

# Critical factors leading to ERP replacement in Higher Education Institutions in Saudi Arabia: A case study

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## Abstract

Enterprise Resource Planning (ERP) has been extensively researched with regard to the business environment, but not so much in relation to higher education institutions (HEIs). The review of the available ERP literature outlined ERP adoption, implementation and success cases as the main areas of research. By contrast, fewer studies have addressed the challenges and problems associated with replacement of one ERP system with another. This study aims to fill this gap in the literature by investigating the case study of a large university from Saudi Arabia in which the local ERP system was replaced with SAP ERP. According to the preliminary results obtained, the decision to replace an ERP system is influenced by several important factors. These factors were trend pressure, dependency on foreign experts, poor integration and public negativity. This paper presents a summary of these perceived factors.

**Keywords:** Enterprise Resource Planning (ERP); Higher Education Institutions (HEIs); Grounded Theory (GT)

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## 1. Introduction

The literature available on Enterprise Resource Planning (ERP) in the context of businesses has been comprehensively reviewed. Numerous different definitions of ERP have been formulated. It is generally described as a system which facilitates decision-making through the integration of information and which automates key business operations (Razmi et al., 2009). In this way, ERP contributes to increased organizational performance and efficiency which leads to profit growth. Despite the differences in interpretation and definition, there is a consensus in the literature that ERP should employ software packages consisting of business-tailored modules.

Large companies were the first to implement ERP systems during the mid-1990s and their subsequent success encouraged small and medium-sized enterprises to adopt such systems as well. Nowadays, ERP systems can be found in a significant number of companies. However, the challenges associated with the implementation of ERP systems may diminish the benefits that companies receive from them. The high rate of ERP failure has been the subject of a number of studies (Markus et al., 2000; Bhatti, 2005; Umble et al., 2003; Ifinedo et al., 2007). As a consequence of the failure to introduce ERP systems by many companies, research has attempted to identify the factors that ensure the successful implementation of these systems (Xu et al., 2010; Jing and Qiu, 2007; Al-Shamlan and Al-Mudimigh, 2011).

The researcher conducted an extensive search of the literature and was only able to locate two academic articles about ERP replacement, even an online search only returned one article. Based on the limited data available we can say that, when faced with the implementation failure of the chosen ERP system, some companies decide to replace it with another ERP system, however, this rarely solves the problem with the initial ERP system. This conclusion can be drawn based on the argument made by Dave Turbide (2013) that

“Whether a new system is the best answer is debatable if the new systems are instigated with the same poor planning; the result is likely to be the same. “

So far this paper has looked at ERP replacement systems in business environments, however, this differs in the HEI context in terms of implementation, purpose and utilisation (Abugabah and Sanzogni, 2010). In the HEI context, such systems are very useful in processing vast amounts of information and mediating interaction and communication between students, academic staff and administrative staff (Swartz and Orgill, 2000; Pollock and Cornford, 2004).

Although successfully implemented by some universities (Blitzblau and Hanson, 2001; Al Kilani et al., 2013), the rate of ERP implementation failure is greater among academic institutions than among businesses (Abugabah and Sanzogni, 2010; Botta-Genoulaz and Millet, 2006).

## 2. Research issues

The literature review demonstrated that ERP systems undergo different stages during their lifecycle in organisations. Figure 1 shows that the lifecycle begins with the identification of organizational needs that require the implementation of such a system, followed by the selection of a new ERP package and the customization of the system in iterative customization cycles, until the ERP is deemed replaced. Once this implementation is complete, the use and exploitation of the ERP begins and is evaluated for its suitability to organizational needs. This evaluation should result in further identification of needs and customization. These are the main stages which any ERP cycle is expected to go through, but at the same time unforeseen occurrences might happen at any point during any stage, such as replacement activity. Similarly, such event might also happen at any time after implementation when the system is required to perform a new operation or other system aspects are altered.

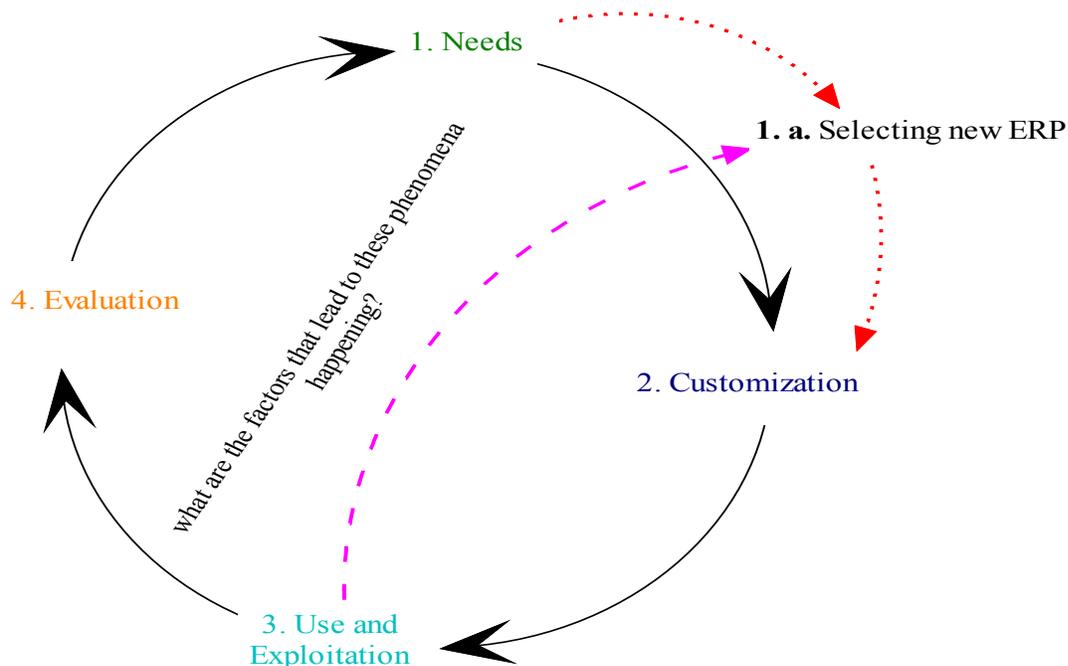


Figure 1.ERP life cycle adapted from Haddara and Elragal (2013)

In the case of HEIs in Saudi Arabia, the most widely employed ERP systems are information systems, the implementation of which is promoted by the government. One major problem that has emerged in this context is the replacement of ERP systems during their use phase without the appropriate assessment. This leads to uncertainty about how the university's requirements are fulfilled by a new system or even what those requirements are. The literature review found that the reasons for the ERP system substitution were not properly understood. Therefore, there is a call for more research into ERP replacement (Moon, 2007). ERP replacement is not necessarily a result of technical factors, it can be caused by organizational, operational, managerial and/or cultural pressures (Abugabah & Sanzogni, 2010).

This study seeks to address this issue to identify the precise internal and external factors that determine the replacement of ERP systems, so that universities do not continue to replace the system without fully understanding the factors involved. Consequently, the outcomes of the decision will positively or negatively affect implementation, and might require further replacement.

## 3. Data collection and analysis

To accomplish the study's aims, the researcher adopted a case study method combined with a Grounded Theory (GT) approach, which involved conducting 17 semi-structured interviews with decision-makers, IT staff and managers from different departments who contributed in the replacement decision. The data

collection was conducted in parallel with data analysis to be faithful to principles of the GT including (open, axial and selective coding).

#### 4. Preliminary Findings

The initial findings of this study suggest that various factors influence the ERP replacement decision, such as:

##### **Trend pressure**

The current outcomes suggest that decision-makers are highly influenced by the universal trend towards SAB ERP in businesses, due to the expectation that using this will give them the opportunity to be pioneers in a competitive field. And make them leaders in their own area, HEI. One interviewee stated that:

“The reason for ERP replacement is that we are trying to see how the trend is going. We actually looked to other universities in the Gulf region, none of them have implemented SAB ERP“.

##### **Poor integration between departments**

It has been advised that the HEIs studied suffered from a lack of integration of ERP to control administrative and financial operations.

##### **Public negativity**

The university appears to be concerned about its image as a leading university and their current system encountered many problems regarding HR module operation, they feel that if these issues are not promptly resolved then their reputation will be damaged. An interviewee stated that

“We will see our names and the university’s name in the newspaper saying the staff haven’t been paid, as the result of an unsolved problem which led to work delays.“

The initial findings suggested that other obstacles were generated as a result of the decision, thus:

- Lack of locally qualified and expert professionals for the specific ABAP programming language;
- SAB depends on foreign experts who experience difficulties in getting entry visas on occasion, in addition to their limited residency in the kingdom;
- The new system is very expensive;
- IT professionals were not consulted regarding the replacement decision, which limited their trust and contribution to the system. Most of the interviewed professionals felt that the replacement decision was unwise.
- Most of the interviewed professionals stressed that the decision involved the personal desire of top management members and that such staff were influenced by Western universities and did not consider cultural and local needs.

#### 5. Conclusion and future work

Based on the initial analysis, the participants indicated that the factors that led to ERP replacement in HEIs were complex and multiple. It is necessary to investigate how these factors influence the outcome of the replacement decision. Ongoing data analysis will clarify the factors and correlate them to the causes and consequences of making such a decision by identifying the categories and subcategories of the data; analysing the trends, issues and directions suggested by this qualitative data; making conclusions about the nature of this phenomenon; and making recommendations regarding future research in this important area.

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## 7 .Table of Figures

Figure 1.ERP life cycle adapted from Haddara and Elragal (2013)..... **Error! Bookmark not defined.**

