SWOT analysis of e-learning educational services from the perspective of their beneficiaries

Venera-Mihaela Cojocariu a, Iulia Lazar a, Valentin Nedeff a, Gabriel Lazar a *

a “Vasile Alecsandri” University of Bacau, Mărășești Street no. 157, Bacău, 600115, Romania

Abstract

The purpose of this analysis is to identify, based on current literature analysis, the strengths, weaknesses, opportunities and threats specific to e-learning educational services. The objectives are: 1. identifying, structuring and prioritizing in a “mirror” system the strengths and weaknesses, respectively the opportunities and threats; 2. comparing the results in order to define those aspects with representative impact in future development of the project. The final result consists of the synthesis of weaknesses and threats as a basis of reflection and reporting for the university strategic management to the problem of e-learning educational services in the perspective of their optimization.

Keywords: e-learning, e-learning educational services

1. Introduction. E-learning and e-learning educational services

The polysemy of the e-learning term, coupled with the rapid evolution of technology and its application in learning, illustrates a variety of senses. Most of the terms (online learning, open learning, web-based learning, computer-mediated learning, blended learning, m-learning, for ex.) have in common the ability to use a computer connected to a network, that offer the possibility to learn from anywhere, anytime, in any rhythm, with any means.

The meanings extend to the maximum. At one extreme is the e-learning as a philosophy of social learning, focused on student needs, formed at the junction of psycho-logical and pedagogical dimensions and the networks (Demiray, 2010, vol. II). At the other extreme is the e-learning as a specific way to learn. Maximum restrictive, for some „e-learning is a tool to make the learning process more flexible, innovative and learner-centred” (Demiray, 2010, vol. I, p. 152, Ozuorcun & Tabak, 2012, p. 301).

Between them there can be ordered a number of other meanings, with different degrees of coverage: theory about on-line learning, methods of organizing the teaching process, specific learning process, learning strategy, method of learning. Summarizing a series of reports and recent studies, we conclude that the meaning most often used and with the most practical coverage is the one that sees e-learning as a specific collaborative proces, conducted through internet technology, which does not necessarily require the presence of teacher and learner at the same time and place (Yucel, 2006).

* Corresponding author Gabriel Lazar; Phone: +40.234542411, Fax: +40.234545753
E-mail address: glazar@ub.ro
E-learning educational services are electronic learning services. These provide education, training, retention, transfer, consolidation, evaluation, review, systematization. Our analysis narrows to using these only at university level. Their systematization can be achieved by multiple pedagogical, psychological, technical criteria, including: the specific of fundamental activity; predominant category of acquired learning content; degree of involvement of the teacher in using the service; the category of learning subject; the age at which these will be recovered; beneficiaries; the number of persons for whom the use of the service was designed; the core of the service; fundamental type of instrument used to access the services. This paper presents the theoretical background underlying the Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis that was made.

2. SWOT analysis of e-learning educational services from the perspective of their beneficiaries

Our intention is to identify, structure and prioritize in a “mirror” system the strengths and weaknesses, opportunities and threats. Comparing the results allows us to present a synthesis of weaknesses and threats as a practical basis of reflection and reporting the university strategic management to the problem of e-learning educational services in the perspective of their optimization.

2.1. Strengths

1. It is a process in full actional agreement with some of the defining characteristics of learners in the third millennium. These are „digital natives” (Clark & Mayer, 2008, 2011), who think and process information in a fundamentally different from their predecessors (INTEL, 2011) so that its correlation with the educational process is more than normal (Demiray, 2010, volume II).

2. It is characterized by flexibility (Brown & Charlier, 2012; Cook, 2007; Demiray, 2010, vol. II; Dobre, 2010; Hsieh & Cho, 2011; Ozuorcun & Tabak, 2012; Rosenberg, 2001; Singh, Pathak, & Naz, 2007; Šolc, Legemza, Sütővá, & Girmanová, 2012; Wang & Chiu, 2011; Canadian Council on Learning [CCL], 2009), accessibility (Demiray, 2010, Volume I), geographical independence, respectively mobility (Yucel, 2006; Cook, 2007), all meaning for the beneficiary of a higher degree of autonomy in organization, management and implementation of the process.

3. It provides considerable customization of learning related to the needs of the learner (Clark & Mayer, 2008, 2011; Cook, 2007; Demiray, 2010, vol. II; Dobre, 2010; Liebowitz & Frank, 2011; Ozuorcun & Tabak, 2012; Rosenberg, 2001; Singh et al., 2007; Šolc et al., 2012; Yucel, 2006).

4. It offers a great diversity (methodological (Dobre, 2010), instrumental (Ozuorcun & Tabak, 2012)), a substantial and versatile package of methods, procedures, means and techniques of learning as well as learning processes, integrated and subordinated to e-learning.

5. It provides a specific intuitive character (Clark & Mayer, 2008, 2011; Cook, 2007). In e-learning, written text and audio message can effectively combine, the kinesthetic way of presenting the content being added. Color, images, video components, graphics, animation, complex simulations enrich and facilitate a curriculum that would otherwise be very difficult to learn only from textbooks.

6. It offers interactivity to the process (Clark & Mayer, 2008, 2011; Demiray, 2010, vol I; Liebowitz & Frank, 2011; Wang & Chiu, 2011; Wu, Xu, & Ge, 2012; INTEL, 2011). Multimedia presentations encourage debate, existing technical means allow re-creation of processes and their simulation. Image, dynamic, sound and word are stimulating the connectivity in terms of: cognitive processes (sensory and rational, analytic and synthetic, the representation of thinking) content, people who interact.

7. It achieves a collaborative learning (Clark & Mayer, 2008, 2011; Demiray, 2010, vol I; Wu et al., 2012; Yucel, 2006), managing to constitute, by using platforms and networks, a professional learning community.

8. It is motivating (Clark & Mayer, 2008, 2011; Demiray, 2010, vol I; Ozuorcun & Tabak, 2012; Šolc et al., 2012, CCL, 2009). Carrying out the tasks, the immediate feedback, formative assessment encourages and helps the increase of self confidence, and gradually makes them express their involvement in learning, and take responsibility
of learning. Motivation increases performance and studying without a teacher reduces the stress, according to research by 50% (Demiray, 2010, vol II, p 534);

9. It provides focus on the learner (Demiray, 2010, vol II; Ozuorcun & Tabak, 2012). In an approach centered on the learner, the focus is not on content but on the process, on how to teach and the technology is adapted to assist closely and continuously the learning process (Clark & Mayer, 2008, 2011).

### 2.2. Weaknesses

1. Insufficient compatibility between the technological design of the service and the psychological component of the learning process (Clark & Mayer, 2008, 2011), a certain kind of rupture that sometimes occurs between these two aspects. Not every e-learning educational services automatically involves the expected useful effects.

2. The flexibility and autonomy in learning are relative and fragile and can generate traps for both the learner and for the one who designs and operates the activity both to specific groups of service users in certain contexts, and teachers (Arabasz, Pirani, Pond, & Fawcett, 2003; Cook, 2007).

3. The limited, inadequate or unattainable character of the learning customization (Cook, 2007). Designing the e-learning educational services is not always characterized by the best architecture related to the needs of learners. Individualization remains rather to the "level of vision than reality, training being more predetermined than custom made", introducing the term "un-individualization of instruction" (Cook, 2007, p 39).

4. A possible superficiality in learning induced by a wide variety of methodology, tools, processes, due to imbalances between: training activity that develops digital competence and the one that develops academic skills (CCL, 2009).

5. A certain kind of reduction of the relations between learners, between them and the teacher (Ozuorcun and Tabak, 2012), a possible loss of direct communication and immediate collaboration once the call for learning technologies, the possibility of, by using e-learning to create dependence on technology and isolation of the learner, rather than amplifying interactions with those involved in the process (CCL, 2009).

### 2.3. Opportunities

1. Expansion of technology causes the latter to become a perfect environment for expression and development of e-learning educational services (Clark & Mayer, 2008, 2011; Motschnig-Pitrik & Standl, 2012; Liebowitz, 2011; Welsh, Wanberg, Brown, & Simmering, 2003; Dobre, 2010);

2. Radical transformation of all aspects of education (from access to obtaining diplomas, from final to results, from process to infrastructure, from teaching to evaluation, from teacher to students) as a result of technology dynamics (Demiray, 2010, vol I; Motschnig-Pitrik & Standl, 2012).

3. Increasing interest for different categories of beneficiaries for e-learning educational services. Research (Danish Technological Institute, 2008) shows that the interest in the deployment of e-learning systems is growing higher and it is visible.

4. Increasing market demand for e-learning educational services appears as a natural result of the evolution of services and the amplification of their need. Statistics highlight the phenomenon of increasing market share for digital learning in conjunction with a corresponding decrease in demand for traditional training (Clark & Mayer, 2008, 2011).

5. Relatively lower costs of e-learning services - studies (Clark & Mayer, 2008, 2011; Cook, 2007; Demiray, 2010, vol I; Dobre, 2010; Ozuorcun & Tabak, 2012; Rosenberg, 2001; Wu et al., 2012; CCL, 2009) emphasizes the financial aspects such as: reduced distribution costs.

### 2.4. Threats

1. Exaggerating the positive role of technology generates negative effects such as: the danger of ignoring the student (Clark & Mayer, 2008, 2011), the possibility of producing an entire generation "of noncritical thinkers"
(Liebowitz & Frank, 2011); technical problems (Demiray, 2010, vol I; Demiray, 2010, Volume II) limiting the access to services; lack of adequate infrastructure (lack of internet connection, telephone transmission rate and very low bandwidth, poor ICT infrastructure); "some difficulties of online administering: assuring the security of users, their registration, monitoring the students and offered services" (Dobre, 2010, p 17).

2. Contradictory effects produced by transforming contemporary education on recipients of e-learning educational services manifests through a psychological dimension of the beneficiaries correlated with the level of their training. Some illustrations: a. reluctance to use services; their criticism, negative representation (Demiray, 2010, Volume I) lack of confidence in their efficacy, fear of replacement of the teacher by computer, fear of the unknown (Demiray, 2010, vol II), lack of trust in e-learning programs from students, limited experience in using computer (Arabasz et al., 2003), b. lack of training and / or experience of teachers in pedagogy and management of e-learning (Demiray, 2010, vol I; Demiray, 2010, vol II; Ozuorcun & Tabak, 2012). Adjacent, there are other threats: long time necessary to create and maintain e-learning courses (Arabasz et al., 2003), costs of training to update teaching methods and increased confidence in the new technologies.

3. Insufficient motivation for engaging in e-learning and its support - numerous studies, correlating the degree of financial support for these services with the level of economic development of different countries, highlights that in enough universities there is now adequate financial compensation for the effort to produce and develop e-learning materials, there is no motivation system to stimulate the involvement of teachers for implementation of e-learning services (Demiray, 2010, vol I; Demiray, 2010, Volume II) or the opportunity and / or ability to maintain, as a student, a high motivation for this long term learning (Yucel, 2006).

4. High dropout rate of students – The flexibility and autonomy of e-learning are not always the guarantee of student performance. The lack of face to face ongoing monitoring, the insufficient degree of development of their responsibility determine the abandonment of consistent learning efforts. Thus, it installs a dropout phenomenon "which is more common in this context than in traditional education" (Dobre, 2010, p.17).

5. Expenditures on e-learning educational services are not as small as they seem. There are broad categories of expenditures, such as expenditures on new technology (covering the degree of novelty incorporated into services, transmission of information in the network, maintenance of equipment, production of materials) (Dobre, 2010). New services require considerable investment in technology and human resources training, specific costs for designing and developing e-courses and achieving technology that allows guest to use the program (Welsh et al., 2003). Developing online tutorials can be very expensive (Cook, 2007). Although overall service costs are significantly lower compared to the own classic educational process (Dobre, 2010) they can grow pretty much, at least when their launch, when the rate of originality is the highest.

6. Insufficient existence of a normative and legislative base on e-learning and digital learning resources (Demiray, 2010, Volume II). There are studies (Demiray, 2010, Volume I) that demonstrate that both in Europe and outside it there are a series of worrying phenomena: lack of clear stipulation in government policies and legislation regarding courses and e-learning programs; the lack of quality standards of e-learning programs; lack of quality controls, of a set of standards for e-content production and their delivery mechanisms.

3. Weaknesses and threats - themes of reflection for university strategic management

The synthesis of the analysis indicated 5 weaknesses (1. insufficient compatibility between technological design of the service and the psychological component of the learning process; 2. relative and fragile flexibility and high degree of learning autonomy; 3. the limited, inadequate or unattainable character of the learning customization; 4. a possible superficiality in learning induced by a wide variety of methodology, tools, processes; 5. a certain kind of reduction of the relations between learners, as well as between them and the teacher) and 6 threats (1. exaggerating the positive role and impact of technology; 2. contradictory effects produced by transforming contemporary education on recipients; 3. insufficient motivation for engaging in e-learning and its support; 4. high dropout rate of students; 5. broad categories of expenditures, such as expenditures on designing, maintaining and training human resources; 6. insufficient existence of a normative and legislative base on e-learning and digital learning resources) of integrating and using e-learning educational services in higher education.
They represent as many reflection themes for university strategic management interested in producing or purchasing, respectively integrating these in the learning process. For each of them there should be generated sets of appropriate measures to reduce and eliminate them, strating from changing perceptions and attitudes of managers towards this category of services and up to identifying funding sources for this purpose. Psychological and pedagogical dimensions of this process must remain the priordial and technology must be adapted according to the known and respected learning particularities of a clearly defined category of beneficiaries.

Acknowledgements

This research was financially supported by the UEFISCDI (Grant PN-II-PT-PCCA-2011-3.2-1108, “Networked interactive ceramic whiteboards with integrated sound (ENO) for teaching and learning science and technology”).

References


