

What are the challenges in the implementation of ERP systems?

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ABSTRACT

Conventionally, firms require financial or non-financial information based on quarterly and annual periods. However, the rapid changes that occur on business environment causes this periodic information to become quickly outdated. High competitive rivalry among firms requires for more updated information to enable management to make inform decisions and to rapidly adapt to opportunities. Enterprise resource planning (ERP) system has been one of the most popular business management systems, providing benefits of real-time capabilities and seamless communication for small, medium and large organizations. However, not all ERP implementations have record success. Since ERP implementation affects entire organizations such as process, people, and culture, there are a number of challenges that companies may encounter in implementing ERP systems. More recently, organisations in Cambodia have begun replacing their legacy systems with ERP systems to improve management and administration effectiveness and efficiency. The main goal of this research is determining the most important challenges of ERP implementation in Cambodian companies. The findings from the study contributes to contextual understanding of distinctive challenges in ERP implementation among Cambodian corporate.

Keywords: Enterprise resource planning; ERP implementation, Cambodia.

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1. Introduction

Transparency and immediate understanding of information have turned absolute necessities for any company looking to contend in today's world economy. Companies have been more and more moving towards buying software packages during the 1990s. In this strongly competitive business atmosphere only the pertinent practice of information technology (IT), effective grouping of IT and organisation resources, accurate decision making, and appropriate satisfaction of consumer obligation can enable a firm on a regular basis to take benefit of business opportunities. An illustration of such technologies is the Enterprise Resource Planning (ERP) system.

Enterprise resource planning (ERP) systems are wide ranging, thoroughly integrated software packages that give automated support for the majority of the standard business procedures and put together all the business functions in order to attain abundant benefit for the organisation. O'Brien (2004: 192) in his book stated that, "*ERP systems serve as a cross-functional enterprise backbone that integrates and automates many internal business processes and information systems within the manufacturing, logistics, distribution, accounting, finance, and human resource function of a company*". Multinationals, small and medium sized companies all over the world have been implementing ERP systems with the anticipation of budgeting close to \$10 billion per year to implement the system (Yusuf, Gunasekaran & Abthorpe, 2004).

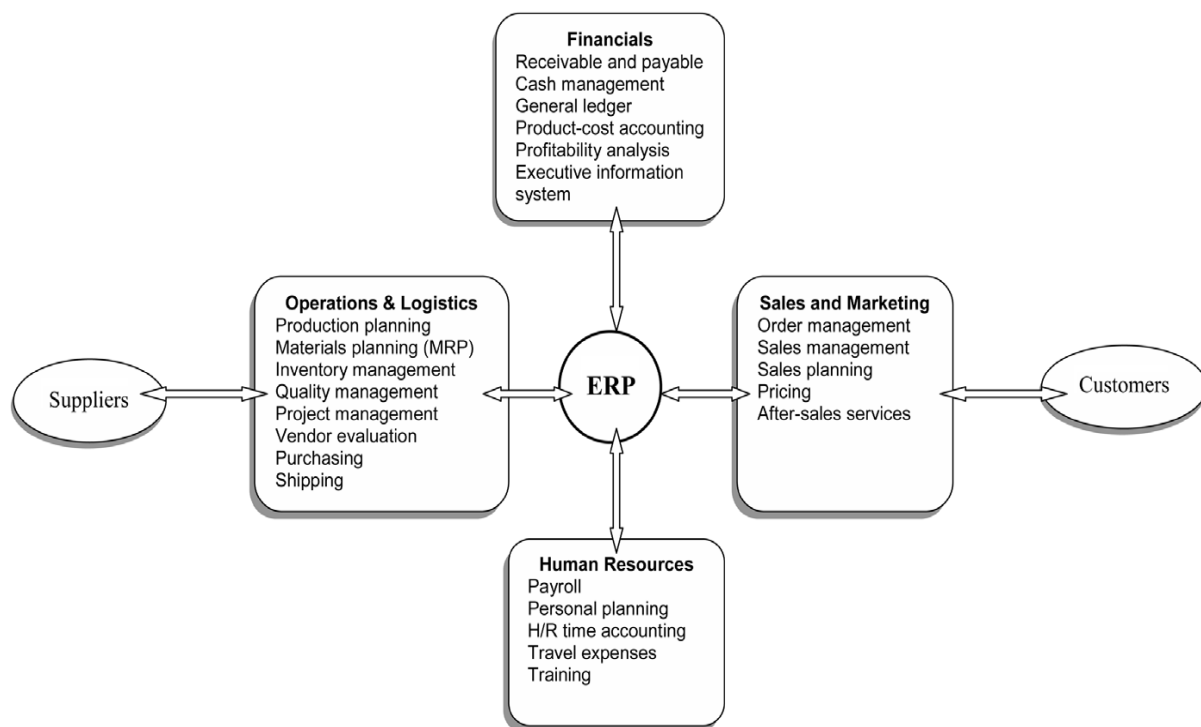


Figure: 1 An overview of ERP system (Chen, 2001)

Enterprise Resource Planning (ERP) system when effectively carried out connects all fields of an organisation including manufacturing, order management, financial system, human resource and allocation with customers and suppliers hooked on a strongly integrated system by means of collective information and data. This will result in a strong decline in inventory, burst through decrease within working capital, sufficient information on customer wants,

alongside through the capability to observed and maintain the extensive enterprises of suppliers, coalition, and customer as an integrated whole (Chen, 2001). ERP play an important role in a company which includes giving a real time information portrait of an enterprise that integrates all functions and departments. This encourages uniformity in data across the organisation (Lengnick-Hall & Abdinnour-Helm, 2004). ERP systems also develop and change the internal business procedures, which normally necessitate re-engineering of present business procedures. The idea is to join a variety of systems into a single database (Maguire, Ojiako, & Said, 2010). Figure 1 demonstrates an overview of Enterprises resource planning system.

Enterprises resource planning (ERP) systems are large IT software packages guiding to integrate aspect of the entire organisational unit such as material management, human resource and financial management. Implementation of such systems based to the uniform software packages required lot of effort linked to business processes and different organisation within the company. Some researchers have categories the challenges faced by companies that implemented ERP system into three aspect of technical, business and financial challenges. This paper explain the roles and the reasons why companies in Cambodia implement ERP systems. The paper also reported some of the main challenges faced by companies in Cambodia whom implemented ERP systems.

2. Research Method

Data were collected by means of a semi-structured interview and a list of open-ended questions was prepared to facilitate consistency. This method ensures high response rate. To guarantee the highest possible number of response, managers were made aware of the study in advance by means of a letter indicating the purpose and importance of the research. In cases where they made excuses, a date and time were arranged in advance for the interview. The final response rate was approximately 24.4%, and the interviewees were persons responsible for administrative or information technology management at the firms (IT managers in 50.48% of the cases, the MD/CEO in 37.06%, the president in 2.54% of the cases, and others in 9.92%). The firms were selected from different range of industries in order to ascertain the challenges faced from different industries. The profile of the participants for the interview and for the purpose of maintaining confidentiality of the participant and their firm, the study used the codes such as firm 1, firm 2 & firm 3. The interviews were conducted between September to November 2017 by face-to-face and lasted for 15 to 25 minutes.

3. Findings and Discussion

3.1 Reasons for the implementation of ERP systems

There are many reasons why companies in Cambodia are implementing Enterprises resource Planning (ERP) system. According to some of the participants, *"the main reasons is to replace legacy systems, our organisations have been functioning with plot effort of legacy system which were getting more difficult toward maintenance and upgrading, real time information and information for decision making"*.

“The competitive force in market place which progressively demand more reactive systems by means of instantaneous integrated data which the legacy systems can’t supply and to remain relevance are the main reason why ERP system was implemented”, as mentioned by one of the participant.

As mentioned by one of the participant, their firm have an opportunity to increase export due to the WTO regulation. The firm wants to take the advantage but the existing legacy systems would not be able to support the opportunity and with no hesitation the firm decide to implement ERP system. Other reasons mentioned by majority of the participants is that, their respective firms implement ERP systems in order to gain competitive or strategic advantages, ease of upgrading system, pressure to maintain up through competitors, improve communications and relationship between suppliers and customers, re-organized the organisational processes and operational enhancement, plummeting expenditure of information systems, links to global activities for multinational enterprises est.

3.2 Challenges of ERP implementation

In the last decade, companies have struggled to implement ERP successfully, despite the benefits derived from the systems. This is not because ERP systems are poorly designed, but as a result of the inadequate understanding of the way that an ERP system should be implemented. To this effect, companies in Cambodia have ended up exceeding their planned implementation budgets, and time to implement. A lot of companies have either suspend or cancelled their projects. Based on the research findings, figure 1 presents the major challenges faced by companies in Cambodia through ERP system implementation. The analysis further illustrates the number of citations for each challenge in the implementation from other studies as presented in table 1. These challenges includes lack of change management, problem of internal integration, data quality, employee training and implementation Cost. These challenges have also received the most attention from researchers.

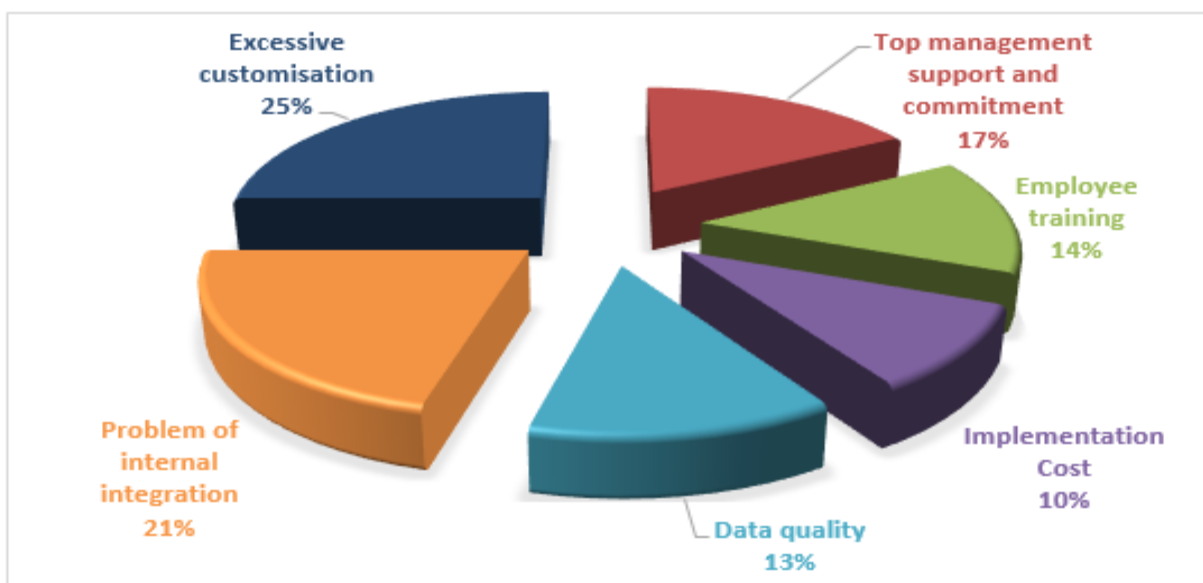


Figure 1: Challenges of ERP implementation

3.2.1 Excessive customisation

One of the most often misunderstood issues with most ERP systems is the belief that they typically require extensive customization. Often what a company is buying is not a packaged solution, but a framework with which to build a solution. According to one of the participant, *“understanding your ERP’s framework, and how it applies to your business will help you uncover the best way to build your ERP solution and it will avoid delays because of capability confusion and going over budget”*. During the implementation period, software and user specification change and the technicians who are implementing the package must constantly adapt and make adjustments in order to accommodate these changes (Ehie & Madsen, 2005). However, care must be taken particularly when modifying the system, as if a company alters an ERP package, it can impede the internal integration of ERP modules.

Participant from firm 5 has this to say, “An implementation approach issue that must be considered is the level of customisation that will be applied on an ERP solution, as customising the software will avoid the business processes that might result in best practices. It is more beneficial to fit business processes to the ERP package rather than try to customise the package”.

The key choice in ERP implementation is to find an optimal strategy to balance between customisation of the ERP system versus changing the organisational procedure within the company.

3.2.2 Problem of internal integration

Enterprise resource planning (ERP) systems are at times complicated due to cross-module integration, information consistency, adaptation of fundamental business example, dense implementation plan and participation of a huge amount of stakeholders (Momoh, Roy & Shehab, 2010). *“Establishing which components of the organisation need streamlining and merging together is a process that should be undertaken at the planning stage”*, according to the participants.

One of the participant highlighted that, “to successfully implement ERP systems, organisations need to recognize the quality of the integration and how it can impress the whole business. Before integration of the system, operational department should examine the full system integration and attempt to find errors with the application, which are made by various departments”.

Unsuitable integration has an effect on companies by losing customers and in various cases had led organisation like FoxMeyer drugs to bankruptcy (Muscatello, Small & Chen, 2003). One of the key to a successful process redesign effort in an ERP implementation is to examine end-to-end processes, which are vital to the success of a company. End-to-end process plan enables the intensification of process integration (Ndede-Amadi, 2004).

3.2.3 Top management support and commitment

Researchers distinctly defined that, in other for a successful ERP system, top management support must be significantly needed. A case study conducted by Seng (2007) on a Chinese

electric manufacturer, observed that deficiency in the top management support can be one of the significant challenges faced by the company because most of the top management thinks that ERP implementation as an IT project and for that reason they regard competent IT personnel to be paramount suitable to complete the task.

According to one of the participant, “ERP system implementation is not a matter of software replacement but an issue of repositioning the company and transforming the business patterns on the other system. Therefore, I believed that management should be regarded as the tactical significances of implementing ERP system solution”.

ERP implementation is more than a technological challenge and hence top management needs to make continuous involvement and dedication in order to make the ERP system implementation a success.

Table 1
Challenges of ERP implementation

	Challenges	Other Citations
1	Excessive customisation	Shehab et al. (2004) Ehie and Madsen (2005) Kogetsidis et al. (2008) Verma (2007) Laukkanen et al. (2007) Aloini et al. (2007) Hallikainen et al. (2009) Helo (2008)
2	Problem of internal integration	Youngberg et al. (2009) Shehab et al. (2004) McAdam and Galloway (2005) Aloini et al. (2007)
3	Top management support and commitment	Nah and Lau (2001) Al-Mashari (2003) Ehie and Madsen (2005)
4	Employee training	Arindam and Bhattacharya (2009) Al-Mashari (2003) Worley et al. (2005)
5	Data quality	Bajgoric and Moon (2009) Youngberg et al. (2009) Hongjiang et al. (2002) Alshawi et al. (2004)
6	Implementation Cost	Al-Mashari (2003) Yusuf et al. (2004) Wheatley (2000)

3.2.4 Data quality

Data quality is one of the technical challenges that most companies faces while implementing ERP system. Data accuracy is very important in the implementation process. Yusuf et al., (2004) stated that new system involve the recovery of old data from the legacy system holds to be normalized, tested and store within a reasonable data repository in order to prevent duplication of data in the new systems.

A participant was quoted saying, “when implementing ERP system, a shift from the new software platform will require your existing (legacy) data archives to be cleaned up or reformatted before they can be ported to the new system. This process may take weeks or even months, depending on the quality and amount of legacy data which may be resident on servers and/or remote sites within your organisation. So it's essential for organisations to budget the time, finances and human resources necessary to complete this validation”.

Reliability of information used to function and build concludes concerning a business impresses the relative effectiveness of operations and eminence of decisions drew (Vosburg & Kumar, 2001). In order to ensure data accuracy and quality in ERP system implementation, it is important to understand the fundamental elements that determine data quality and the fundamental problem by which the legacy systems necessitate to be looked into (Momoh et al., 2010). A case study conducted on Roll-Royce by Yusuf et al., (2004) indicated that in order to prevent duplication of data, the company kept the old system operating until they may possibly be phased out by the new system by constructing an interface between the systems which is designed by Electronic data service (EDS).

3.2.5 Employee training

Increasingly training of the employee on ERP system is a most imperative challenge. Training employees on how to use ERP system is significant for the reasons that ERP is complicated towards usage even for extremely sophisticated managers with excellent IT skills. Vosburg and Kumar (2001) observed that lack of appropriate training can discourage ERP users and recommended a continuous training as an approach to ensure achievement in ERP system implementation.

According to one of the participant, “proper training can help employees and other users adjust to the changes and build optimistic thoughts towards the new system. He narrated that during EPR implementation in their organisation, the company did not provide enough funds to train the employees involve and as a result, only superior managers, departmental managers and some other key employees got the training”.

“Having involved stakeholders at all levels of the organisation in the planning stages of the project, you'll need to follow this up by providing engaging and job-relevant training programmes and materials for your end users. These should include a reference archive of Help files and tutorials” according to one of the participant. The employees in Oman Telecommunication company (Omantel) also articulated that training was not enough and as a result, almost 15 percent of the personnel involved in the project didn't obtained any training at all (Maguire et al., 2010). ERP system is a much more complex and difficult as equate to other computer applications and so it requires appropriate training.

3.2.6 Implementation Cost

ERP systems have a problem of uncertainty in acquisition and hidden cost in the implementation process (Yusuf et al., 2004). Most of the companies that implemented ERP underestimated the cost of implementation involved thereby increasing their budget

dramatically. *“Based on our experience, the total cost of implementing ERP systems might be four to five times higher than the application purchased price”*, some of the participants mentioned. According to Momoh et al. (2010) the following might increase the implementation cost of an organisation; the training of selected employees and after training it's also challenging to retain them in this competitive environment which is desperate of skilled SAP consultant. Due to competitive market employee could demand their salary to be increase either double or triple of their current salaries, extra bonuses, and frequent training. The cost of data conversion is often not recognized by most of the companies which is associated with transferring data from the legacy system to the new package. High consulting cost becomes inevitable as a consequence of many companies not budgeting the fee properly.

3.2.7 Other Challenges

There are other challenges faced by companies in the process of ERP system implementation which includes implementation time, ERP consultant, ERP vendors, selecting the right employees, employee morale, re-engineering, change management etc. The main objective of any accounting information system is to render accounting information to different users (internally and externally). ERP system extends companies the power to get better business procedures by integrating all the necessary operational areas inside an organisation. ERP system have an important if not a decisive impact on the legacy system and particularly on accounting ones (Spathis & Constantinides, 2003). The accounting applications (modules) is the heart of an ERP system, typically incorporating applications such as general ledger, account receivable and payable, fixed assets, cash management, cost control and budgeting (Spathis & Constantinides, 2004). ERP systems implementation result in prominent changes in accounting methods and practices, which associate to the increase use of internal audit purpose, non-financial indicators and profitability studies by trade and by manufactured goods.

It also helped in introducing more of complicated accounting techniques in the accounting procedure like target costing and activity-based costing (ABC). The most essential benefit of the ERP system by companies in their accounting information system was increased flexibility of accounting information creation and enhanced the excellence of financial reports statement. Overall, the benefits accomplished by ERP system implementers sturdily determine accounting information and practices.

4. Conclusion

ERP systems are suitable at a time when a company is looking for the benefit of integration and better practices in their information system, and seeking for the entire range of functionality throughout the organisation. ERP systems can significantly improve the performance of a company in such a way its run, increased efficiency by appropriating centralised information access and manage the business processes. As a result, there is an increase figure of companies implementing ERP systems these days. However, it has been reported that ERP implementations mostly fails. A number of researches have been carried out on the implementation and the outcomes have guided to the conclusion that less than 10 per cent of ERP implementations are successful because of the challenges face (Momoh et al., 2010).

The paper presents some of the challenges faced by companies in Cambodia who implemented the system through an interview. The main challenges as experience by

Cambodian firms are excessive customisation, problem of internal integration, data quality, employee training, top management support and commitment and implementation cost. The papers also gives a better insight into the elements that can guide to both the achievements and failures of ERP implementations. Also in order to draw the possible benefits and prevent pitfalls, companies have to really understand the planning issue before implementation begins. As we've seen in the Rolls-Royce implementation procedures, the ERP implementation project consist of management team of specialist from EDS company (outsourcing partner), dedicated internal managers and staffs with very important knowledge of cross-functional business relations and each operational business unit has their own ERP planning team.

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