A Survey on the Business Goals, the Investment on Technology and the Return of Investment on Greek E-commerce Systems

Kapogiannis Giorgos[1], Antonia Stefani[1,2], Michalis Xenos[2,3],Mixanetzis Kostas[4]

[1] Messolonghi Technological Educational Institute, School of Business & Economy
[2] Hellenic Open University, School of Sciences & Technology, Patras, Greece
[3] Research Academic Computer Technology Institute, Patras, Greece
[4]Hellenic e-Business Solution Ltd, Athens, Greece
g.kapogiannis@hebs..gr, stefani@eap.gr, xenos@eap.gr, info@hebs.gr

Abstract

This paper presents a survey of Greek e-commerce systems. The study focuses on the technological infrastructure of e-commerce systems, their project managers' objectives (both short term and long term), and their opinion concerning the aid of e-commerce systems for the development of their business. The study involved 15 managers who were interviewed using a structured questions list controlled by the interviewee. The questions list focused on four main categories: Human Recourses Management, E-commerce technologies, User Interface and service and Return of Investment (RoI). The paper also discusses individual reasons based on each company's particularities and presents future goals.

Introduction

The rapidly increasing number of e-commerce systems operating worldwide is perhaps the best indicator of acceptance of such systems in the international commerce system [1]. In Greece the development of the e-commerce sector follows the international practice, although it is not so rapid [4] Nowadays a number of businesses present their products to the Internet users, although many of these businesses are still e-services (presentations of their products willing to attract the customer to the actual shop) and not e-commerce systems (where the customer is able to inspect and purchase products on the Internet).

This paper presents a survey of Greek e-commerce systems. Our aim is to present an 'inside view' of such systems. The study focuses on the technological infrastructure of such systems , their project managers' objectives (both short term and long term), and their opinion for the aid of e-commerce systems to the development of their business [5,2,3].

In section 2 the paper presents the method of the survey, while in section 3 the data analysis of the survey is presented. Finally section 5 presents the conclusion of this research. At the end, this paper points out the contribution of the development of Greek e-commerce systems to the additional growth of Greek electronic commerce.

2. Method

Structured questionnaires were used to interview the people responsible for the development and / or maintenance of their company's Business To Consumer (B2C) e-commerce systems.

The study involved 15 managers who completed the questionnaire under the guidance of our research team. The questions used in the questionnaire were grouped in three main categories:

1. Human Resources Management
2. E-commerce technologies and
3. User interface and service.

Each interview session was voice recorded in order to capture extra information provided by the interviewees and could be evaluated later in the analysis phase.
The companies that participated in the survey can be categorized as following:

1. Business Unit Dot.com Companies and
2. Pure Dot.com Companies.

The former pointing to companies that maintain an e-commerce business unit as part of their corporate profile (i.e. Super Market Veropoulos), while the later are pure e-commerce businesses (i.e. Dnhost.gr).

The paper analyzes information collected from companies of both mentioned categories and emphasizes at the practices that can better support the growth of e-commerce in Greece. The first part of the questionnaire focuses on human resources management issues related to the existing e-commerce systems. The interview focused on collecting data such as the number of personnel involved and their responsibilities in the operations of the company's e-commerce activities. Further more, the educational level, competence with Internet technologies and usage as well as experience in using online applications was recorded for further analysis. In this part of HRM study, man-hours related to the development and maintenance of their established e-commerce systems were collected. Finally an evaluation of the various methodologies used to hire personnel was made with a focus on the requirements asked related to e-commerce knowledge and experience.

The second part of the survey examines the e-commerce technologies infrastructure. Issues like business's technology investment (hardware, software), log files statistics and user's behavior modeling, were examined. Additionally the security policy of the Greek electronic-commerce was discussed especially by e-commerce system's manager point of view. Emphasis was given at the financial transactions that e-customers prefer, the return of investment (ROI) that each manager succeeded and his/her future business plan about e-commerce.

The third part of the survey examines what kind of services each e-commerce system supports for the e-customer and the logistic policy that has been selected in order to provide great response to e-customers order. Finally each manager was asked to rank the above parts by a scale between {1,2,3} and to analyze the importance of each part on the e-commerce system.

4. Results

Based on the above-mentioned methodology, this study came out with the following results:

4.1 Outsourcing vs. In-house development

The survey concluded that the e-commerce systems in Greece are been established and maintained as it is presented in Figure 1. 44% of the businesses support their e-commerce systems using, at least partially, in-house developed applications. The primary factors for doing so were security and financial issues. 31% have established subsidiaries in order to handle their demand on IT support. Finally 25% prefer using outsourcing in almost every project that they have to deal with.

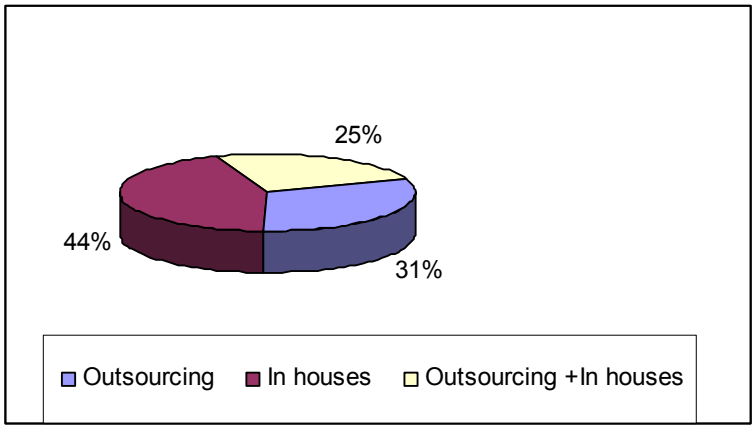

Figure 1. Results for e-commerce system's development.

The trend though that came out of the survey is that most of the IT managers would prefer to outsource at least the development of their IT solution in order to reduce the great initial capital cost and remove the complexity of establishing such a complicated system.

4.2 Technology infrastructure

Part of the survey was to review the technology infrastructure used related to purchased hardware and out of the box software. Most of the applications were based on Windows platforms and the dot.net development environment, presenting the lack of knowledge on Unix or Solaris based technologies in the Greek developing community

4.3 Human Resources Management

70% of the employees involved in the development or support of the e-commerce systems reviewed, have a bachelor degree in informatics or computer science with great experience at Internet technologies. 30% of them held Master degrees in informatics and previous experience in other related e-commerce systems. The weekly average requirements to support the established e-commerce systems were calculated to be around 72 hours per week.

A major issue related to human resources, as was always mentioned, was the operational cost involved in finding competent and experienced personnel. A second issue was the increased risk factor a company undertakes associated with maintaining experienced personnel involved in the development and the support of their IT systems.

4.4 Logistics

Logistics is an important issue at e-commerce systems applications and especially the part of product delivery. Many managers believe that the problem of delivery is one of the most useful materials to study. For this case many of the supply manager support that the problem is coming from the incorrect store management. Result of incorrect store management is product's delivery delay. 30% of the managers are using the strategic of 5% per stock. So, when the product is going to be run out then the supply manager is going to order new product. 40% prepare a stock market, as two or three pieces in special prices. The rest 30% does not care what will happen if they cannot cover the difference.

4.5 Security aspects

Security is an important factor of e-commerce system applications and especially the part of financial transactions. 47% of the managers estimate that Greek e-customers constitute between 10% and 15% of the total customers in Greece. The reasons for this were security issues and the low level of trust on Internet transactions. Futhermore, the same percentage believes that the Internet's security level can be characterized as Good and the great problem is how to pursuit customers to become e-customers (Figure 3).

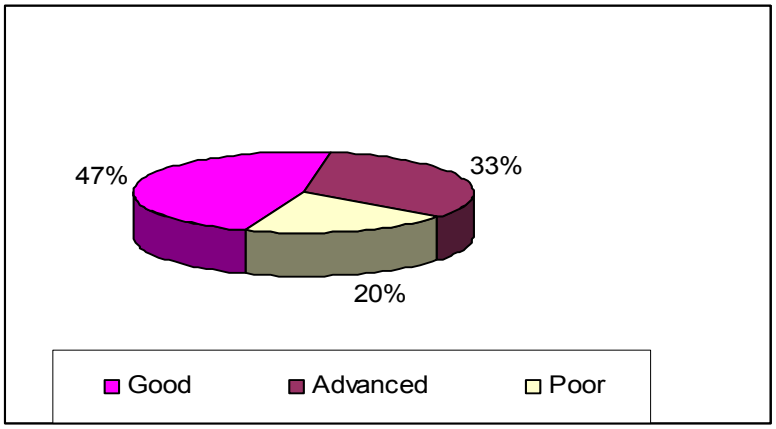

Figure 3. Security

4.6 Customer Relations Management (CRM)

At the survey the managers were asked to introduce the key factor for e-commerce success between Customer Relation Management, E-commerce Systems Interface and Technology Infrastructure. The results are presented in Figure 4. In order to improve the interaction with the e-customer 51% of the managers believe that the key is good Customer Relation Management systems (CRM). Another important factor for e-commerce success is e-commerce systems interface. As interface we

define all functions and services that are provided to the e-customer by web applications. 35% of the managers believe that the quality of e-commerce system's interface is the key for e-commerce system success. Finally the rest 14% of the managers introduce technology infrastructure as the basic component for a successful e-commerce system.

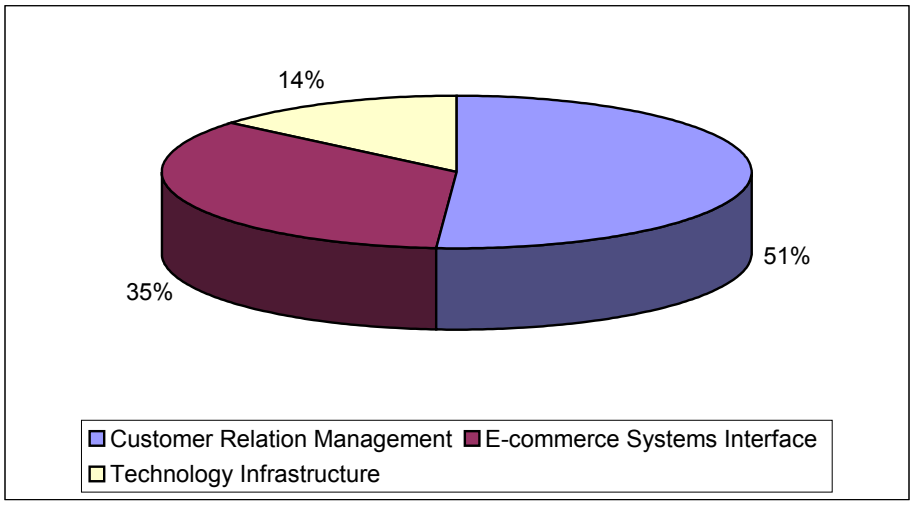

Figure 4. Key factors for E-commerce Systems Success

4.7 Forecast by the managers

The managers' forecast for the future is that e-commerce applications should be a great marketing tool (Table 1). 60% of the managers believe that the future of e-commerce applications will be mobile commerce (m-commerce). So each business should develop systems capable to support m-commerce applications. 20% of the managers believe that management's improvement should be the next step. Finally 20% of the managers believe that the improvement of the systems that already exist should take great effort in the future.

Forecast	Managers
M - commerce	60%
Management	20%
E-commerce systems Improvement	20%

Table 1: Forecast for the next 5 -10 years

5. Conclusions

E-commerce applications play an important role in business development at pure dot companies and business unit companies as well. The future planning of these companies includes e-commerce systems adaptation and development. Table 2 describes the status of pure dot companies and business unit companies for future planning and technology adaptation.

Comparison of the results		
Characteristics	**Pure Dot.com Companies**	**Business Unit Dot.com Companies**
Long term Planning		√
Sort term Planning	√	
Know How		√
Easily adapted technology		√
The time is critical	√	
The time is not critical		√

Table 2. Comparison results

6. Acknowledgements

The authors would like to express their appreciation to all the companies and the managers that participated in the survey: AB Vassilopoulos, Hellenic e- Business Solutions Ltd, WinBank, Prom.gr, Cosmoone.gr, Dnhost.gr, Spar Veropoulos, Eurobank Cards, elogistics.gr, Imerisia newspaper, Naftemporiki newspaper, Vodafone, Athens University of Economics and Business–ELTRUN/WRC Laboratory, Newsphone (ringtones.gr) and the InterBiz magazine.

Bibliography

[1]. Bidgoli H., *Electronic Commerce, Principles and Practice*, Academic Press, (2002).

[2]. Sara E., "*E-Marketplace: Opportunity or Threat (Industry Trend or Event)*" e-Business Advisor, (Jul/2000).

[3]. Sian Owen "*Failures in B2C companies; Two examples and lessons New players*", School of Finance and Economics, University of Technology, Sydney, (November 2001).

[4]. Stefani A., Xenos M., *Greek vs. International E-commerce Systems: An Evaluation based on User-centered Characteristics*, Proceedings the 9th Panhellenic Conference in Informatics, PCI 2003, Thessaloniki, (2003).

[5]. Stefani, A., Xenos, M.: *A Model for Assessing the Quality of e-commerce systems*. Proceedings of the Panhellenic Conference with International Participation in Human Computer Interaction (PC – HCI 2001), Patras, Greece (2001).