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A Compilation and Analysis of Critical Success Factors for the ERP Implementation

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ABSTRACT

Nowadays, the adoption of a new enterprise resource planning system is a highly complex process, and it is not as easy as people imagine. It is a challenging task that requires rigorous efforts, careful thinking, and proper planning. Likewise, it demands a detailed analysis of such factors that are critical to the implementation. The field has sparked an immense interest in the research community, and hence several previous studies have tried to assess the current status of these systems and address some issues in the literature reviews. First, the research aims to conduct a comprehensive literature survey, in order to address some issues related to the implementation and management of ERP, and point out overall trends. Afterwards, we tried to provide a contribution to the research field of the critical success factors (CSFs) of ERP projects based on a systematic approach to review a large number of refereed papers published between 2006 and 2018 on ERP from which a large number of documents relating to CSFs on ERP were extracted, and selected for analysis. From that review, we led a survey through which we tried to investigate and examine the different critical success factors that need to be considered to ensure the success of ERP systems.

KEYWORDS

Adoption, Critical Success Factors, Enterprise Resource Planning System, Implementation

1. INTRODUCTION

1.1. Background

In a rapidly changing economic context, the primary challenge facing the majority of companies remains the improvement of their competitiveness on a regional and international scale. The key to competitiveness is a robust information system (IS) infrastructure aligned with core business processes aimed at the delivery of high-quality products and services to customers in the shortest possible time. The use of information systems has become almost compulsory. Currently, the ERP system is regarded as one of the significant information technology (IT) innovation, and it is increasingly recognized as a key new competitiveness variable within companies in the short, medium and long-term. The

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adoption of enterprise resource planning (ERP) systems as standardized systems that encompass the activities of entire enterprises have become an important factor in today's businesses (Leyh, 2016). The Enterprise Resource Planning (ERP) system, Enterprise Information System (EIS), Enterprise-Wide Systems (EWS) or Enterprise System (ES) is a software solution that has been conceived so as to unify all information systems of all departments into a single integrated system, and helps manage and store information from the entire organization in one central database (Brooks, 2013). It is used by many companies to integrate business functions and disseminate common information and processes throughout the organization (Seddon, Shanks, & Willcocks, 2003) ERP gained popularity in the early 1990s and has become one of the best software to manage business processes. The business management system derives from the MRP (Material Resource Planning) (Orlicky, 1975) and MRPII (Manufacturing Resource Planning) (Chung & Snyder, 2000) mainly used in industrial management and production management.

The ERP is considered as a backbone of the information systems in an enterprise, and it supports all parts of business processes by providing a flow of information between all business functions on all levels within an enterprise. This system offers a competitive advantage, especially regarding the value of the information. For many users, an ERP is a "do it all" system that performs everything from the entry of sales orders to customer service . Typically, ERP software is an integrated system that allows the company to standardize its information system to link and automate its underlying processes. It also provides intra-organizational information-sharing mechanisms (Gupta, 2001), by offering accurate and up-to-date information accessibility, faster transaction processing, and data quality (Ekman, Thilenius, & Windahl, 2014).

The demand for ERP applications has increased, and companies have invested considerable resources in the implementation due to the benefits that are offered to organizations, including rapid and accurate decision-making, improving efficiency, streamlining processes and promoting a culture of collaboration within the organization. It has become an essential tool for organization management, regardless of size and field of activity (Sodomka & Klcova, 2016).

1.2. Problem Statement

ERP adoption involves a change in some of the complex business processes, and it also requires significant changes in staff and work practices. It is a substantial investment and differs from any traditional information system due to its integrated nature which causes dramatic changes in a workflow, organizational structure and the way people do their jobs (Matende & Ogao, 2013). Moreover, it is also a highly complex process, and a time-consuming project requiring a significant level of resources, commitment and changes throughout the organization (Moon, 2007), and during which companies seize great opportunities, but at the same time face enormous risks (Leyh, 2016). Furthermore, the implementation of the ERP system can cripple the organization, if they are not correctly implemented.

ERP projects are usually known with their high rate of failure. A study indicates that 40 percent of all ERP installations only achieve partial implementation and 20 percent of attempted ERP adoptions are scrapped as total failures. Another study has suggested that ERP failure rate may even be greater than 50 Percent. These failures are mainly due to the insufficiency and the absence of specific prerequisites necessary for the success of the implementation of the ERP. Before investing in an ERP. All organizations should realize the value they will pay if the project fails.

The implementation of ERP is a critical topic for different organizations and the most widely discussed in the literature, some articles attempt to explain why the ERP implementation is difficult and what needs to be taken into consideration to achieve desirable results, and other articles focus on generating a list of the critical success factors and conduct data analysis regarding those factors.

An organization adopting an ERP system must be prepared to see the organization changed; its staff disrupted and its productivity reduced before the gain would be realized. To avoid the disastrous consequences of failure to implement and leverage the benefits of ERP systems successfully, it is

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