Switching Toward Cloud ERP: A Research Model to Explain Intentions

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ABSTRACT

This paper aims to develop a research model to explain managers’ intentions to switch toward cloud based ERP (Enterprise Resources Planning). Indeed, as cloud computing is considered as a true revolution in Information Technologies field, ERP market is shaping toward more cloud based solutions. However, since cloud computing is presented as a risky alternative, cloud ERP adoption may faces reticence from managers. On the other hand, thanks to the benefits of such system associated to the known difficulties of On-Premises ERP, some managers would rather be motivated to switch to the cloud solution. Thus, from the proposed research model we attempt to present factors that influence managers’ intentions to switch toward cloud ERP. By considering IT switching as a particular form of IT adoption, we based our literature review on Theory of planned behavior (TPB) to identify the determinants of switching. This review also allowed us to integrate the expected switching benefits and risks as antecedents and the personal innovativeness as a moderating factor. To contextualize our research model, we performed semi-structured interviews in four Saudi Small and medium enterprises (SMEs). The use of Nvivo 10 to codify and analyze the interviews content combined to a deep analysis of previous researches helped us to improve the research model by adding two additional factors: “top management support” considered as the main determinant of intentions and “satisfaction with actual system” as an important antecedent linked closely to switching.

Keywords: Attitudes, Cloud ERP, Intentions, IT Switching, Theory Of Planned Behavior

1. INTRODUCTION

Enterprise Resources Planning (ERP) is a software package that is composed of standard modules connected to a single database and could cover all business processes of a firm. This software began to be largely adopted by firms since the 90’s because it is developed based on “management best practices” (Kini & Basaviah, 2013; Mezghani et al., 2014). Despite its benefits, implementing or updating an ERP is very expensive and problematic (need to renew the technical infrastructure, to redesign business processes,…).

To reduce these difficulties, an alternative solution begins to emerge, which is called Cloud ERP. Also, named On-demand ERP, this solution signifies using ERP on a cloud. According to Grabski et al. (2011), “Cloud computing has the potential to radically change the ERP environment. The data and the application are no longer housed on-premise; rather, a vendor provides access to the application which can be customized to meet the user’s needs and the vendor also hosts the data securely somewhere on the Internet…Many research questions surround this evolutionary approach to ERP systems”.

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Arnesen (2013) adds that ERP vendors “are in the process of developing hosted or cloud solutions as the market moves to a cloud environment”. Thus, cloud ERP seems to become a real substitute to On-Premises ERP and firms would be likely “pushed” to switch toward the cloud solution. However, as a Saas, cloud ERP presents several risks (dependency, data confidentiality,…).

Between benefits and risks of adopting cloud ERP, firms are facing a true challenge of switching or not toward such solution. Thus, this research aims to investigate the construct of intention to switch toward cloud ERP. More precisely, we attempt to develop a research model to identify factors that may influence the intention to switch toward cloud ERP. This would be interesting since intention is presented as the main enabler of IT adoption by several theories (TAM, TPB,….) and since few studies have discussed the determinants of cloud solutions adoption for an organization (Wu et al., 2011).

As we have noted above, this research attempts to study factors that influence positively or negatively the intention to switch toward cloud ERP. By following a qualitative approach, this research has two objectives:

• **Theoretical Objective**: to develop a research model that presents factors influencing positively or negatively the intention to switch toward cloud ERP. As this technology is emergent, it seems important to develop a framework specific to cloud ERP adoption, mainly when intention is presented as the major antecedent of adoption. We note here that the phenomenon of switching toward cloud services is recent and very few academic studies have been conducted in this area (Park & Ryo, 2013).

• **Managerial Objective**: since cloud ERP is presented as a suitable solution, this research may help to present some recommendations to managers about cloud ERP adoption as an emergent technology. As conducted in Saudi context, this research may also help ERP vendors to assess the Saudi firms’ readiness to switch toward cloud ERP. This would help them to adjust their efforts and offers when proposing their cloud ERP solutions in Saudi context characterized by “an obvious trend of adopting ERP solutions” (Alzahrani, 2013).

By the way, we begin this research by a literature review to study the phenomenon of switching and the characteristics of cloud ERP. As IT switching is considered as a particular form of IT adoption, we integrated the TPB as a largely used theory in IT adoption researches.

Then, we present the results of semi-structured interviews conducted with IS managers in four Saudi SMEs. Such interviews should help to contextualize and improve the research model to be more useful for practitioners.

### 2. LITERATURE REVIEW

#### 2.1. From On-Premises ERP to Cloud ERP: Benefits and Risks

It has been long considered that traditional ERP systems (On-Premises ERP) are important tools for organizations to get full integration and best practices. These systems are also seen as enablers of business process reengineering (BPR) required for improving organizational performance (Wenrich & Ahmad, 2009).

However, ERP projects are largely criticized for being cost and time consumers (Nair et al., 2014). Even implemented, ERP systems need continuous upgrades that also consume money and time. In this way, cloud ERP proposes a set of benefits that make it interesting to change toward cloud based systems:

• **Cloud ERP is Cost Saver**: when moving to cloud ERP, firms do not have to invest on more IT infrastructure since the system is hosted on a cloud (Al-Johani & Youssef, 2013; Arnesen, 2013). By the way, Costs linked to licensing, maintenance and upgrading are significantly reduced (Makkar & Meenakshi, 2012).
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