From On-Premise ERP to Cloud ERP

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INTRODUCTION

With the development of cloud computing, a cloud-based ERP begins to emerge as an alternative to the on-Premise solution. According to Grabski, Leech and Schmidt (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". 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, according to Mezghani (2014), "cloud ERP seems to become a real substitute to on-Premise ERP and firms would be likely "pushed" to switch toward the cloud solution".

One of the concerns linked to ERP implementation is alignment. Indeed, ERP systems affect almost all business processes and even some strategic choices of a firm. That is why many researches focus on alignment concerns when studying ERP implementation (Hong and Kim, 2002; Yaseen, 2009; Mezghani and Mezghani, 2014). Nevertheless, as reported above, firms are more and more interested in switching toward cloud ERP (Mezghani, 2014). By the way, "their business strategy, IT strategy, business processes and information technologies shall be re-aligned" (Li, Wang, Wu, Li and Wang, 2011). Indeed, in a cloud computing environment, misalignments can lead to decreased operating efficiency and losses for organizations (Géczy, Izumi and Hasida, 2012). However, "no cloud computing service vendor can satisfy the complete functional information system requirements of an enterprise" (Li et al., 2011). These authors add that "sometimes, enterprises have to simultaneously use software services distributed in different clouds in conjunction with their intra-IS. These bring great challenges for business–IT alignment of an enterprise in the cloud computing environment". Also, with cloud ERP, data and applications are provider-hosted. So, the way ERP is managed may be redefined and, then, achieving alignment might be more challenging.

Thus, this chapter aims to expose the major challenges and issues linked to ERP systems alignment. Some tendencies and best practices are also proposed for firms to overcome the alignment challenges, mainly in a cloud computing environment.

BACKGROUND: ON-PREMISE ERP AND ALIGNMENT CONCERNS

Importance of Alignment When Implementing On-Premise ERP

Since the development of the Strategic Alignment model (SAM) by Henderson and Venkatraman (1993), many definitions were proposed for IT-business alignment. Based on previous studies, mainly those of Reich and Benbasat (2000), Mezghani and Mezghani (2014) proposed a definition for the ERP strategic alignment. Thus, these authors consider that such alignment exists when:

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- "The ERP implementation integrates business strategy (in terms of strategic choices).
- The business strategy considers the ERP characteristics (mainly the benefits and limitations).

This alignment is defined as a pattern of co-variation due to the specificities of ERP systems that are standard and adaptable at the same time".

Keeping ERP implementation aligned with business is an important matter because:

- **Getting ERP Benefits Depends on Alignment:** Many firms do not gain ERP benefits because they do not consider such systems when making strategic choices (Yaseen, 2009). Indeed, since ERP systems integrate all business processes, they can be considered as useful tools to access and analyze several data. Also, as ERP systems are developed based on *best practices*, firms can gain such practices if they align their business processes with the ERP ones.
- **ERP Modules Are Standard:** As mentioned below, adapting the business processes according to the ERP ones can be beneficial to firms. However, such alignment can be risky since it can affect key processes or generate resistance to change (Davenport, 1998). So, firms can choose to adapt ERP modules rather than business processes. Although useful, this alternative is also risky because it can lead to technical bugs. In all cases, project team should manage both alternatives carefully to keep alignment with low risk.
- **ERP Implementation Is a Strategic Investment:** ERP project is a costly project, time consumer and affects all business processes, so top management should consider ERP implementation as a strategic investment and priority (Grant, 2003). Besides, Lee and Myers (2004) affirm that the strategic context may change during an ERP project. Then, it is crucial to follow up continuously the alignment state and make the required adjustments unless ERP project would face delays (Lee & Myers, 2004).

Although the importance of alignment in ERP implementation, achieving such alignment is a true challenge. That is why, several studies tried to provide ideas and practices that can be useful to realize this alignment.

Social Dimension vs. Technical Dimension for ERP Alignment

When talking about successful ERP implementation, it is necessary to focus on factors that contribute to alignment (Kidd, 2011). To achieve such alignment, the project team should focus on both ERP and business processes adaptation (Hong & Kim, 2002; Mezghani & Mezghani, 2007). However, both alternatives are risky.

When choosing a technical perspective (ERP adaptation), it is important to note that, although ERP systems are adaptable, making a deep customization can cause technical bugs and affect the integrated *best practices* (Mezghani & Mezghani, 2007). In fact, a technology-oriented project can be a key reason of failure in ERP implementation (Kidd, 2011). Indeed, ERP systems cover all business processes and are developed based on *best practices* of business management, so they should be managed as organizational projects that involve all people over the firms (Mezghani & Mezghani, 2007; Kasemsap, 2015). Then, many authors suggest focusing on business processes adaptation. Indeed, implementing an ERP can be integrated as part of a BPR (business process re-engineering) project that aims to improve business processes and align with ERP ones. Nevertheless, this alternative is very risky as it can affect the key processes and then some competitive advantages (Davenport, 1998). Employees may also resist to such adaptations mainly when organizational change is not well managed (Kasemsap, 2015)

Regarding benefits and risks of both alternatives, it is argued that alignment should be achieved

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