

TOWARDS A FRAMEWORK FOR e-LEARNING CONSUMER BEHAVIOUR

An Analysis of Greek Students Perceptions

Eleonora Ioulia Malama, Fotini Patsioura

Department of Applied Informatics, University of Macedonia, 156 Egnatia Str. Thessaloniki, Greece

Maro Vlachopoulou, Vicky Manthou

Department of Applied Informatics, University of Macedonia, 156 Egnatia Str. Thessaloniki, Greece

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Abstract: Successful e-learning applications are based upon integrated marketing strategy, which involves thorough market and target group analysis. Understanding target group specific needs and characteristics, analyzing environmental factors, determining strategic and tactical aims, as well as, planning the requiring marketing mix elements are considered important activities to develop a competency based and IT deliverable e-learning academic module.

As a result, e-learning providers need to position themselves in the marketplace based upon their missions and abilities in order to respond to e-learning challenges in a strategic manner. Greek educational institutions reveal increased interest, but also hesitance in developing and administrating e-learning applications. This paper aims to provide Greek prospective e-learning providers with all the necessary information regarding prospective target market segments in order to specify perceptions about e-learning concept. Specifically, a primary research was conducted in order to examine and analyze samples aspects, demands and needs towards the adoption of e-learning programs. Descriptive statistics as well as Multiple Correspondence Analysis are used to present comparative statistical data.

1 INTRODUCTION

The term of e-learning covers a wide set of applications and processes, including computer-based learning, Web-based learning, virtual classrooms, and digital collaboration. (Urda, T. and Weggen, C., 2000). Basically, e-learning uses the power of networks, primarily those that rely on Internet technologies but also satellite networks, and digital content to enable learning by eliminating the barriers of time and distance (Seufert, 2001). E-learning market grows significantly as the interest on learning beyond time and place is increasing. Epic (2003) states that students in Further Education (FE) and Higher Education use online technologies for learning in significant percentage. The international character of the web has already formed a highly competitive environment across e-learning projects.

In this setting, universities and organizations are forced to incorporate e-learning practices or optimize current interactive, multi-mediated, learning environments based on past experience and applications and the new emerging digital technologies (Argyris and Schon, 1978; Pedler, 1998; Senge, 1990; Dixon, 1994; Moingeon and Edmondson, 1996; Easterby-Smith, 1997). In many cases, current e-learning programs are still experimenting in order to achieve an e-learning context that addresses successfully both educational and technical issues.

While business models in e-learning market still evolve, it is evident that effective e-learning planning, design and evaluation should be based on a well-defined marketing strategy. A strategic marketing plan regarding a particular e-learning project acts as a roadmap, obtaining and making

better use of resources, assisting management implementation and control and monitoring problems, opportunities and threats. Successful e-learning strategy is based on the fully utilization of the target group analysis regarding the main parameters of an e-learning program taking into account the providers' capabilities and objectives.

The promotion of the Information society and its applications in educational environment in Greece is one of the main goals of the Greek governmental policy. The majority of the Greek educational institutions as well as various government parties are involved to the acquisition of the necessary skills that will enable tomorrow's citizens in Greece to become familiar with technological developments and to participate actively in the digital world on an equal basis (Leonardo da Vinci project, 2005).

This study is part of an extensive project that aims to develop an integrated marketing planning process to match supply of educators and demands of target learners within the Greek Academic Community. Specifically, the paper aims to provide information to Greek institutions/organizations/companies about potential students' perceptions in order to facilitate decision making on whether e-learning is realistically achievable within their environment. Results provide a practical framework for the e-learning providers' future growth and prosperity.

2 STUDY FRAMEWORK

In order to effectively develop an e-learning project, it is important to examine all dimensions that define its content and all factors that determine its overall operation. In addition, it is equally significant to explore potential students' perceptions on adopting new forms of education and determine their requirements on specific factors of e-learning studies. This understanding is of great significance in today's fast-paced culture and environment for the organizations that aim at implementing successfully e-learning programs, in order to turn change into an advantage (Politecnica, 2001).

2.1 Literature Review

This study takes under consideration previous research concerning the concept, the advantages and the limitations of e-learning, as well as, the factors that affect their successful implementation. The study involves also the crucial issues that impact students' preposition to attend a specified e-learning

program in the areas of e-marketing, e-business and e-commerce. Various studies attempted to identify critical success factors for e-learning planning and implementation. However, limited research was undertaken for the categorisation of those factors that would enable the development of an overall framework for e-learning understanding and examination (Ingram et al, 2000, McPherson & Nunes, 2006).

Specifically, e-learning course content and providers' profile parameters include factors such as, e-learning course content, effective support from instructors and technical staff, ease of access and interaction, type of accreditation, educational provider and instructors competences, level of collaboration as well as perceived information technology infrastructure (Papp, 2000; Benigno & Trentin 2000; Volery & Lord, 2000; Soong, Chan, Chua & Loh, 2001; Dillon & Guawardena, 1995; Leidner & Jarvenpaa 1993). Furthermore, successful e-learning projects demand a strategic promotional strategy aiming their diffusion and their future viability and prosperity. All the needed information to communicate the mission, the potentialities and the advantages of an e-learning project must be clearly provided to potential students (Dumblin, 2004).

Furthermore, various studies have identified and suggest the factors regarding e-learning educational disciplines and platform. Capper (2001) indicates, between e-learning benefits, factors such as the possibility of asynchronous interaction, the exploration of new educational approaches, as well as the any time and any place education. Bouhnik and Marcus (2006), stated that e-learning has a number of main advantages, including the lack of dependence on the time, the freedom to decide when to learn each lesson, the accessibility to online material at students' own election as well as the freedom to express thoughts and questions without limitations.

Despite the perceived benefits offered by e-learning, researches indicate that a high percentage of students who commence e-learning courses do not finish them (Dutton and Perry, 2002).

This suggests that there is something that does not work properly in e-learning systems (Liaw, 2008). Bouhnik & Marcus, (2006) stated that students' dissatisfaction was based on disadvantages such as the high level of self-discipline and self-direct, the absence of a learning atmosphere and the lack of interpersonal interaction. Finally, e-learning projects that were not successful in achieving their goals did not have access to technical and

administrative advice and support (Selim 2007; Alexander et al, 1998; Soong et al, 2001). As a result, instructors' characteristics concerning their teaching style, their IT competences as well as their attitude towards students support affect e-learning success (Webster & Hackley, 1997; Volery & Lord, 2000).

2.2 Proposed Framework

The understanding of e-learning concept and functions displays its distinctiveness in terms of organizational changes. As a result successful e-learning strategy requires careful planning and execution, placing special attention on assessing the external environment, analyzing competitors' strategy and profiling target market (Gordon, et al, 2003; Evans & Haase, 2001). This research is a part of an overall study, which suggests an integrated framework for e-learning development and implementation. The framework includes the crucial factors, the key elements and the significant considerations while developing effective e-learning environment and applications.

Regarding e-learning parameters, they were selected based on relative research and existing applications concerning the design, the empirical applications, the advantages and the limitations of e-learning, as well as the data which is required in order to support marketing strategy decisions (competitive positioning strategy, marketing mix tactics). E-learning study parameters, which were further analyzed in this paper, are the following:

- **Course context** focuses on the description of courses features, based on elements, such as program formulation, admission criteria, studies duration and tuition fees
- **Educational disciplines & platform** encompasses several aspects of the educational process (teaching methods, communication and assessment practices, and main features and dimensions of web-based learning environment)
- **Provider's profile** deals with the type and number of e-learning providers, the course validation and accreditation, browsing and selection of financial resources.

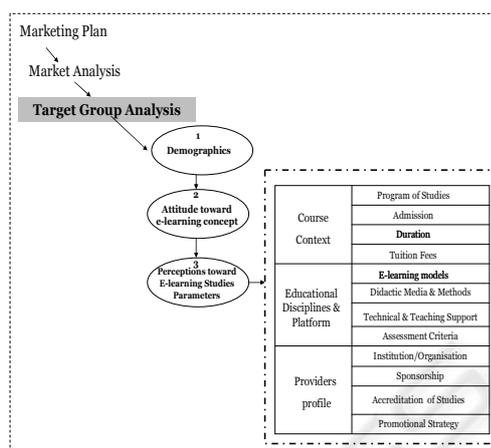


Figure 1: Target Group Analysis Framework for e-learning development.

Based on this conceptual framework, a market research was undertaken in order to specify the demographic characteristics of the target market (target group analysis), identify their attitude toward e-learning concept in general, and finally determine their requirements and perceptions towards the specific features and attributes of an e-learning course. Specifically, three basic research dimensions are proposed: (1) demographics, (2) attitudes towards e-learning concept and (3) perceptions on specific e-learning studies parameters (figure 1).

3 METHODOLOGY

The research has been structured in order to capture participants' perceptions towards the three dimensions of target group analysis. It must be mentioned that research was focused on specific thematic areas of e-learning postgraduate programs, those of e-business, e-commerce and e-marketing. Data were collected through a questionnaire based survey. A total of 338 undergraduate, postgraduate and lifelong students within University of Macedonia, Technological Educational Institution of Thessaloniki, Technological Educational Institution of Crete and Technological Educational Institution of West Macedonia, in the disciplines of applied informatics, marketing and business administration participated in the survey (table 1).

A student sample was selected opposed to general population based on their predictive and analytical validity of consumer behaviour analysis in traditional and Internet marketing and advertising research under specific circumstances (Hampton,

1979; Yavas, 1994; Rosner, 1996). Furthermore, higher education students are considered frequent users of online technology in learning, (Epic, 2003) consisting prospective target market of e-learning applications.

Table 1: Demographic Profile of the participants.

Item	Percentage (%)
Age	
20-25	59
26-32	21
32 and up	20
Family situation	
Single	87
Married	4
With children	9
Level of education	
University student	57
Postgraduate course student	21
University degree	12
Postgraduate degree	10
Working situation	
Employment	53
Unemployment	47
Annual income	
Under 10,000 Euros	48
10,000- 15,000 Euros	29
15,000 and up	23
Permanent residence	
Athens/Thessaloniki	60
District capital	30
Other	10

4 STATISTICAL ANALYSIS

Descriptive Statistics and Multiple Correspondence Analysis (MCA) (Greenacre, 2007; Clausen, 1998) were used for the questionnaires' statistical analysis. MCA was run using CHIC software (Markos et al, 2008). In order to define the importance of contribution for each factor, COR and CTR (Relative and Absolute Contribution) indices were used that reproduced factorial axes and first factorial planes (formed by the two first factorial axes). The MCA was applied to selected Burt Tables (Generalised Contingency Tables) in order to identify differences in respondents perceptions towards e-learning notion related to specific demographical characteristics. Also the method enabled the identification of respondents' groups

based on common demands and needs towards basic e-learning attributes.

4.1 Descriptive Statistics

The outcomes revealed significant dimensions of the participants' attitudes towards e-learning concept in general. Also, several assumptions were drowned in relation to the specific e-learning studies parameters, described in the study framework.

(1) Demographics

Surveying the demographical characteristics of respondents, who displayed a positive intention to attend an e-learning postgraduate program in the area of e-business/e-commerce/e-marketing (254 respondents of total 338), the study captures important information that affects the successful application of e-learning projects. Their demographic profile reflects the high proportion of people < 20 years old (64%) and those who were single (88%). In terms of educational level, the majority were university students (62%) as well as unemployment (52%). The composition in respondents' permanent residence was 55% in two bigger cities in Greece and 35% in the rest of Greek area.

(2) Attitudes Towards e-Learning Concept

Investigating whether Greek Students are familiar with the concept of virtual educational programs and also identifying their intentions and motives in adopting e-learning studies, is one of the main objectives of this research.

- 98% of respondents replied that the concept of e-learning is overall known. Although, the majority of respondents (62 %) have partial knowledge, showing essentially the lack of documentary and sufficient understanding about the concept, the characteristics and the potentialities of e-learning. About a third of the respondents (36%) indicate a sufficient knowledge of e-learning concept while only 2% has complete absence of contact with it. The results indicate the visibility of the concept in the large part of respondents and focus on the need to obtain a broader and substantial contact with the meaning and the applications of e-learning
- 33% of the respondents indicate the flexibility in place and pace of education as a most crucial advantage. Customization of education also consist a significant advantage over traditional

forms of education (23%). 22 % choose as a crucial advantage the cost saving in travel while another 22% the opportunity. The dispersion of respondents' answers demonstrates the great number of benefits offering by e-learning as well as its ability to adapt to distinct needs of potential trainees

- The majority of the respondents (57%) of the respondents have mentioned the lack of interpersonal interaction, which necessarily governs e-learning educational process as a significant limitative factor of e-learning adoption. There are also reported factors such as the need for time-management and self-discipline (15%) and the need to obtain and maintain the necessary equipment (15%). Finally, 46% of the respondents report the need for information and communication technologies competences as another important limitative factor
- 33% of the respondents rate as the most crucial reason in order to adopt e-learning applications, the inability to move from the permanent home location. 32% mentioned the increased work obligations and 23% the chance to adopt innovative educational experiences. Only 8% responded the lack of funds and 4% the increased family obligations
- The survey examines the significant of four basic skills that are considered important for successful e-learning adoption. The majority of respondents (81%) clarify a high level of significance to the skill "self-discipline" and 18% a moderate level. These results underline the need to attract potential trainees, with increased potentiality as well as a positive attitude towards self-directed behaviour. The skills "computer use" and "internet navigation» are rated with high significance for more than 60% of respondents (69% and 64% equally). More than a third believe that there is a low level of importance to the above skills (30% and 35% equally). Finally, the ability to take advantage of all the "communications tools" available in an e-learning program accumulate similar

percentages (67% high significance and 32% low). It is worth mentioning that only 1% of respondents reply that there is no significance to any of the examined skills.

(3) Perceptions Toward e-Learning Studies Parameters

With regards to "course context"

- The majority of the respondents would participate in an e-learning postgraduate program that is best described with the following characteristics:
 - Flexible studies duration (51%)
 - Tuition fees up to 5.000€ (81%)
 - A compound admission process (exams, interviews) (70%)
 - Use of in Greek Language (62%)
 - Accredited by public organizations (91%)

Regarding to "educational disciplines and platform"

- 60% of respondents prefer the synchronous e-learning model while 36% the asynchronous. Only 4% of respondents believe that e-learning at an individual pace is the best model. The answers of the respondents reflect a strong preference to this model, which is closer to the traditional class and requires from the students a direct cooperation and interaction with instructors and other learners in a virtual environment
- 63% of respondents view strongly and 37% lower blended learning as a better model in comparison to pure e-learning. These results indicate that Greek students are not yet mature for e-learning adoption, demanding from interested institutions a more consist and documentary attempt to promote postgraduate e-learning programs
- The provision of instructors' support in settling queries and questions about the educational content as well as the writing of essays is considered extremely significant for the 96% of respondents. The attendance of lectures, which are provided through e-learning platforms, demand also substantial support (68%). Almost half of the respondents require significance advice and support during the duration of exams (42%). Finally, the ease of Internet and system navigation is based

at a high degree upon instructors and technical staff support (57%).

With regards to “provider’s profile”

- The majority of respondents would prefer an e-learning postgraduate program:
- Held by a state University (64%)
- Sponsored by government funding (70%)
- Promoting through e-learning programs’ websites (44% of respondents) search engines and databases (31%), word-of-mouth advertising (10%), Internet news groups and mailing lists (6%), traditional advertising and publicity as well as e-advertising (5% and 4% equally).

4.2 MCA Results

The application of the MCA method provided a graphical representation of the main correspondences and differences of the examined variables. Specifically figures 2 and 3 provide some of the results produced by the application of MCA method for the factors in question and illustrate their graphical representation (first factorial planes).

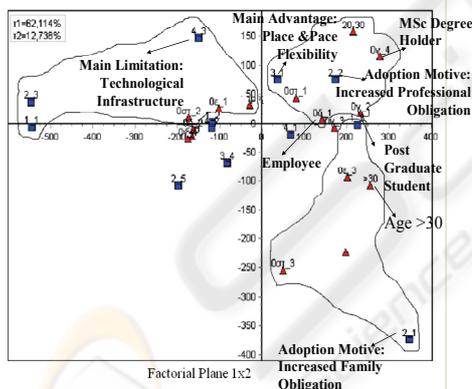


Figure 2: MCA Application on “demographic characteristics” and “general perceptions” factors.

The outcomes revealed significant correlations among respondent’s demographic characteristics and their perceptions regarding the concept and the basic characteristics of e-learning notion (Figure 2). Specifically there is a strong correlation between respondents’ level of knowledge of e-learning concept and their educational level as well as age category. This information provide the necessary and critical information to the engaged entities in order to identify and specify the efficient and

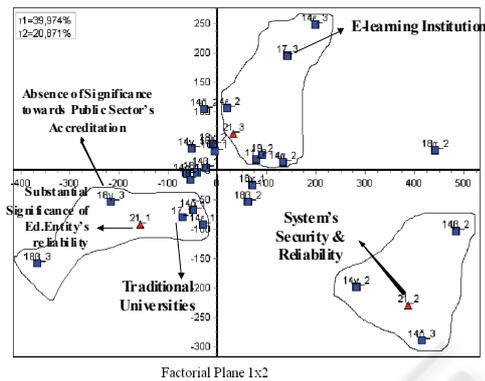


Figure 3: MCA Application on “need satisfaction” and “product mix variables” factors.

effective strategies and tactics for the diffusion and promotion of prospective e-learning courses. Furthermore, the clustering of the variables display that respondents’ stage of lifestyle and working condition affect the main reasons for adopting e-learning applications. This fact establishes e-learning potentiality to satisfy diversified target market segments, modifying the marketing strategies in order to attract them and satisfy their special needs. Finally, significant differences are ascertained in respondents’ perceptions regarding the most crucial advantages and disadvantages of e-learning applications in comparison to their level of age and employment situation. Older, working respondents reveal the absence of personal contact as the most limiting factor while younger, unemployed participants are skeptical for the cost o acquiring and maintaining the technological infrastructure

Furthermore, AFC application (figure 3) reveals crucial correlations among attributes of e-learning product and crucial factors concerning respondents’ overall satisfaction. Specifically there is an explicit argument of respondents who prefer different entities for the development and the administration of an e-learning program

It is also recorded a strong trend towards the significance and necessity of the public higher education sector’ contribution in terms of developing, organizing, and accrediting e-learning applications... This information display the Greek students’ confident against the realibility and effectiveness of the public universities in task management concerning traditional as well as e-learning activities. Finally, it is displayed a specific segment of respondents which emphasize the innovative character of e-learning, prefer asynchronous e-learning model and deem educational institutions and entities, which provide

exclusively e-learning programs and courses. as the most appropriate for e-learning implementation.

5 CONCLUSIONS

Despite the move towards flexible learning methodologies, the e-learning industry in Greece is still immature and evolving. This study identifies variables and factors that explain students' involvement and perceptions towards the adoption of a specific e-learning program, this of e-business e-marketing course. The paper applied a number of variables concerning e-learning issues, to a representative population. As such the survey contributes to the understanding of the requirements of prospective Greek e-learners towards factors associated with successful e-learning programs in a dynamic virtual learning environment. Greek students are revealed informed about e-learning concept and its basic features. It is worth mentioning that they seem to be devoted to traditional educational process, demanding similar dimensions from an e-learning program such as synchronous model, blended learning, domestic language oriented programs, state universities and public sector accreditation.

On the whole, the paper underlines that the implementation of e-learning programs is a challenging task that incorporates organizational, technological, administrative and instructional aspects, involving also a fully understanding of learners' needs and demands. The findings of the study provide a useful framework to the interested educational entities, contributing to the development of an efficient and effective e-learning marketing strategy.

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