

Investigating the Adoption of ERP Systems A Perspective from Case Study in Jordan

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ABSTRACT

Software usability is one of the important issues of human computer interaction. It is a critical quality factor that controls the quality and the performance of any interactive software. This study aims to investigate the impact of usability attributes on end-user's acceptance of enterprise resource planning by extending the technology acceptance model to include five usability attributes, namely: task support, presentation, navigation, learnability and memorability. At the time of writing this article, to the best-known knowledge, there have been no studies in Jordan that have investigated the impact of software usability on the end users' continuous intention to use an enterprise resource planning system. The proposed research model is validated by conducting a survey from Dawacom Pharmacies based in Amman, Jordan. The results show that nine out of eleven hypotheses are significant. The findings indicate that all attributes have a significant impact on user acceptance. Except, the task support does not have a significant effect on perceived usefulness and perceived ease of use.

KEYWORDS

Enterprise Resource Planning (ERP), Human Computer Interaction (HCI), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), Technology Acceptance Model (TAM), Usability

1. INTRODUCTION

Software usability is an important issue of Human Computer Interaction (HCI). It is a critical quality factor that controls the quality and the performance of any interactive software (Pribeanu, 2017; Kabir et al., 2016). It has been argued that usability should be incorporated with Software Development Life Cycle (SDLC) to evaluate the usability of the software in the pre-deployment phase and to enhance the performance of the software (Jain et al., 2012).

User acceptance of technology is considered as one of the primary knowledge fields of HCI which examines the factors that influence the acceptance and the adoption of end-user towards a new technology. Technology Acceptance Model (TAM) is deemed to be one of main models of user acceptance of technology branch (Shiau et al., 2016). TAM proposed by Davis (1989) has been the most extensively utilized model for exploring the behavioral intention of an end-user to adopt an information technology system. Zabukovsek et al. (2013) pointed out that TAM should be applied in the post-deployment phase of SDLC to acquire correct user feedback of a certain system usage.

Nowadays, Enterprise Resource Planning (ERP) is widely used system in companies and industries. ERP system is a software package that integrates all information system applications across various departments of the company in one system in order to process effectively and accurately the massive amount of data generated in real time (Forcht et al., 2007). ERP system has many benefits to companies, such as: reducing the cost, boosting user performance and efficiency, increasing

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customer response time, improving business workflow process and enhancing communications between end-users of the system (Yan Huang et al., 2009; Hejase et al., 2017; SAP, 2017; Motiwalla et al., 2012; Zouine et al., 2014). Even though ERP system has great benefits, it suffers from poor usability characteristics (Veneziano et al., 2014; Lambeck et al., 2014). This will affect passively on the performance and the efficiency of the end-user and hence will discourage them from continuing to use ERP system (Faisal et al., 2012; Lambeck et al., 2014).

Many studies have been carried out to evaluate the usability of ERP system in post-deployment phase. As a consequence, the implementation success of ERP system depends on the enhancement and the improvement in interface usability based on the end-user feedback (Scholtz et al., 2016; Yassien et al., 2017; Almajali. et al., 2016). Because of the high cost of usability evaluation during the implementation phase of the ERP system, most of the ERP software developers and vendors tend to evaluate the usability in post-deployment phase to avoid such cost in SDLC (Scholtz et al., 2016).

Many studies have applied TAM to an ERP context (Lodhi et al., 2016; Sternad et al. 2013; Lee et al. 2010; Al-Jabri and Roztocki, 2015; Shih and Huang, 2009; Zabukovsek and Bobek, 2013; Sternad and Bobek, 2013; Kwahk and Lee, 2008). However, few studies have explored the impact of user interface quality on the acceptance of ERP system (Gül, 2017; Scholtz et al., 2016; Lin, 2013; Calisir and Calisir, 2004; Scott, 2008; Scott and Sugar, 2004). This paper aims to integrate usability model with modified TAM to explore and investigate the effectiveness of usability attributes on end user behavioral intention to accept and use ERP system in the post-deployment phase. In addition, this paper aims to evaluate the usability of ERP system in order to provide deeper insight into which attributes of the usability model has an impact on the success and the adoption of ERP system.

2. ENTERPRISE RESOURCE PLANNING (ERP) SYSTEMS

For further clarification related to the concept of ERP, there are many definitions quoted: according to Ray (2011), ERP system consists of centralized database with operation platform to assist the organization to accomplish their tasks through of group of portals in one software called integrated system. While according to (Althonayan et al., 2011; Leon, 2014; Monk et al., 2013; Sadrzadehrafiei et al., 2013), ERP system is comprehensive software packages designed to automate all of the organizational process from finance to shop floor to improve the productivity of work and the performance of organizations.

Sadrzadehrafiei et al. (2013) presented the positive impact of ERP system on organizational success in terms of customer satisfaction, operations and logistics, human resource and supplier. Other benefits related to implementation process are productivity improvement, effectiveness, data redundancy and costs reduction, that are introduced by (Leon, 2014; Yan Huang et al., 2009; Shen et al., 2016; Wittstruck et al., 2012). In addition, Leon (2014) recoded the ERP system better than legacy systems where the ERP system is flexible with functional area and can integrate in multiple locations. While Almgren (2014) stated that the ERP system are not developed for the same purpose or use similar tools where there's are difference in technology used, types of users and work environment.

Indeed, ERP system is a comprehensive solution where the changes are fixed in organizational processes, but the high cost of ERP system considered to be an expensive project where its cost range from 500 thousand to 300\$ million (Hsu et al., 2015). Therefore, the large and medium organizations use the ERP system because it has a huge number of departments and the ERP system can assist these organizations to succeed in their field. Ray (2011) present the challenges related to the ERP system in terms of implementation, people management and maintenance challenges. Other challenges related to process, technological and managing risks on ERP systems (Leon, 2014; Tarhini et al., 2015).

In Jordan, the ERP system has been widely spread in organizations in recent years, where the demand of ERP system has been increased because of its huge benefits in the business sector, in terms of productivity and business growth, especially for medium and large organizations. (Qutaishat et al., 2012). Currently, there are many local software companies that provide ERP solutions to customers

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