

Adoption of Enterprise Resource Planning and Organizational Performance - A Conceptual Study on Public Sector

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Abstract — Organizational Performance (OP) and the Enterprise Resource Planning system (ERP) are two of the most significant studies to provide benefits to the organizations. There are different investigations on the ERP and OP in private and public organizations in developed and developing countries. This paper basically review the relationship between ERP and OP. Notably, as only a few studies have addressed the implication of ERP on OP in Arab countries such as in the Libyan context, it needs more investigation. The main objective to review and explore to which extent the Libyan public organizations are looking to improve their performance through the ERP system

Keywords — ERP system, organizational performance, Libyan public sector

1. Introduction

Today, the most significant discussion in businesses, industries and service environments concerns the organizational performance (OP) in several developed and developing countries. The measurements of the OP for each organization became one of the necessary requirements of contemporary business environments to ensure better services [1]. Improving performance requires knowledge of the most effective ways that can help to determine the extent of benefits from the wealth and success of management, and the delivery of those services to recipients [2]. In particular, achieving excellence and enhancing the OP requires the development and implementation of a new system [3], [4], [5].

One of the most recent and relevant information technology choices for the organizational manager to enhance OP is enterprise resource planning (ERP) [6]. The ERP system is a modern management technology product [7], [8] that requires an integrated approach to business in an organization [9]. Information technology plays a vital role in the

capability of organizations to enhance performance [10],[11],[12],[13] and it has become necessary to better understand the ERP system as one of the enterprise products that provide good solutions which support primary activities that are converted to benefit in organizations [14],[15]

According to [16] ERP was a replacement for the material resource planning (MRP) system and has many benefits, including information availability and coordinating operations, reducing costs and cycle time, and improving responsiveness to customer needs. ERP represents substantial activities to improve efficiency, has a significant impact on the future OP and was developed to meet such needs [17]. On the other hand, developing countries still face significant challenges regarding the deployment of ERP to improve performance [18], [19]. The current study sought to examine the range of factors that could be faced by Arab countries, especially in Libyan public organizations, through the study of the most important variables to fill the theoretical gap in previous studies [20],[21].

2. Literature Review

2.1 Organizational Performance

The organizational performance OP whether industrial, service or productivity in the public, government, or private sector targets at increasing the financial investment. It has become necessary to know and assess its performance in specific fixed intervals to determine the extent to which the organization has achieved their objectives [22]. Although the OP had several different debates on several studies on different occasions, there is still needs to enrich this aspect, to considerably improving the organizations' services by ERP system [23]. OP is arguably the most critical topics in research of organizational studies, globally competitive

environment in the current era is forcing organizations at all levels and industries to enhance their performance through the adoption and implementation of advanced strategies for endurance [24]. OP is the most critical topics in research of various studies. Because of its essential role in overall daily life, the organizations received the highest rates of return in the same sector. The OP is the direct result of strategic, effective management. That focuses on administrative organizations, in tangible or intangible services [25]. The OP in previous and current studies has different influencing factors in practice. Whether tangible or intangible aspects, and different performance is marked by every single organization among its competitors [24]. OP determines the most widely used dependent variable in organizational research today to determine the variables that produce differences in performance most frequently [26]. On the other hand, OP determines, whether every manager is accountable for every success. Focus should be on factors that can affect the organization to achieve the best results [27]. The OP has been defined by many scholars, and researchers in different ways. The actual performance of the organization after inputs comparison by outputs reflects the organization, customer needs, and expectations of the service provided [28]. Performance measurement metrics are used on a comprehensive scale by most of the organizations in various industrial services to evaluate the business process or other outputs [29].

2.2 Public Organizational Performance

Many organizations are looking towards improving their performance by using the available resources and they try to search for the best essential alternatives. From the literature review, it is found that the public organizations (government) aimed at the having the citizens participate, achieving customer satisfaction, transparency, enhancing the integrity, fighting against corruption, as well as being accountable [10],[30]. The introduction of modern systems is an essential factor to enhance and protect the public organization performance to provide essential services and development [31]. An OP of public sector has become an integral part of the evaluation process management, to see if they are achieving the strategic objectives or not and try to find a solution for public organizations to measure performance quality, the provision of service, value for money, so on and so forth [32].

2.3 Organizational Performance Measurement

Performance measurement merely is the actual level to which all participants in one organization buy into the requirement. Typical performance measurement

assists organizations, and feedback to managers on achieving goals. Performance measurement has become continually growing due to the openness of organizations. To continue the stability and survival, a recent study has become focused on measuring performance, by different standards followed. They rely on quantitative measures and non-quantitative measures; quality objective or the target of establishing an organization [33].

2.4 Enterprise Resource Planning in Libya

As a brief overview of the information and technology that have emerged in most organizations around the world in late 1990 and early 2000, there was a development of the first generation of ERP systems in the era of information technology [34], [35]. Attention was given to most organizations in developed countries to increase their competitiveness [36]. A lot of money has been spent on the development of traditional systems that have not reached the goal of providing the best products and services, to improve the development of infrastructure to be able to provide services more widely, and to be able to enjoy a reliable and advantageous system in the most efficient transfer [37]. The most critical variable is how to deal with human activity because that will determine the features of information systems in organizations for success in the adoption of new systems. Moreover, the adoption of the ERP system in Libyan organizations is not adequate although Libya has been able to enjoy wealth, and a spread of public sector. The financing of these projects is not a problem in most public organizations, whether productivity or services [38], [39]

2.5 ERP Benefits

Most studies confirmed that public organizations can improve their performance through the adoption of the ERP system. It often depends on the attention of senior management support to achieve the benefits of the system. The effectiveness and efficiency have become the key to performance, and it is the main reason for ERP [40], [32]. ERP as an information technology contributes to connect the various tasks per organization, such as inventory control, accounting, human resources, information quality, and the flexibility to respond to the increasing demands for information from through customer and user satisfaction at the same time [41]

2.6 ERP system Measurement

Measuring ERP adoption as the independent variable of this concept study will be adopted in accordance with the model provided by the ERP. As one of the computer systems and the success of information

systems based on key dimensions of the model provided by [42], this model was successful in the information systems studies, information technology, and electronic systems measurement etc. On this basis, these dimensions can be used to measure ERP adoption for the proposed model is based on the following dimensions as a standard have been adopted in several studies, and found most attention of the researchers in particular [43],[6],[44]. As follows system quality, user satisfaction, individual impact, the organization impact.

2.6.1 System Quality: is to determine the degree of the information processing system itself. Measuring quality system focused mostly on the performance characteristics of the system under study ERP system [45]. In terms of resource use and benefit, the system also looks at the best investment of resources, the timing and response time, reliability and accuracy, the ability to adapt, the possibility of maintenance [46].

2.6.2 User Satisfaction: is to determine the degree of recipient response to the use of the output of an information system[6],[47], user satisfaction is associated with comparing the new system and the old system, an effective response is a measure of satisfaction that determines user satisfaction [48].

2.6.3 Individual Impact: determines the degree of information derived by the beneficiary of the system through data processing, and how it is reflected on the impact of the behaviour of the recipient, more true, correct and quick access to achieve positive results, and this is what the organization aims to achieve generally [6].

2.7 The Relationship between ERP adoption and Organizational Performance

The ERP system is widely recognized by most organizations in developed and developing countries as popular systems are used for information management in the professional environment worldwide [49]. For the different management areas and activities, the system highlights the advantages it offers significantly. There are some other results such as a clear advantage that organizations can show higher rates of return following the implementation of the ERP. The ERP advantage cannot appear directly, but it may take a few years, at least two years after the continued implementation of the system. ERP adoption is becoming widespread in the various public and governmental and private organizations in the e-business world. It has become a powerful tool to support the operation of organizations working to reduce operating costs and increase the sharing of information about resources activities [50].

Table 1 .Summary of study variables

Variable Name	Variable Code	Variable Type	Variable Dimensions
ERP system	ERP	Independent	Individual Impact
			Organizational Impact System Quality User Satisfaction
Organizational Performance	OP	Dependent	Customer Service
			Internal Process
			Growth and Learning

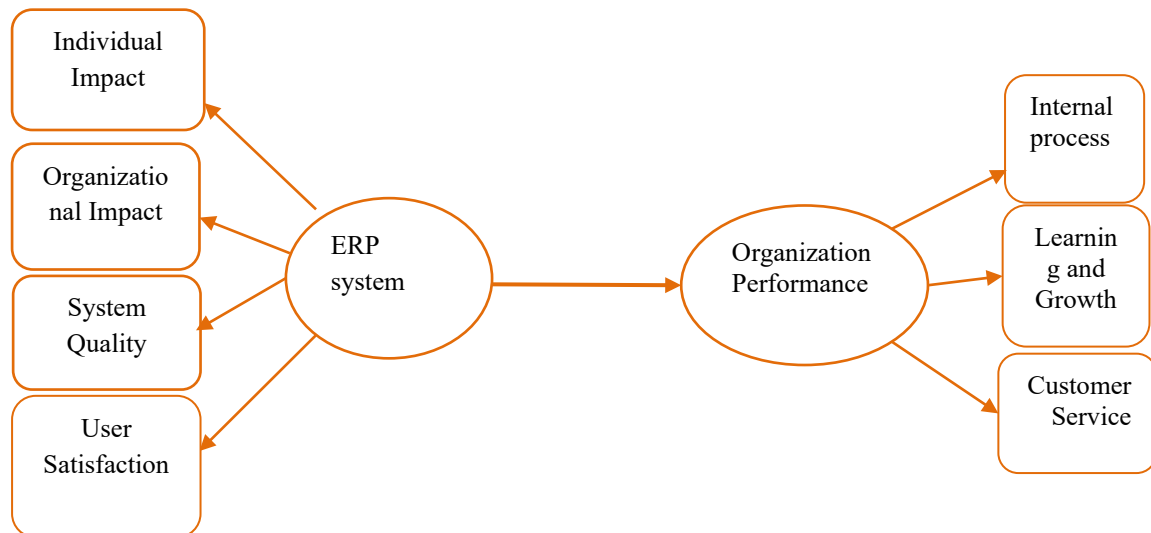


Figure 1. *Conceptual Framework*

3. Development of Propositions

The development of the proposition of this conceptual study is formulated for further review by using theoretical justification from the previous extant literature. The four main variables are used in the current conceptual study which include; ERP system independent variable, OP as the dependent variable, as the proposition are formulated for future empirical testing to ascertain the relationship between the variables. In this regard, [51] emphasized that in the empirical investigation there are two types of hypotheses; directional and non-directional. Directional hypothesis indicates the direction of the relationship between the variables. On another way the non-directional hypothesis means the relationship, not in the direction relation. Current study adopts the first type of directional hypothesis development to investigate the supposed influence variables as explained below;

P1: There is a significant relationship between ERP system and organizational performance (OP) among Libyan public organization services.

P1a: The individual impact has a direct relationship with the ERP system.

P1b: The organizational impact has a direct relationship with the ERP system.

P1c: The system quality has a direct relationship on the ERP system.

P1d: The user satisfaction has a direct relationship with the ERP system.

4. Discussion

Libya is one of the African countries which are located in northern Africa, and the average number of the population is nearly 6.5 million people over. A wide geographical area of land is estimated at one million seven hundred and fifty square kilometres. Business sectors in Libya vary, but the industrial sector is still not up to the level of competition or the international market. Because there are some limitations associated with this sector in many cases, eliminating those problems is a challenge to rise to [52]. The environment organization in Libya did not exceed the first stages of adoption and implementation of the ERP as required. [53], [54] Emphasized that the high-tech systems, are to be adopted in most of the countries as the most important factors to help that countries. Libya still shows low adoption of new systems and it was very difficult for it to achieve modern systems in light of the current set of conditions, regarding some factors including culture in most Libyan organizations.

5. Conclusion

Stressing that ERP systems have demonstrated their importance as an information system in various different literature administrative systems over the years, it is amazingly still an important phenomenon even today, so Libya must be fully prepared when it comes to the ERP adoption. In order to confirm what has already been mentioned above, organizations in Libya should prepare for the ERP system because it is important to achieve high level of performance. [53] Explained that the cultural factors influence the system adoption in the

banking and oil organizations in Libya. Conclusively, there is a direct, meaningful relationship between the organization size and adoption of modern systems.

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