From Information Systems to e-Learning 3.0 Systems’s Critical Success Factors: A Framework Proposal

Paula Miranda¹, Pedro Isaias², and Carlos J. Costa³

¹ Escola Superior de Tecnologia de Setúbal, IPS
Campus do IPS, Estefanilha 2910-761 Setúbal - Portugal
paula.miranda@estsetubal.ips.pt
² Universidade Aberta,
Palácio Ceia, Rua da Escola Politécnica, nº 141-147,
1269-001 Lisboa, Portugal
pisaias@uab.pt
³ University Institute of Lisbon (ISCTE-IUL), Adetti-IUL
Avenida Forças Armadas,
1649-026 Lisboa, Portugal
 carlos.costa@iscte.pt

Abstract. This paper seeks to identify and provides Critical Success Factors (CSFs) that affect the decision of adoption of e-Learning 3.0 systems. The study begins with a literature review related to the CSFs for information systems, followed by a literature review for e-Learning systems CSFs. The paper introduces an initial framework for understanding of which factors can influence successfully the adoption of an e-Learning 3.0 system. The framework is composed of five main dimensions, such as: technology, content, students, professors and educational institutions, as well of its influencing factors, and characterizes the factors in each dimension. This study can assist the stakeholders, i.e. students, professors and organization, in their intention to adopt an e-Learning 3.0 system.

Keywords: Information Systems, e-Learning, Web 3.0, e-Learning 3.0, Critical Success Factors (CSFs), higher education.

1 Introduction

The exponential deployment of information technology, along with new developments in education, launched excellent opportunities for new learning methods. In the last decade, the e-Learning concept had a growing recognition and is currently one of the most prominent developments in the information systems industry. Today, e-learning has evolved into a model widely adopted in academic institutions [1]. The first version of e-Learning, e-Learning 1.0, was pioneer in the online distribution of educational contents. Learning materials transposed the walls of the classroom. However, as the internet was in its early stage of development, these
contents were read only. The information was available, but it was static, and could not be edited. With e-Learning 1.0, students had freedom in terms of space and time, allowing them to organize their learning processes and at their own rhythm. However, the learning process remained pre-established. The content was organized into units and modules. Learning Management Systems (LMS) were introduced to assist the process of administration content and didactic tools to enhance learning [2]. With the evolution of the Web and the great popularity of Web 2.0, e-Learning took the technology behind “read/write web” and addressed itself more to the student and to the collaborative environment. Collaboration, information exchange, social learning, content generation, are the pillars of e-Learning 2.0 [3]. Education faces many challenges such as budget constraints, rising costs and increasing demand for e-learning platforms [4]. The response to these challenges, by educational institutions, has led those to reassess how the teaching is being carried out. In this perspective, the added value that Web 3.0 brings to e-Learning has been questioned as well. As with other technologies and pedagogical tools [69] [70], the first step to implement Web 3.0 on e-Learning is to decide whether, in fact, it is a valuable resource. It is believed that Web 3.0 can be a powerful pedagogical tool that has the potential to improve the construction of knowledge and personalize the learning experience of students. At the same time, it is expected that it facilitates some aspects from the teachers’ responsibilities (i.e. support the development, assessment and student support) [5]. Web 3.0, called Semantic Web or Web of data, is the new generation of the Web, with features and technologies such as collaborative filtering, cloud computing, big data repositories, mobility, etc.. If Web 2.0 is a social network where predominates the collaboration between creator and user, then Web 3.0 is the intelligent Web applications. If we want a more intelligent Web, with tools that enable us to find the information we need and when we need it, it is necessary to give more meaning to the information found therein. The information must be structured in such a way that the devices can read and understand as humans do, without ambiguity. Despite many uncertainties, educational institutions have followed this whole evolution of e-Learning. However, it is necessary to focus on what is really essential for the success of e-learning programs. Nowadays it is necessary a total understanding of the critical factors that contribute to the success of an e-Learning system. Institutions need to identify which factors actually contribute to that success. However, there are no studies that identify these critical factors for e-Learning 3.0. Thus proven the gap, it is intended with this study propose a framework for the critical success factors in e-Learning 3.0 adoption. With the integration of e-learning in most educational institutions, there are several factors that should be considered when it is decided to adopt an e-Learning 3.0 system, so that its application can succeed in institutions currently very demanding.

2 Critical Success Factors

It is recognized the importance of identifying the critical success factors for the organizations when there is an intention in adopt a new system. Being the focus of this