A Case Study on Improving E-Learning Services Using Google Analytics in Turkey

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ABSTRACT

In the past, focus of e-learning researches was mostly on technologies and materials which are directly related with learning environment such as learning management system (LMS), content management system (CMS), course contents etc. However, after emergence of big data concept, direction of researches has shifted to extract the hidden knowledge to be used by decision makers. Thus, user habits, content quality, LMS/CMS qualifications and many other issues can be improved using data stored in e-learning environment. When it comes to analyzing LMS side, Google Analytics is one of the best tools to examine performance and also to improve e-learning services. In this study, it is aimed to observe changes in user habits between 2011 and 2016 using Google Analytics data of Enocta Academic Education Platform which offers course content and LMS services for organizations and universities in Turkey. Thus, it is aimed to give advices to LMS providers in terms of improving their software considering changes in user habits. Also, different ways of improving e-learning services are discussed.

KEYWORDS
Distance Learning, Google Analytics, Learning Management System (LMS), User Habits, Web Analytics

INTRODUCTION

Rapid developments in Information and Communication Technologies (ICTs) bring changes together. These changes nowadays affect almost every field of life. Today’s era is therefore called as knowledge society where ICTs covers an important place in daily life. Economic, social and cultural lives are changing based on digital technologies and effects of them can be clearly observed. One of the most important characteristics of knowledge society is seen as continuous learning or lifelong learning. Unlike physical workers in industry society, brain power and intellectual capabilities of workers are more important features in knowledge society (Yılmaz, 2012b). Since knowledge is produced, evaluated, transferred or processed by knowledge workers, these workers should be capable to handle
all kind of processes related to knowledge. Education have a significant role for these workers in order to “make the upcoming generation active participants in the society; teaching, learning as well as evaluation in the information digital society can be supported using relevant theories and models” (Hošková-Mayerová & Rosická, 2015).

Like any other field, characteristics of learning have changed with recent technological advances. Traditional learning techniques fail to catch today’s expectations and rapidly changing technological developments. Due to this reason, e-learning concept shows up as a concept which combines ICTs with learning concept. E-learning is gaining in importance so that both academic and commercial institutions are interested in it (Tîrziu & Vrabie, 2015).

In the literature there are different definitions of e-learning:

- “E-learning is learning at a distance that uses computer technology (usually the internet)” (Henderson, 2003).
- “E-learning is essentially the network-enabled transfer of skills and knowledge. E-learning refers to using electronic applications and processes to learn. E-learning applications and processes include web-based learning, computer-based learning, virtual classrooms and digital collaboration” (Mihalca, Uta, Andreescu, & Intorsureanu, 2008).
- “E-learning is the use of internet technologies in order to create a rich learning environment which includes a large variety of instruction and information resources and solutions, and also to deliver this environment. And the goal of e-learning is to improve individual and organizational performance” (Yılmaz, 2012a).
- “E-learning as a term refers to a variety of different forms of technology-supported learning, usually characterized as the application of knowledge, information and educational technology to link people to each other and / or with educational resources, for the purpose of education (formal or informal)” (Ehlers & Hilera, 2012).

All these definitions meet on the role of technology in education for e-learning and boosting power of e-learning. E-learning concept enables training processes to be independent of time and space. Besides it enables cost reduction which is related with physical classes, accommodation, travel, physical training tools etc. Not only for the companies but also for the academia e-learning concepts are getting more attention (Chang, 2016). Industry and academia both need to keep skills of students and employees up-to-date in order to enable individuals to adapt to the requirements of knowledge society (Chang, 2016). E-learning environment provides different type of course contents such as text documents, (interactive) videos, podcasts, etc. This makes the course more understandable for learners. According to Arkorful & Abaidoo (2015) individuals can select which part of the course that they want to focus on. They also indicate that self-pacing is one of the advantages of e-learning.

At this point “e” part of e-learning needs little bit more technical care for efficient education environment. Learning Management System (LMS) is a tool used for systematic management of e-learning. Basically, an LMS provides course content for learners and also it is possible to track and evaluate the whole learning process with it (Watson & Watson, 2007). There are open source LMS options such as Moodle, ATutor, Eliademy, Forma LMS, Dokeos, ILIAS, Opigno, OLAT etc. (Pappas, 2015a). Also there are commercial LMS options such as Adobe Captivate Prime, Oracle Learning Management, The Office 365 LMS, docebo etc. Among of all these systems, Moodle is the most popular LMS with 73.8 million users in terms of actual users, Edmodo has the highest customer number which is 120.000 (Pappas, 2015b). According to Capterra’s LMS research report (Medved, 2015), industries that use LMS software are education (21%), technology (12%), manufacturing
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