interaction is more complex and it is possible to personalize it. At this stage, value creation is as important, if not more important, as cost cutting. The user, and potential customer, must reveal some information about him/her in order for the company to reach and implement level three. Sorensen and Buatsi (2002, p. 484) underlined the fact that the three levels may be seen as stages with newcomers to the Internet starting in stage one by cutting costs through digitalizing their information materials, moving into stage two with limited interaction possibilities and ending at stage three with a full blown interaction website.

Wilson and Abel (2002, p. 86-87), identified five stages-types of Internet use as a marketing tool at company level. At the first stage-type, named communication stage, Internet provides effective communication with customers and suppliers through e-mail and discussion groups (e.g., Usenet groups or Listserv groups). It is important to underline the fact that the authors do not see e-mail as a sales tool but just as a communication tool. At the second stage-type, the market research stage, firms are using the Internet in order to gather primary and to search for secondary data regarding their customers and their competitors. At stage-type three, the brand building stage, companies are using the Web to build their brand name by posting their existing marketing literature to their website(s). More complicated forms of brand building include current news, forums, articles for customers on various topics of interest, investor information and corporate mission statements. At stage-type four, the e-commerce stage, firms are giving the opportunity to their customers to view, purchase and pay for their products or services through an interactive website. At stage-type five, named e-organization or e-business stage, there is full integration of order taking with supply chain and the majority of the company's revenues are being generated from the Internet.

Rao *et al.* (2003, 14-22), proposed a four stages model of Internet use and e-commerce development at company level. At stage one, the presence stage, the majority of the companies make their first steps in electronic commerce by displaying their company brochure and product

offer on a Web site. The second stage, named the portals stage, is viewed as the introduction of two-way communication, customer or supplier order placing, the use of profiles and cookies. The third stage, named the transactions integration stage, is differentiated from the portals stage mainly by the presence of financial transactions between partners. The fourth stage, named enterprises integration stage, refers to complete integration of business processes to the extent that old-line business is indistinguishable from online business and involves high levels of collaboration between customers and suppliers.

Finally, Shneor and Flaten (2008, p. 47), made an initial distinction of companies into Internet-based firms (otherwise known as “pure clicks”) which use the Internet platform as their only service channel, and Internet-enabled firms (otherwise known as “click & mortars”) which use the Internet platform as an extended channel of service, usually in addition to offline service channels. Based on this specific distinction, the authors proposed a three stages model of Internet adoption and use at company level for Internet-based firms, and a four stages model of Internet adoption and use at company level for Internet-enabled firms. Regarding Internet-based firms, the proposed sequence of stages is the following: a) Global Shop, b) Online Agent/Distributor, and c) Market-Specific Shop. On the other hand, regarding Internet-enabled firms the proposed sequence includes four stages: a) e-presence, b) Online Agent/Distributor, c) Global Shop, and d) Market-Specific Shop. *Web-presence* (or e-presence) type websites may take two forms, either globally oriented with information for all potential customers worldwide, or a multi-domestic approach, built on a series of different websites adjusted linguistically and content-wise to specific foreign markets. *Alliances with online agents and distributors* are defined as commercial arrangements with online intermediaries including market makers, which provide various agency, distribution, reselling, retail and wholesale services. These as well, may be defined along mandates involving either a global market or niche-specific/ territory-specific responsibilities. *Global Shop* is defined as a transaction facilitating website which serves a global audience of clients indiscriminately.

Market-Specific Shop is defined as a transaction facilitating website which serves a national market specific audience of clients, incorporating various cultural, linguistic and environmental adaptations.

A Proposed Stages Model of Internet Use at Company Level for Exporting SMEs

A closer look at the models described in the literature review section leads to the fact that there are several stages, which are commonly adopted by all the former described research studies. These stages are the information stage (or contact, or promotion stage), where Internet is used by firms in order to provide corporate information, the communication stage, where Internet provides a two-way communication between firms and their suppliers and/or customers, the basic e-commerce stage, where firms allow customers to view their products and place online orders through an interactive website, and the e-business stage, where customers are able to conduct a full online purchase (view, order and pay for the products they want) through a fully automated and integrated with all major processes of the company, corporate website. The fact that these stages are common reflects their importance and makes necessary their inclusion in the results of similar proposed models in the future.

Based on the in depth and careful analysis of the findings of the literature review, a model of five basic stages of Internet adoption and use at company level for exporting SMEs is proposed. These stages are presented in Figure 1.

INSERT FIGURE 1

The first stage of the proposed model, named the market research/e-mail stage, includes companies that use e-mail services, instead of a corporate Web site, not only for communication purposes (with customers and suppliers replacing or in addition to fax and telephone) but also for the running of day-to-day commercial and business activities such as distribution of product catalogs (e-mail use for marketing purposes), order placement (e-mail use as a sales tool), and exchange of documents (replacing older and more expensive systems such as EDI). A very

significant characteristic of e-mail use is the fact that provides an asynchronous two-way communication. The e-mail facility is within the financial capacity of most companies and institutions and it is easily adopted. At this stage, firms are also using the Internet in order to conduct market research regarding their customers, suppliers, competitors, business partners and market trends. According to Moodley (2002), the majority of wooden furniture SMEs in South Africa were in this specific stage, while according to Sorensen and Buatsi (2002), the most common stage of Internet use by SMEs in Ghana was again the e-mail stage.

At stage two, named the promotion stage, Website-owning exporters upload their brochures and other common information materials on their Web page in order to inform their current and potential customers about their services and to promote their products. All visitors get the same information and there is no possibility for interaction resulting in a one-way communication channel. This does not mean that the Web page is dull, only that it is used to provide information to interested parties and nothing more.

At stage three, the enhanced communication stage, firms provide through their website(s) a two-way communication channel in order to collect detailed information about their current and potential new customers/suppliers. The information will be used by firms to create a large and enhanced database that will help them to: a) find potential new domestic and foreign customers/suppliers, and b) perform basic online customer services, c) build better relationships with their current customers/suppliers, and d) support potential future commercial (B2C and/or B2B) transactions. Of course, this means that firms have to employ extra IT literate personnel, in order to follow up on a 24-hour basis the requests of the users. No transactions and order fulfillment are available at this stage of Internet use.

At the fourth stage, named the simple e-commerce stage, interaction is highly complex. A dialogue between sellers and potential customers takes place and it is possible to personalize the interaction. Personalization is an important marketing tool that helps promoting on line direct sales by creating customized environment within the Web page according to user interests and

preferences. This information is processed and used to provide appropriate responses to the highly valued visitor. Another important characteristic of this stage is that firms are able to receive online orders without giving customers the opportunity to complete the transaction by paying online.

At the fifth and final stage, named the complete e-commerce stage, exporting firms are incorporating all previous characteristics and uses of Internet (described in the previous stages) plus the ability to fulfill orders by using online complete payment and verification methods. All the characteristics of the 'simple e-commerce' stage are enhanced through an integration of Internet-based activities with some of (or all) the internal systems and major processes (i.e., accounting, logistics management, marketing management, customer and inventory management) of the exporting firm. The existence of internal systems integrated with the online environment allows an organization to be highly flexible and able to execute changes promptly, a characteristic that is extremely essential to export success, since changes are so rapid in the digital business environment (Wilson and Abel 2002).

Implementation of the Proposed Model: An Empirical Investigation

In order to test the validity and appropriateness of the proposed theoretical model of Internet adoption and use by exporting firms, an empirical research was conducted. Another reason for conducting this research was to reveal and describe a sample of Greek business reality regarding Internet adoption and use by exporting SMEs. SMEs were chosen as the target group of this specific research due to the fact that they 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. 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.

In order to define SMEs for the purposes of this study, the definition used by the European Union (EU) was adopted. 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 1 presents the categorization of enterprises based on these criteria.

INSERT TABLE 1

Methodology

The target group of this empirical research was composed of Greek exporting SMEs that used the Internet (whether they had or they hadn't a fully operational corporate website). 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 (that used the Internet) identified from the Greek Export Directory 2007-2008 published by the Athens Chamber of Commerce and Industry (ACCI). The collection of questionnaires started during March of 2008 and ended one year later. This means that the collected data reflect in a profound way the current situation of crisis that firstly appeared in Greece during the second semester of 2008. 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 (see for example: Morgan-Thomas and Bridgewater, 2004).

In order to identify the stage that each firm of the sample belonged to, they were asked at first to answer the question “Does your company owns a corporate website?”. The firms that answered “*no*” to that question, were supposed to be at the first stage, named the market research/e-mail stage. Note that all the firms of the sample were Internet users and they had corporate e-mail addresses.

The firms that answered “*yes*” to the question: “Does your company owns a corporate website?”, were asked to answer the following sub-question: “Check the main uses of your corporate website(s)”. The possible answers-choices to this sub-question were created according to the specific characteristics of each stage of the proposed model (as they were described in the section “A Proposed Stages Model of Internet Use at Company Level for Exporting SMEs”). More specifically, the answers-choices were: (a) for product promotion, (b) for providing information to customers, (c) to find new domestic/foreign customers/suppliers, (d) for customer services, (e) for building better relationships with their current customers/suppliers, (f) for providing customers the opportunity to place online orders, and (g) for providing customers the opportunity to conduct online transactions (payment and verification methods).

The firms of the sample that checked only choice (a) or only choice (b), or both of them, were supposed to be at the second stage, named the promotion stage. The firms of the sample that checked only choice (c), or only choice (d), or only choice (e), or any other combination of choices (c), (d), and (e) along with the choices (a) and (b), were supposed to be at stage three, the enhanced communication stage. The firms of the sample that checked only choice (f), or any other combination of choice (f) with choices (a), (b), (c), (d) and (e), were supposed to be at the fourth stage, named the simple e-commerce stage. Finally, the firms of the sample that checked only choice (g), or any other combination of choice (g) with choices (a), (b), (c), (d), (e) and (f), were supposed to be at the fifth stage of the proposed stages model, named the complete e-commerce stage.

Statistical Analysis and Findings

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).

Half of the companies of the sample are very old, ranging from 1926 to 1982, while the other 50% are younger companies, ranging from 1983 to 2006. It would be interesting to highlight the fact that there was one very old and famous company participating in the sample of the research named BOUTARIS Co. and founded back in 1879. All companies were Internet users, while 78.8 % of them (63 companies) used ADSL connection, 11.2% (9 companies) a leased line, 6.2% (5 companies) ISDN connection, 1.2% (1 company) PSTN connection, and 2.5% (2 companies) a different kind of Internet connection. The majority of the companies used the Internet for more than 3 years (88.8%), while a few of them have been using it from 2 to 3 years (7.5%), and only 3 have been using it from 1 to 2 years (3.8%). Regarding the frequency of Internet use, 77 companies (96.2%) use the Internet every day, while only 2 companies (2.5%) use it every 2 to 3 days, and 1 company (1.2%) use it less often than once a month.

All the firms of the sample had one or more company e-mail address(es) (13.8% had one e-mail address, 11.2% had 2 to 3 e-mail addresses, 20% had 4 to 5, 18.8% had 6 to 10, 10% had 11 to 20, 13.8% had 21 to 50, and 12.5% had more than 50 e-mail addresses) and they were

using it mainly for communication purposes, for the running of day-to-day commercial and business activities such as distribution of product catalogs, for order placement and for exchanging documents.

Regarding the implementation of the proposed theoretical stages model of Internet adoption and use by SMEs, from a total of 80 exporting SMEs that were included in the sample of this research, only 6 (7.5%) answered that they do not have a corporate website. All 6 companies were using the Internet, they had one or more e-mail address(es) (2 companies had 1 e-mail address, 1 company had 2 to 3 e-mail addresses, 1 company had 6 to 10, 1 company had 11 to 20, and 1 company had 21 to 50 e-mail addresses) and they were using them mainly for communication purposes, for the running of day-to-day commercial and business activities and for exchanging documents. These 6 companies (7.5%) belong to the first stage of the model, named the market research/e-mail stage.

From the remaining 74 companies, only 3 (3.8%) answered that they have a corporate website and they use it mainly for promoting their products or/and for providing information to their current and potential customers about their services (1 company for promoting their products – choice (a), 1 company for providing information to their current and potential customers – choice (b), and 1 company both for promoting their products and for providing information to their current and potential customers – choices (a) and (b)). These 3 companies (3.8%) belong to the second stage of the model, named the promotion stage.

From the remaining 71 companies, a large number of companies (54 companies, accounting for the 67.5% of the total sample) answered that they have a corporate website and they use it mainly for enhanced communication. More specifically, 17 companies (21.3% of the total sample) use their corporate website mainly for finding new domestic/foreign customers/suppliers – choice (c), along with the promotion of their products and the provision of information to their current and potential customers – choices (a) and (b), while 5 companies (6.2% of the total sample) use their corporate website mainly for the provision of customer services – choice (d), along with the goal of

finding new domestic/foreign customers/suppliers, the promotion of their products and the provision of information to their current and potential customers – choices (a), (b) and (c). The remaining 32 out of the 54 companies (40% of the total sample), use their corporate website mainly for building better relationships with their current customers/suppliers – choice (e), along with the provision of customer services, the goal of finding new domestic/foreign customers/suppliers, the promotion of their products and the provision of information to their current and potential customers – choices (a), (b), (c) and (d). These 54 companies (67.5%) belong to the third stage of the proposed model, named the enhanced communication stage.

From the remaining 17 companies of the total sample, 9 (11.2%) answered that they have a corporate website and they use it mainly for providing customers the opportunity to place online orders – choice (f), along with the goal of building better relationships with their current customers/suppliers, the provision of customer services, the goal of finding new domestic/foreign customers/suppliers, the promotion of their products and the provision of information to their current and potential customers – choices (a), (b), (c), (d) and (e). These 9 companies (11.2%) belong to the fourth stage of the model, named the simple e-commerce stage.

Last but not least, the remaining 8 companies (accounting for 10% of the total sample) answered that they have a corporate website and they use it mainly for providing customers the opportunity to conduct online transactions (payment and verification methods) – choice (g), along with the goal of providing customers the opportunity to place online orders, the goal of building better relationships with their current customers/suppliers, the provision of customer services, the goal of finding new domestic/foreign customers/suppliers, the promotion of their products and the provision of information to their current and potential customers– choices (a), (b), (c), (d), (e), and (f). These 8 companies (10%) belong to the fifth stage of the model, named the complete e-commerce stage. The number of companies that belong to each stage along with their respective percentages are presented in Figure 2.

INSERT FIGURE 2

Moreover, the respondents were asked to reveal in how many languages their corporate website(s) is(are) translated into, and the results showed that 6 companies (7.5%) have no corporate website, 10 companies (12.5%) answered that their website is translated into 1 language, 53 companies (66.2%) answered that their website is translated into 2 languages, 2 companies (2.5%) answered that their website is translated into 3 languages, 2 companies (2.5%) answered that their website is translated into 4 languages, 1 company (1.2%) answered that their website is translated into 5 languages, 4 companies (5%) answered that their website is translated into 6 languages, 1 company (1.2%) answered that their website is translated into 7 languages, and 1 company (1.2%) answered that their website is translated into 12 languages. Regarding the languages used, 69 (93.2%) of the 74 firms of the sample had their corporate websites in Greek, as it was expected, and 68 companies (91.9%) had their websites translated in English. Only 9 companies (12.2%) had their websites translated in German language, while 6 companies (8.1%) had their websites translated in Russian, 5 companies (6.8%) had their websites translated in Italian language, another 5 companies (6.8%) had their websites translated in French, 4 companies (5.4%) had their websites translated in Spanish, 2 firms (2.7%) had their websites translated in Japanese, another 2 firms (2.7%) had their websites translated in Turkish, 1 firm (1.4%) had their website translated in Arab language, another firm (1.4%) had their website translated in Serbian language, and 4 companies (5.4%) had their websites translated in other languages.

The respondents were also asked to answer if they apply any kind of security policy of personal data on their corporate website(s). The results showed that only 16 companies (20% of total sample), out of 74 that had a corporate website, applied some kind of security policy of personal data, and out of those 16 only 7 (8.8% of total sample) applied some kind of encryption method (1 company applied the symmetrical encryption method, 4 companies applied the asymmetrical encryption method, 1 company applied the encryption method of digital signatures, and another company applied the encryption method of digital folders, while

at the same time 2 out of those 7 companies used a 64-bit encryption key, 3 out of those 7 companies used a 128-bit encryption key, and another 2 out of those 7 companies used a bigger than 128-bit encryption key).

Another important question referred to the existence of online personalization methods (fora, clubs, menus with personalized suggestions, website contents that require the knowledge of certain passwords, etc.) in the corporate website(s) of the firms participating in the research sample. The results showed that only 14 (17.5% of total sample) out of 74 companies that had a corporate website provided some kind of personalization methods.

Regarding the level of exporting activity, 27.5% of the firms (22 companies) of the sample answered that they are sporadic-occasional exporters, while the other 72.5% (58 companies) answered that they are regular exporters. Furthermore, regarding the exporting experience of the firms, 2.5% (2 companies) had a very low level of exporting experience (1 to 6 months), 5% (4 companies) had a relatively low level of exporting experience (7 to 23 months), 22.5% (18 companies) had a medium level of exporting experience (2 to 5 years), 23.8% (19 companies) had a high level of exporting experience (5 to 10 years), and 46.2% (37 companies) had a very high level of exporting experience (more than 10 years). Regarding the exporting channel used, 42.5% (34 companies) answered that they use direct exports, 15% (12 companies) answered that they make use of host country agents, and another 42.5% (34 companies) answered that they make use of both exporting channels.

Regarding online sales, only 8 companies (10% of the total sample) are providing customers the opportunity to purchase online and to conduct electronic transactions (payments and verification methods) with the use of one (or more) of the following online payment systems: a) credit cards (4 out of those 8 companies – 20%), b) payment on delivery (6 out of those 8 companies – 30%), c) recurring payments (4 out of those 8 companies – 20%), d) debit cards (1 out of those 8 companies – 5%), e) digital cash (2 out of those 8 companies – 10%), f) payment by third parties (e.g. Paypal) (2 out of those 8 companies – 10%), and g) prepaid cards

(1 out of those 8 companies – 5%). The remaining 72 companies of the sample that answered “no” to the question “Does your company conduct online sales through your corporate website(s)?”, were furthermore asked to reveal the reasons why they don’t conduct online sales. The results showed that the most common reason (66.7% or 48 out of 72 companies) is the fact that products are not appropriate for electronic sales, followed by the perception that Internet customers represent a low percentage of their total customers (33.3% or 24 out of 72 companies), as well as the difficulty in applying and using an electronic sales system (33.3% or 24 out of 72 companies), insecurity regarding contracts, terms of delivery and guarantees (22.2% or 16 out of 72 companies), insecurity regarding payments (16.7% or 12 out of 72 companies), high cost of installation of an online sales system/program (12.5% or 9 out of 72 companies), the perception that Internet online sales represent a low percentage of their total sales (9.7% or 7 out of 72 companies), accounting problems (4.2% or 3 out of 72 companies), difficulty in acquiring the available technology (1.4% or 1 out of 72 companies), and other reasons (11.1% or 8 out of 72 companies).

Finally, the respondents of the sample were asked to reveal the percentage of export revenues improvement due to Internet use for the last 12 months (from the day that they answered the questions of the questionnaire). According to the results, 27.5% (22 out of 80 companies) of the firms had no improvement to their export revenues due to Internet use, 43.8% (35 out of 80 companies) had an improvement of 1 to 5%, 8.8% (7 out of 80 companies) had an improvement of 6 to 10%, another 8.8% (7 out of 80 companies) had an improvement of 11 to 15%, 3.8% (3 out of 80 companies) had an improvement of 21 to 25%, 2.5% (2 out of 80 companies) had an improvement of 26 to 30%, and 5% (4 out of 80 companies) had an improvement of more than 30%.

Discussion and Managerial Implications

The results of the empirical investigation revealed that the proposed theoretical stages model of Internet adoption and use by exporting SMEs describe in a very satisfying level the situation of Greek reality. Moreover, they provided a lot of useful and practical information regarding several important aspects of Internet use by Greek exporting SMEs that could be exploited by academics, managers and practitioners in order to enhance Greece's production, profitability and economic position. The discussion of the results follows the sequence of their presentation in the previous section.

The fact that all firms of the sample were Internet users, combined with fact that the vast majority use the Internet every day for more than 3 years, reveal that Greek exporting SMEs are familiar with Internet technologies and they make use of some of them. They are also very familiar with the use of e-mail, since all of them have at least one corporate e-mail address using it mainly for communication purposes, for the running of day-to-day commercial and business activities such as distribution of product catalogs, for order placement and for exchanging documents.

The results provided very useful insights regarding the appropriateness and implementation of the proposed theoretical five stages model by revealing that it is valid and relatively complete since it properly describes and adequately represents in each stage all the firms of the sample. An overview of the results in Figure 2 provides a general picture of the process of Internet adoption and use by Greek exporting SMEs of the sample along with some general conclusions. First, despite the fact that all firms of the sample are using e-mail, only a very small part of them (7.5%) belong to the first stage. This leads to the conclusion that the vast majority of the firms of the sample are aware of the advantages of more advanced Internet technologies and services, like for example websites and e-commerce, and that they have passed beyond the e-mail stage. Second, from the companies that had a corporate website, an even smaller part (3.8%), that they belong to the second stage, revealed that was using it mainly for promoting its products and for providing information to its current and

potential customers, leading again to the conclusion that the vast majority of the firms of the sample are aware of the advantages of more advanced use of corporate websites, and that they have passed beyond the promotion stage.

Third, the biggest part of the companies participating in this research (67.5%), belongs to the third stage, and they use the Internet and their corporate website(s) in order to have an enhanced communication with their current and potential new domestic/foreign customers/suppliers. This gathering of firms in the third stage can be explained in three different ways: a) the firms of the sample are not aware of the use and the advantages of e-commerce technologies and systems (66.7% believe that their products are not appropriate for electronic sales, 33.3% believe that it is difficult to apply and use an electronic sales system, 16.7% feel insecurity regarding online payment systems because they do not know how they operate and how secure they can be), b) the firms of the sample are not able to acquire e-commerce technologies and systems (12.5% believe that the cost of installation of an online sales system/program is high, 1.4% have difficulties in acquiring the available e-commerce technology), and c) this specific stage of the model might include two different stages that need to be splitted (perhaps one stage might include firms that use their corporate website(s) mainly for finding new domestic/foreign customers/suppliers through a simple online interaction and information gathering, and a second stage might include firms that use their corporate website(s) mainly for providing customer services and for building better relationships with their current customers through a more advanced online interaction).

Fourth, the second biggest part of the companies participating in this research (11.2%), belongs to the fourth stage, and they use the Internet and their corporate website(s) in order to conduct simple e-commerce mainly through the provision to their customers of the opportunity to place online orders. These exporting SMEs seem to understand and apply, in some extend, the use and the advantages of e-commerce technologies and systems but they don't fully exploit them either because they are not able to do so financially, or they are in the process of doing so in the near future.

Last, the remaining part of the companies participating in this research (10%), belongs to the fifth stage, and they use the Internet and their corporate website(s) in order to conduct complete e-commerce mainly through the provision to their customers of the opportunity to conduct online transactions (payment and verification methods). These exporting SMEs seem to fully understand and apply the use and the advantages of e-commerce technologies and systems, and in addition they seem to have better economic results (since 7 out of those 8 companies that conducted online sales indicated that they had an increase in their export revenues due to Internet use ranging from 1 to more than 30%).

Beside the results regarding the implementation of the proposed theoretical model, some more useful information was provided from the respondents of the research. The majority (78.7%) of Greek exporting SMEs of the sample had their corporate website(s) translated into 1 or 2 languages. The 2 most commonly used languages were Greek and English. This fact indicates the orientation of the firms which is mainly domestic or towards the English speaking world. The suggestion that arises towards Greek managers and practitioners is to incorporate in a larger extend some more widely speaking languages like Spanish, German or Chinese in order to reach a wider audience of potential customers.

Another important finding was the fact that very few companies (20% of the total sample) applied some kind of security policy. With security being in several research studies among the member-states of EU one of the main reasons why Internet users are not conducting online sales, Greek managers and practitioners should start applying on a higher level online security policies with safe and tested encryption methods which are difficult to be hacked in order to attract more customers worldwide. In accordance with security policy, very few firms (17.5% of the total sample) provided some kind of personalization methods, creating to Internet users the impression of impersonal corporate websites. Greek exporting companies should apply more personalization techniques to their website(s) in order to highlight their customer oriented

strategies and to create a more user friendly, personal and attractive online environment for their current and potential clients.

Regarding the level of exporting activity and exporting experience, 7 out of 10 companies of the sample were regular exporters with a high (5 to 10 years) or a very high (more than 10 years) level of exporting experience. If we combine this information with the fact that almost the same percentage (67.5%) of exporting firms belong to the third stage of enhanced communication, we could have an indication that firms with high levels of export intensity and exporting experience are not making use of Internet's full potential and they using it mainly for communication and promotion purposes. Of course, this remark requires further research and documentation in order to be properly supported.

Useful insights were also provided by the respondents regarding the reasons why they don't conduct online sales. From their responses three crucial conclusions can be deduced: a) they are not fully aware of e-commerce's potential, use and advantages, b) they are not able to apply online sales systems/programs due to financial problems, and c) they feel insecure regarding several issues that are connected with the online sales procedure. The first and the third conclusions-problems can be dealt with several educational and training programs offered either by Greek state (for example, through nationally funded and supported educational programs like LAEK 0.45 – Account for Employment and Professional Training), or by domestic/foreign IT companies that have on one hand the experience on the application and usage of these systems/programs, and on the other hand the interest to promote and sell them to other companies. Another option for Greek exporting SMEs is to internally fund (if they can afford to do so) such kind of educational programs in order to create a fully customized training schedule. The second conclusion-problem can be resolved through funding programs coming either by the Greek state (like for example ESPA – National Strategic Framework of Reference), or by EU (European Community Support Programs for Member-States).

Finally, regarding the percentage of export revenues improvement due to Internet use, the majority of the firms (71.3%) indicated that they had either none or very small improvement (1 to

5%). This result can be explained either as a poor use (or as a misuse) of Internet technologies for exporting purposes, or as a lack of knowledge on the proper application and use of e-commerce strategies and systems, or even as a lack of financial power to fund the planning, acquisition, implementation and support of the appropriate Internet and e-commerce technologies currently available.

Conclusions

This research study identifies a number of findings which make a contribution to the understanding of the extent to which Greek exporting SMEs adopt and use the Internet. Based on a literature review on the subject of identified stages of Internet use at company level that was conducted in order to establish the conceptual framework on the specific scientific area, a theoretical five stages model of Internet adoption and use by exporting SMEs was proposed. In order to test the validity and appropriateness of the proposed model an empirical research study was conducted on a sample of 80 Greek exporting SMEs.

Based on the results of the research, a significant conclusion is that Greek exporting SMEs of the sample seem to have passed the first stages of Internet adoption and use, and they are in the way of incorporating more advanced uses. Current Internet use is mainly for communication and promotion purposes, with little activity taking place based on e-commerce technology. Several other important aspects of Internet use, like number of languages that a corporate website is translated into, security policies, personalization methods, IT literacy and education, and SMEs funding programs, need to be incorporated by Greek exporting SMEs in order to move rapidly on to the next stages of Internet use and adoption process. Internets' adoption seems like a very good, easy and relatively low-cost solution for Greek SMEs in order to surpass the ongoing financial obstacles and socioeconomic barriers opposed by the promptly enhanced crisis that Greece is facing.

Further research, both in Greece and in other countries, regarding the validity and appropriateness of the proposed theoretical model is required in order to establish it and to provide

academics and business managers with a clear and comprehensive picture of the process of Internet use for exporting and international marketing purposes. A widely tested and accepted theoretical model can also be a useful tool for managers and practitioners in order to recognize the stage that their firm belongs to and to identify their position relative to their competition.

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Tables & Figures

Figure 1: Identified stages of Internet use at company level

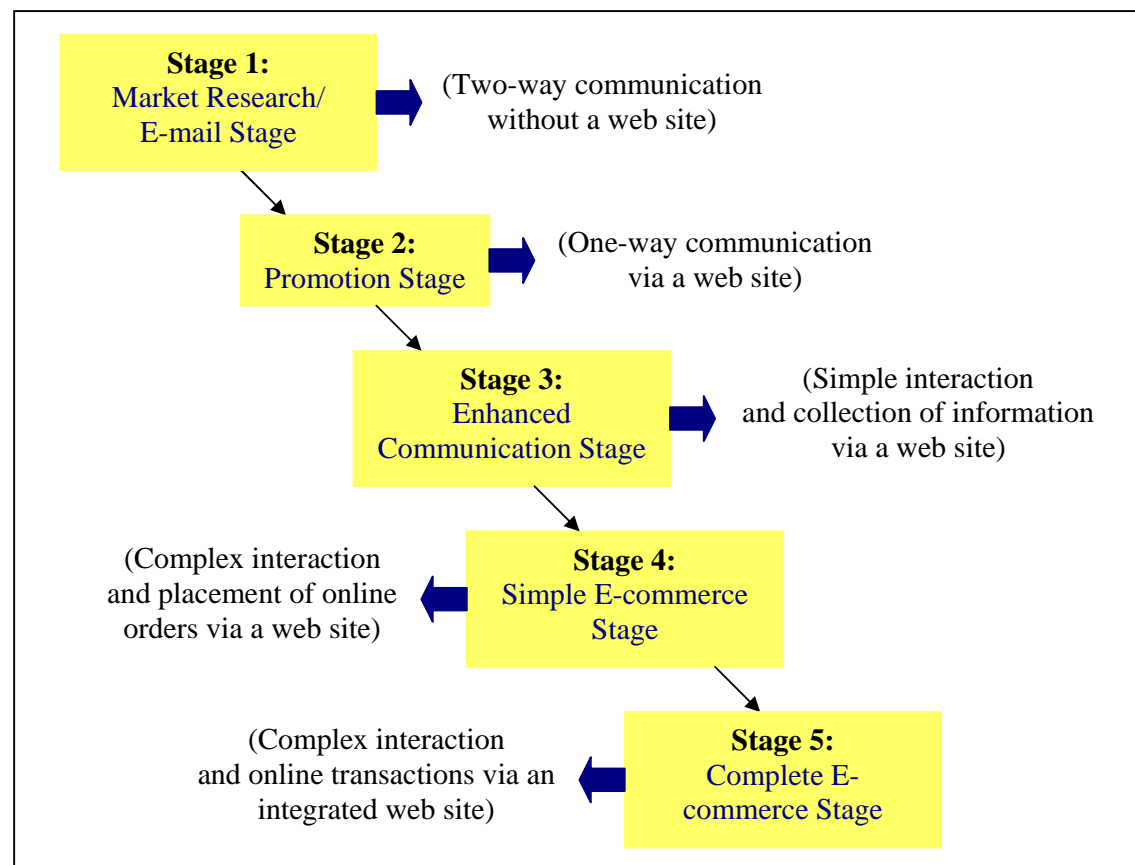


Table 1: Definition of SMEs according to the new Recommendation 2003/361/EC by European Commission

	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 2: Results of the empirical research study regarding identified stages of Internet use at company level from Greek exporting SMEs

