Abstract
Enterprise Resource Planning (ERP) has become widely accepted as an important means of achieving overall success for many companies in this rapidly changing business environment. ERP systems were designed to serve the purpose of integrating information and optimize its distribution among functions and services for the purpose of enhancing the organizational performance. The study would argue that ERP are important resources for creating the ability to control commercial activities, which, combined with the existing competitive edges of the firm, creates a competitive advantage for the firm. The end-users are frequently against the introduction of the ERP system as the resulting changes will alter the current working environment. The essence of an ERP implementation is complicated because it can affect multiple areas across an organization. The ERP is involved because it integrates all aspects of an organization's operations, is comprehensive, and large in scope. By identifying and assessing success and failure factors, the knowledge gained will help decision-makers and other stakeholders to be better prepared to carry out the actions needed for success. This study contributes to the body of knowledge for practitioners and researchers in the information technology by focusing on end user perspectives and point of views regarding post ERP implementation. In addition, the results of the research will add to the range of knowledge on the effective use of the ERP, especially as it relates to organizational performance.

Keywords: Enterprise Resource Planning (ERP), Organizational Performance, Competitive Advantage
THE EFFECT OF ENTERPRISE RESOURCE PLANNING (ERP) SYSTEMS IMPLEMENTATION ON ORGANIZATIONAL PERFORMANCE

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Abstract. Enterprise Resource Planning (ERP) has become widely accepted as an important means of achieving overall success for many companies in this rapidly changing business environment. ERP systems were designed to serve the purpose of integrating information and optimize its distribution among functions and services for the purpose of enhancing the organizational performance. The study would argue that ERP are important resources for creating the ability to control commercial activities, which, combined with the existing competitive edges of the firm, creates a competitive advantage for the firm. The end-users are frequently against the introduction of the ERP system as the resulting changes will alter the current working environment. The essence of an ERP implementation is complicated because it can affect multiple areas across an organization. The ERP is involved because it integrates all aspects of an organization's operations, is comprehensive, and large in scope. By identifying and assessing success and failure factors, the knowledge gained will help decision-makers and other stakeholders to be better prepared to carry out the actions needed for success. This study contributes to the body of knowledge for practitioners and researchers in the information technology by focusing on end user perspectives and point of views regarding post ERP implementation. In addition, the results of the research will add to the range of knowledge on the effective use of the ERP, especially as it relates to organizational performance.

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1. Introduction

Enterprise Resource Planning (ERP) systems have been designed to integrate data and optimize its distribution between functions and services in order to improve operational performance (Shen, Chen & Wang, 2016). The study would argue that ERPs are important resources for creating the ability to control commercial activities, creating a competitive advantage for the company in combination with the company's existing competitive edges (Alomari, Amir, Aziz & Auzair, 2018). Integration is carried out by sharing a common database
of all data processing functions and applications with the company (Mphumi, Aigbavboa, Nnamdi & Okoene, 2017).

The primary reason why businesses adopt ERP is a way of streamlining business operations, enhancing job performance, and generating value by improving the integration of best practice job processes, management functions, real-time reporting, and knowledge analysis capabilities. Most businesses probably face business problems because they invest a significant amount of money in ERP applications, but they do not reap any benefits at the end of the day and are left with a huge ERP investment that they did not get anything out (Elmonem, Nasr & Geith, 2016).

An ERP system helps a company to handle its operations holistically in order to stay competitive in today's business climate (Beheshti and Beheshti, 2010). Therefore, operational efficiency should be a key outcome when a business chooses to adopt a technical program at its place of operation. Research on operational efficiency effects shows that, in most situations, end-user performance declines rapidly after the technology is implemented (Rouhani & Mehri, 2018).

With technology's ever-increasing development and its integration into the lives of both private and professional individuals, a question remains open about its acceptance or rejection (Tsai, Shaw, Fan, Liu, Lee, & Chen, 2011). In the past, millions of dollars have been invested in information technology (IT), such as ERP systems, to attempt to boost the performance or quality of workers, workplace productivity (Beheshti & Beheshti, 2010), or to achieve competitive advantage (Johansson & Newman, 2010). However, until individual employees within these organizations use IT properly and effectively to execute their organizational activities, these advantages will not be realized (Sun & Bhattacher, 2011).

For all Small Medium Enterprises (SMEs), ERP systems are important because they allow them to conduct data transactions along the value chain and help to simplify information between finance, inventory, planning, development, human resources, marketing, engineering, distribution, materials and sales and all other units within the organization and among other organizations (Al-Shboul, 2018; Khamis and Mohd, 2016). In the economies of their host countries, SMEs all over the world play a significant role. SMEs make up 98.5 percent of the entire business population in Malaysia and contributed 38.3 percent, 17.3 percent and 66.2 percent to the total GDP, total exports and jobs in 2018, respectively (Teng, 2020).

The Malaysian government has taken some steps to assist SMEs in the form of policies and incentives for the digital transformation of the economy through activities such as education and awareness campaigns and the Malaysia Multimedia Super Corridor (MSC) Malaysia Cloud Computing Enablement Initiative for global competitiveness and economic sustainability (Jayeola, Sidek, Rahman, Bali Mahomed, & Jimin, 2020; Mehrotra, 2017; Hassan, 2017; Hassan, Mohd Nasir, Khairudin, and Adon, 2017).

Therefore, by reviewing the relevant studies, the aim of this paper is to shed light on the literature on ERP systems regarding its impact on organizational performance. The study will allow the researcher to understand the state of the art of the role of users in terms of performance with the preposition that users in organizations where ERP systems are already implemented or at the stage of implementation can evaluate the benefits of these systems. The conclusion section ends the paper.
Enterprise Resource Planning Systems

Many researchers consider the implementation of Enterprise Resource Planning (ERP) systems to be a very complex undertaking that requires many steps and many risks (Srivardhana, & Pawlowski, 2007). ERPs also agree that it is the most costly and time-consuming software ever developed. None of the analyses, however, thoroughly illustrate whether the application of the ERP is better or worse than the other interventions (Nair, Reddy & Samuel, 2019).

ERP systems are intended to gain a corporate advantage by allowing the management of all company processes as a whole, replacing legacy systems, resolving conflicts and solving problems within individual information systems (de Souza, Vilasbôas, Notargiacomo, & de Castro, 2019). ERP is an Internet-based online business client base. Practitioners and analysts have indicated that businesses should build and use ERP systems strategically to succeed in a changing e-based economy (Sheik & Sulphey, 2020).

Different technologies need to be incorporated into the ERP system and assisted by organizational resources (e.g. professional users, support for culture and management practices) to give the company a sustainable competitive advantage (Badewi, Shehab, Zeng & Mohamad, 2018). ERP systems are business management systems consisting of a comprehensive collection of tools designed to incorporate and control all business functions within an enterprise, including human resources, financial and accounting applications, sales and distribution, project management, material management, supply chain management (SCM), quality management (Al-Shboul, 2018; Shehab, Sharp, Supramaniam, & Spedding, 2004).

Because of the dynamic implementation process and greater failure rate, companies prefer to avoid it, considering the tremendous benefits associated with ERP systems. As Umar, Khan, Agha, and Abbas (2016) have pointed out, the ERP project has either faced complete failure or partial failure. Due to the uncertainties surrounding technical complexities, the completion of IT and IS ventures is a key challenge (Xu, Zhang, & Barkhi, 2010). In comparison to the growth of ERP systems, the implementation of these systems is alleged to have failed at an approximate higher rate of 60-90 percent (Ahmad, Haleem, & Ali Syed, 2014; Al-Shamlan & Al-Mudimigh, 2011) and there is an inability to understand the promised benefits while not meeting the high demands and expectations of the implementation of ERP systems (Ullah, Baharun, Nor, Siddique, & Sami 2018; Carton, Adam, & Sammon, 2008; Dixit & Prakash, 2011).

Number of authors rebounded the concept of ERP systems, which is summarized in table 1.

Table 1: Summary of ERP Concept/Definition

<table>
<thead>
<tr>
<th>Concept / Definition</th>
<th>Author(s)</th>
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<tr>
<td>ERP system is a business management system comprises of (Zornada &amp; Velkavrh, 2005) set of software that integrate and manage all business functions within organization.</td>
<td>(Grabski, Leech, &amp; Schmidt, 2011; Umble, 2011)</td>
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<tr>
<td>Enterprise Resource Planning systems are integrated and complex innovations.</td>
<td>(Grabski, Leech, &amp; Schmidt, 2011; Umble, 2011)</td>
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</table>
ERP are comprehensive information system that support the information needs of all the business functions, in real time, including human resources, finance, marketing, operations, customer information, sales and supply chain.

ERP is generally termed as a system that automate key business functions through integration and support decision making accordingly.

A set of business modules or applications, that links organization’s units like humane resource, finance, manufacture, accounting into one single integrated system providing a platform for flow of information across all units of the business with the use of internet as medium.

ERP systems are configurable information system packages, which are design to integrate business functions.

ERP system are set of software designed to integrate all business functions within organization.

ERP is an integrated system where a unique database provide flow for information continuously and consistently for the entire company.

ERP system is a customizable enterprise wide packages able to integrate all organization’s functions to single system with a common database.

Source: Ullah, Baharun, Nor, Siddique, & Sami (2018)

**ERP Systems and Performance**

The core part of corporate strategic management is considered to be organizational efficiency and its development, and so most of the researchers' efforts in this field are oriented to this aspect (Tseng and Lee, 2014; Masa'deh, Tarhini, Al-Dmour, and Obeidat, 2015). Empirically, the correlation between IT and company results is abundantly established (Lucia-Palacios, Bordonaba-Juste, Polo-Redondo and Grünhagen, 2014) recorded a major impact on organizational efficiency (market share, profitability and sales volume) in US and Spanish companies from the introduction of e-business (internal integration and external diffusion). Scholars and practitioners have shown great interest in learning how different techniques can produce competitive advantage and so on, such as IT execution, human resources expertise, diversification, mergers and acquisition, etc (Breznik, 2012; Lee, 2015). Big and small businesses can quickly become strong competitors in developing and emerging economies by using IT to create a competitive advantage and become market leaders (Mustafa, 2015).

The operating performance of the company saw substantial improvements to the ERP (Davis & Comeau, 2020). The case-study and test results indicate that the use of ERP benefits employee efficiency, gross retail sales and production costs, product processing time and time.
excesses, and thus supports the hypothesis that ERP has a positive effect on operational output (Ou, Zhao & Zhou, 2018). The study also showed that ERP affects the company's productivity and allows all major ERP providers to use their solutions to increase the company's performance, higher output, faster ROI and faster stock sales (Shen, Chen & Wang, 2016). A study found that the influence of the introduction of the ERP contributed to an increase in the company's profitability by rising the number of employees and the jobs and income ratio every year since the ERP was introduced (Madapusi, & Ortiz, 2019).

ERP systems are designed to improve productivity by increasing an organization's ability by collecting accurate and timely information within the enterprise and the supply chain. The successful implementation of ERP systems would lead to lower inventories, reduce product growth time, improve customer service, increase production (productivity), increase profitability and improve efficiency through better customer services (Beheshti & Beheshti, 2010). To increase productivity, business enterprises invest in information systems, bearing in mind the benefits and functionality of these systems (Ifinedo, Rapp, Ifinedo, & Sundberg, 2010) and converting to ERP systems and turning to ERP systems to deal with changing environment and overcome limitations of legacy systems (Poon & Yu, 2010). Implementation of the ERP system has led to better outcomes (Chung, Hua Tan, Lenny Koh, Law, & Ngai, 2007). These systems have provided organizations with tremendous benefits, such as increased productivity, enhanced access to accurate and timely information, improved workflow, decreased paper dependence, shared knowledge, tight control (Bhamangol, Nandavadekar, & Khilar, 2011), and automated business processes by organizing and integrating departmental information (Monk, 2009). And these benefits are direct evidence; that is why these systems attract larger organizations with massive data volumes (Ullah, Baharun, Nor, Siddique, & Sami, 2018).

Literature indicates that different studies are carried out to identify critical factors influencing the performance of the implementation of the ERP system in the post-implementation process, concentrating on industrial surveys, case studies and other research issues covered. Users in the ERP sense are ERP users who use the ERP program for everyday work, have some understanding of how the system operates, and are also familiar with other ERP users (Liu, Feng, Hu, & Huang, 2011). Users play a critical role in the implementation of ERP systems to determine the effect on their performance on these systems (Peslak & Boyle, 2012) and the degree of system usage directly affects the accepted benefits of the system implemented (Tai, Wang, & Chang, 2014). The performance or failure of the ERP system will affect ERP users (Koch, 2011) and the question of the importance of the ERP system to them has been a key problem in many organizations (Ramdani, 2012). Despite extensive literature on ERP systems, the performance of ERP systems from the viewpoint of end users still needs to be examined (Kwak, Park, Chung, & Ghosh, 2012).

Performance can be conceptualized in different dimensions (Koopmans, Bernaards, Hildebrandt, Schaufeli, de Vet Henrica, & van der Beek, 2011; Qureshi, Zaman, & Shah, 2010; Yasir, Imran, & Irshad, 2013) and performance is typically extremely relevant for individuals and organizations as a whole in relation to effectiveness and efficiency (Sonnentag & Frese, 2002; Yusoff, Imran, Qureshi, & Kazi, 2016). Galy and Sauceda (2014) used econometric research to analyze the management activities of ERP systems post-implementation and their relationship to financial efficiency. Over the years, new technology integration activities in enterprises have increased, and many businesses have invested heavily in ERP systems in this regard, not just to consolidate all business activities into a single system, but also to achieve productivity and effectiveness in their operations. Consequently, the effect of ERP on
productivity and efficiency has been the subject of discussion among researchers and practitioners for the last two decades. Individuals need to grasp the basic concepts of ERP in order to use ERP systems to their fullest, which can contribute to taking advantage of the capabilities of these systems in terms of user productivity and effectiveness (Beheshti & Beheshti, 2010).

**Conclusion**

The implementation of the ERP systems performance of users play a vital role to evaluate its impact. The degree of their system usage directly affects recognized benefits of the implemented system (Tai et al., 2014). ERP systems in post-implementation phase and user performance studies are given less attention, placing them in an area needs more empirical investigation. More research in various environment is necessary to clarify the relationship between ERP systems and its users to provide practitioners and researchers with further valuable insights about this application and users. Thus, recommending future research to provide more insight into the users’ factors associated with the implementation and use of ERP system to investigate the impact of these systems on their performance in terms of efficiency, effectiveness and creativity.

This research is planned to comprehend the holistic cause and effect of cloud ERP adoption in the manufacturing SMEs in Malaysia. Therefore, it will contribute significantly to the adoption and strategic management literature. Although this study seeks to investigate key factors of cloud ERP adoption and how they subsequently influence competitive advantages and firm performance simultaneously and indirectly, it also has some limitations. Factors included as antecedents to cloud ERP are not exhaustive, future studies may consider examining more novel key factors.
References


