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Literature Review of ERP Systems Implementation Challenges

Aditya Patil[1], Shital Raut[2]

[1,2]Dept of Electronics & Telecommunication Engineering, Vishwakarma Institute of Technology Pune

[1]aditya.patil19@vit.edu, [2]shital.raut@vit.edu

Abstract

This paper presents a comprehensive literature review of the challenges faced during and after the implementation of enterprise resource planning (ERP) systems. Through a thorough search across various databases, 20 articles were identified that address issues related to global demands, which often lead to conflicts between parent and subsidiary companies. Parent companies tend to favor standardized solutions for greater control, while local subsidiaries prioritize maintaining local processes and routines. The main objective of this paper is to shed light on these conflicting objectives and highlight areas that require further research in the realm of ERP implementation.

Keywords: *Enterprise Resource Planning, Multinational Enterprises, multisite ERP implementation, ERP challenges, Critical Success Factor*

1. Introduction

The implementation of ERP systems within organizations has garnered significant interest in the field of information systems research. This interest has resulted in a wealth of studies on the topic, highlighting the crucial role that ERP systems play as the backbone of businesses. These systems provide control over all organizational resources and transactions through a single, standardized software package. By implementing ERP systems, organizations can increase efficiency and streamline operations, ultimately leading to better overall performance [1]. ERP systems are standardized, off-the-shelf software packages that provide integrated solutions for businesses. These systems build on industry best practices and are designed to replace legacy systems, eliminating data redundancy and incompatible silo structures. The implementation of ERP systems can result in reduced maintenance costs and the establishment of a common platform for the enterprise, allowing for greater efficiency and seamless integration of information flow across departments and functions [2]. The adoption of ERP systems by organizations has increased significantly since the 1990s, as they provide a way to increase efficiency and improve the integration of information flow across departments and functions [3]. These systems, which are standardized and off-the-shelf software packages, build on industry best practices and aim to replace legacy systems in order to avoid data redundancy and reduce maintenance costs. By providing a common platform for the enterprise, ERP systems allow for more streamlined operations and provide employees in different departments access to the same data through a shared database. Implementing ERP systems is a complex process that involves significant organizational and technical challenges. From a technical standpoint, configuring and adapting these systems to fit the specific needs of an organization can be difficult, as can the process of converting data from legacy systems. From an organizational perspective, implementing ERP systems often requires significant changes to business processes, workflows, and employee roles, which can be challenging to manage and optimize for optimal use. Overall, successful implementation of ERP systems requires

careful planning and coordination to overcome these challenges and achieve the desired benefits [4]. Implementing ERP systems can be challenging due to their complexity and the need for comprehensive training programs to ensure employees understand and can effectively use the system [5]. By consolidating all functions into a single system, businesses can improve their efficiency and provide employees across different departments with access to the same data through a shared database. This allows for more streamlined operations and better communication within the organization.

ERP systems are ideal for implementation in multinational enterprises (MNEs) because they offer a wide range of features and benefits, including standardization, efficiency, and improved communication. These systems can help MNEs better manage their complex operations and improve their overall performance [6]. MNEs present unique challenges when implementing ERP systems due to their diverse geographical locations and cultural differences [7]. The larger network of actors and stakeholders involved in MNEs, compared to smaller and co-locally based enterprises, also significantly increases the complexity of such projects. In a multinational context, not only do organizational processes need to be changed, but global requirements may also dictate different choices, functions, practices, and processes within subsidiaries. This added complexity requires careful consideration and planning to ensure successful implementation and stabilization of ERP systems within MNEs. Carton and Adam (2003) highlight that some subsidiaries may not have a say in decisions related to the implementation of ERP systems [8]. As a result, local requirements and needs may be disregarded and overruled, such as the functionalities and features included in the software, who will use these features, and for what purposes. This lack of input from subsidiaries can lead to conflicts and challenges in the post-implementation phase of ERP systems in multinational contexts.

While there is a wealth of research on the implementation of ERP systems, there is a lack of recent studies on the post-implementation phase in MNEs. The existing literature is also inadequate in terms of how businesses can achieve normal operations quickly after implementing an ERP system. Additionally, there is a need to identify Critical Success Factors (CSFs) related to the post-implementation stage to support the success of ERP systems in MNEs [9, 10]. The literature review by Gavidia (2016) examines the conflicts that can arise between parent and subsidiary companies during the implementation of ERP systems, as well as the CSFs associated with these conflicts [11]. This review sheds light on the challenges and potential solutions for successful implementation in multinational contexts. Another paper presents a comprehensive review of the current literature on ERP implementation to identify challenges faced in ERP implementation projects [12].

2. Analysis

The literature review highlights the need for more research on challenges and critical success factors in the post-implementation phase of ERP systems. While much of the existing literature focuses on pre-implementation and implementation, there is a lack of studies on the post-implementation phase and its CSFs [21, 24]. This lack of research has been brought up in a previous literature review conducted in 2018 [13]. This suggests a need for further investigation in this area to better understand the challenges and factors that impact successful stabilization after ERP implementation. By examining the identified challenges, critical success factors, and sources of conflict in the post-implementation phase, this review aims to contribute to the development of effective strategies for achieving successful ERP implementation and stabilization in complex contexts.

The analysis of the challenges faced during the implementation stage of ERP systems identified several key issues related to cultural diversity and the desire for autonomy. Global differences and cultural misunderstandings can hinder collaboration across borders, while the pursuit of standardization by headquarters can clash with local management needs in subsidiaries. In addition, user perceptions and expectations of the system may be unrealistic, leading to challenges in adapting to the new system and providing effective training. As a result, workarounds may become necessary and the global benefits of the system may not be fully realized. These challenges highlight the importance of considering cultural diversity and the need for autonomy in the post-implementation stage of ERP systems in multinational contexts.

Many of the identified CSFs for ERP systems are not considered during the post-implementation stage, leading to project failure. Support and maintenance are crucial to the success of the post-implementation phase [21]. System configuration, information architecture, and deployment are also critical factors during this time. The implementation strategy, including whether to use a "big bang" or phased approach, is also important [26]. The development of a maintenance and support strategy, user participation, and effective communication and coordination are all key CSFs for the post-implementation stage [21]. Additionally, an early focus on the post-implementation phase can help to plan for it and avoid common mistakes, such as spending too many resources early on and expecting immediate benefits. Measurement and evaluation are also essential to the success of the post-implementation stage, as they allow for an overview of progress and help to deal with user resistance [24]. Developing Key Performance Indicators (KPIs) can provide a better understanding of the direction of the organization and encourage users to implement changes for improvement [15].

Support from top management is essential throughout the entire ERP project. Management should demonstrate their support and dedication, as well as understand and communicate the costs and benefits associated with the project [15]. The project

should be run by a team with strong leadership skills that can communicate the main goals and allocate the necessary resources. Change management is necessary to restructure business processes and introduce new working routines and roles that may affect the social environment within the organization. This can be a major challenge unless local management actively promotes and supports the project. Good user training is recognized as a critical success factor in the post-implementation phase [16], and users' understanding and acceptance of the system are crucial for success. Without proper training, users may not have the skills to effectively use the system, leading to potential failures. Training should begin early in the project, and it is important not to underestimate the resources needed for training. In the post-implementation phase, it is essential to assign a role within the project team to monitor and measure user knowledge and usage of the system, and to hold periodic meetings to identify problem areas and encourage the sharing of knowledge and experiences. Proper use of the system is essential to achieve project success, and it is suggested that 15% of the budget be allocated to user training [15].

Another concern of our research is conflicts between the parent company and subsidiaries in the ERP post-implementation phase. In our review of the literature, 9 out of 20 publications focused on national differences as one source of conflict between the parent and its subsidiaries. These differences encompass diversity of language, culture, politics, regulations and laws, and leadership style and skills [28]. Additional sources of conflict were also highlighted, such as requirements for standardization, autonomy, deployment, different business strategies, and infrastructure [30]. Moreover, six categories of national differences that may impact multinational ERP practices were identified: culture and language, management style, business policy, government regulations, internal resources, and geography [28]. These six categories are further divided into three distinct groups: socio-psychological, economical, and demographic differences. It was also noted that language differences, particularly, can be a primary source of communication problems [6]. Additionally, it was claimed that management style can impact the approach and duration of an implementation, in addition to the personalities of managers involved [6]. Local state regulations and laws present challenges to standardization and universalization in MNEs due to the use of different forms, tax policies, and procedures [28].

Many MNEs want to use the same ERP system across all of their subsidiaries. This means that the system must have the same features and modules at all locations. However, this can sometimes lead to conflicts and challenges. For example, some MNEs have a global project management approach that involves centralized control, which can make it difficult to motivate end users at local organizations. Furthermore, the degree of control over subsidiaries can vary, with some subsidiaries given more freedom to choose their ERP systems and business processes, while others are more heavily controlled by the parent company and forced to adopt a standard package solution. This can have both benefits and challenges for the MNE as a whole [11, 17].

Different subsidiaries of an MNE may have unique processes that are not easily adapted to the company's ERP system [8]. This can lead to the need for customization, which is often avoided due to cost and complexity [20]. Standardization of processes is often seen as a way to achieve vertical centralization and reduce decision-making power at lower levels [20]. However, this can also undermine local control and management, leading to conflicts and resistance to the new system [18, 19]. To prevent this, knowledge management and advisory networks can be useful support mechanisms [18]. Workarounds, while sometimes necessary [15], should be minimized by local leaders [18].

The desire for autonomy among subsidiaries is often seen as a source of conflict in MNEs [11, 29]. The balance between local variation and standardization is often misinterpreted as a matter of steering [29]. Local variation can help subsidiaries regain control and work around top-down approaches and compulsory structuring required by ERP solutions [11]. However, these institutional mechanisms for control can be beneficial for top management, leading local managers to defend their knowledge and processes by avoiding these tools [11]. Conflicting goals between headquarters and subsidiaries can also lead to competitive behavior and resistance to global requirements [20]. A global ERP system with a standardized configuration can be seen as a threat to local autonomy [20]. Establishing strategies for satisfying local needs versus global demands is crucial to address this power balance [20].

Communication is a critical challenge in the implementation of ERP systems [9, 16, 21]. Effective communication is important for getting support from top management, ensuring collaboration across departments, and developing user training programs [16]. Communication problems can arise due to technical challenges or cultural and national differences [24, 28]. Cultural diversity can lead to misunderstandings and poor communication [11]. Lack of communication between parent and subsidiary can cause distrust, delays, and budget overruns [28]. To avoid these problems, global enterprises should establish standardized protocols for internal communication to ensure efficiency and shared understanding.

3. Conclusion

This study has reviewed the existing literature on enterprise resource planning (ERP) implementation to identify the challenges and critical success factors in the post-implementation phase. The findings indicate that conflicts between parent and subsidiary companies over standardized solutions and local processes are a key challenge in this context. There is a

need for further research on these conflicting interests and how to effectively manage them in multisite ERP implementations. Some key points for successful ERP implementations include:

- Awareness of conflicting interests between headquarters and subsidiaries
- Balancing the power relations between standardization and local autonomy
- Leveraging cultural, processual, and legal diversity across locations
- Assessing standardization demands and allowing for local adaptations when necessary
- Establishing change management programs and comprehensive training programs to foster understanding and commitment to the system.

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