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Using E-Learning in Enterprise Resource Planning (ERP) Training: A Case Study to Assist Curriculum Designers in Turkey

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Abstract

This article presents results of a research on integration of Enterprise Resource Planning (ERP) e-Learning model into the university curriculum. The study presented in this article aims to propose ERP e-Learning models to curriculum designers in Turkey. For this purpose, developed ERP e-Learning models are gathered from the literature although there only few ERP e-Learning models exist in the open literature. Presented ERP e-Learning models are compared, similarities and differences are discussed. From the results, ERP e-Learning models provide an innovative and effective education. This means, these technological models provide greater flexibility to the students and maximizes student learning outcomes when compared to ordinary learning. It seems that utilization of an e-Learning model in ERP training should be started from the universities.

Keywords: ERP, e-Learning, training, curriculum;

1. Introduction

Enterprise Resource Planning (ERP)'s foundations were laid in 1960s. The inventory control was of great importance in these years. For this purpose, the companies have decided to use computerized systems. With the help of progress of information technologies, stock control, production planning, production Material Requirement Planning (MRP), and Production Resource Planning (MRP II) applications have also moved to the computer based technology. Therefore, companies have begun to use computers aimed at decision making in the 1990 years. As a result, Enterprise Resource Planning (ERP) has placed in our lives. Combinations of MRP and MRP II systems have made out of ERP system, and these systems have been improved according to technological developments.

Today's fast economy requires quick decisions with great ability to adapt to the economic situations. To enable these properties, every major company uses an ERP system. ERP systems have proven their worth and power with the increased efficiency and business process speed. It is known that employee acceptance and familiarity play a big role for ERP effectiveness. To overcome the big overhead of employee training and overcome the resistance of acceptance, universities have started to integrate ERP learning into their curriculum. Another reason for this

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integration is the business process research made by the ERP vendors. ERP vendors not only develop software but also try to improve the existing workflows of the corporations in many departments to increase the effectiveness and acceptance. To further increase the reach of these efforts, universities integrate their ERP related courses to e-Learning curriculum too. According to these motivations, various ERP e-Learning models were developed by only few studies (Choi et. al., 2007; Hawking et. al., 2001, 2004).

This paper is intended to propose ERP e-Learning models to curriculum designers in Turkey. For this purpose, findings of a research on integration of ERP e-Learning model into the university curriculum are presented. The study in this article starts with definition of ERP systems as provided in the following section. In the third section, the concept of e-Learning is described briefly. Then, in section four, developed ERP e-Learning models as gathered from the literature are presented. Methods to achieve ERP e-Learning models are compared, similarities and differences are discussed. Finally, conclusions are drawn in the last section.

2. ERP Systems

There are several definitions that may be quoted from open literature for explaining the ERP systems. ERP is described by (Watson et. al, 1999) which is a common definition and it is defined as packed software based system that deal with requirements of enterprise system in whole fields like finance, human resources, manufacturing, sales and marketing. In addition, it is also mentioned that ERP has integrated software architecture and it simplifies information flow between whole functions in an enterprise and that stands on a joint database.

The evolution of ERP systems are grown faster as computer systems. In 1960s, in order to satisfy the customer demands, inventory control packages were used for automating the inventory control systems. The inventory that has large volumes was a luxury as realized by companies in the 1970s. Hence, Material Requirements Planning (MRP) system is started. MRP is an inventory control system that used for managing manufacturing processes. In the 1980s, extended MRP were presented with modifying manufacturing operations for the efficiency. Project management, finance, sales analysis, distribution management, human resource and engineering are included areas by MRP II. In 1990s, more functions were added to main modules by vendors of ERP that cause to the extended ERPs (ERP II). ERP II, which is the next generation of ERP, represents application and a business strategy for users (Kumar et. al., 2000).

The structure of an ERP system simplifies transparent integration and between all functions it provides supporting for complete data flow within the enterprise. In the study (Davenport, 1998), the concept of ERP systems may be reachable.

The characteristics of ERP systems are listed below (Davenport, 1998; Rashid et. al, 2002):
- It has direct effect on the organization of the companies
- Modular design with including various business modules such that manufacturing, accounting, etc.
- It uses a relational database system that called as Database Management System (DBMS)
- ERP systems are generally complex systems (high cost and risk)
- ERP systems seem flexible
- The modules are integrated in ERP system and then uninterrupted data flow and increased operational transparency is provided
- In ERP systems, online real time access to data is allowable
- Internet is enabled in the ERP systems (or soon near future)

3. E-Learning Models

E-Learning is an umbrella term which refers to the all of the technologies and methods introduced into the process of teaching and learning to increase its effectiveness and reach. e-Learning first investigated by two psychology professors experimenting with the utilization of computers to assist teaching in mathematics and reading to children in elementary school level in the beginning of 1960s.