

## ERP Implementation Critical Failure Factors for Malaysia SME

Ang Moon Thiak

Management Information System Research Platform,  
Othman Yeop Abdullah (OYA) Graduate School of Business,  
Universiti Utara Malaysia (UUM), 06010 Sintok, Kedah Darul Aman, Malaysia

**Abstract:** Although, Malaysia economic is indicating a growing market for ERP and government is making lots of efforts in creating an enabling environment for such. Also, ERP has been recognized as a useful tool for business transformation however in practice, there are many difficulties in motivating people to implement it effectively in Malaysia SMEs. Thus, this study explored ERP Implementation critical failure factors among Malaysia SMEs. Qualitative research method using face to face in-depth interview is utilized for data collection. This study used of semi-structured questions and the interview session took place on the date approved by the company and the respondents. The gender disparity of 60-40% ratio of male to female respondents was observed. This depicts that most SMEs assigned key personnel positions to males compared with females on ERP administration. In addition, most of the respondents are first degree (BSc) holders making 90% while the other 10% are second degree (Masters) holders. This study identified seven CFFs that are responsible for the unsuccessful implementation of ERP in SMEs which include flexibility problem, nerve-wracking interaction, unfriendly interface, upgrading challenges, delayed approval, expensive and initial challenge and delayed time. These 8 factors are classified as the effect of customization, cost and time factors. This study argues that the biggest threat to successful implementation of ERP in SMEs has to do with issues of the project cost, project time duration and customization complexity.

**Key words:** SME, ERP, critical failure factor, implementation strategies, business development, classified, implementation

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### INTRODUCTION

ERP entails the managing and planning of company's resources in the most productive, effectiveness and profitable manner (Nordin and Adegokei, 2015; Hong, 2008). It allows companies to integrate their information and business processes in a predetermined manner to ensure profitability and efficiency. ERP acts as a bridge that integrates business operation across boundaries and significantly strengthened links with company suppliers, dealers and customers (Trott and Hoecht, 2004). However, implementing an ERP system does not only take substantial time, cost and investment but is also associated with technical and business risk (Ali and Xie, 2012). It had been estimated that ERP implementation can take 1-3 years completion, depending on the technical capabilities of the consultant handling the installation (Nicolaou and Bajor, 2011). Consequently, this had resulted into abandonment or failure of ERP implementation in most SMEs (Bharathi *et al.*, 2012; Lucky *et al.*, 2014; Ossai, 2014). A case where the technical partners cannot complete the installation within stipulated time and the management is running out of

patient due to loss of business time, fund and investment. Also, there are many issues associated with the implementation of ERP globally ranging from non-uniform business practices in various countries, inexperienced ERP managers, stake holders conflict of interests and meta-national advantages usage. Thus, this study explored ERP Implementation critical failure factors among SMEs.

**Literature review:** There have being a growing knowledge and understanding about ERP CSFs, however ERP implementation still experience crunch. This might be due to confusion about the practicality of ERP implementation or due to oversight of major failure factors (Noudoostbeni *et al.*, 2010; Miranda, 1999). The major issue is that why does ERP implementation fail? Failure can be defined as an implementation which is unable to give sufficient Investment on Return (ROI). It is a state that occurs when the set or defined business objectives are not met. Failure rate was put at 60-90% according to Ganesh and Mehta (2010). Failures can be seen from unmet business expectation, surpass budget and lagging project schedule or completion.

In a survey conducted by Umble and Umble (2002) information technology managers classified ERP failure into three main group insufficient planning or poor management (77%) lack of business operational management base (73%) and change in business vision, plan and goals during the project (75%). Correspondingly, ERP implementation rate of failure are seen high. The resultant of this is detrimental to business.

This detrimental to business would cause companies to spend thousands of ringgits and many years trying to implement ERP solutions to their business (Hassan *et al.*, 2015). Once the project starts it is very difficult to discontinue due to investment committed on the project. Also due to changes that had been effected in such business it might be practically difficult to undo these changes that ERP had impacted on the business (Al-Mashari *et al.*, 2003). In most cases business that experienced failure does not only lose capital investment (like expenses on consultants and procurement) but also essential part of their business might be affected. Hence, taking precautions on failure factors in implementing ERP should be a careful exercise that involves strategic planning, precision decision making and proper negotiations with relevant experts (Gargeya and Brady, 2005).

For instance, a study conducted by an independent research organization known as the conference board showed that 40% of their respondents failed to accomplish their defined company objectives after 1 year of ERP implementation. It was also indicated that it took close to 12 months longer than expected to go live due to unforeseen situation that affected the implementation which surfaced during the installation process.

In another example, Botta-Genoulaz *et al.* (2005) argued that ERP implementation fails in manufacturing sector due to focused on traditional inventory control concept. They discovered that ERP failed due to the implementation to cover both tangible and intangible related functions. Consequently, ERP implementation requires the preparation of the business workforce (corporate culture), company process (organizational fit) and preparation of technical system (legacy systems), project management and change management competencies (Farshad *et al.*, 2006). It is indeed vital for companies to have a defined target, focus and objectives before embarking on ERP implementation to scope it wide application to the need of the company. This is because companies that do not have a defined objective, target and scope in their business management usually possess high rate of failure in ERP implementation (He and Wu, 2006).

Corresponding, Donovan identified five CFFs that result into ERP implementations failure as wrong implementation strategies, lagging time frame, poor planning, organization fit and surplus budgeting. These factors determine how successful ERP implementation can be achieved within the shortest time frame. The success of ERP implementation depends on the time frame to achieve returns on the benefits of the software (Al-Sehali, 2000).

Similarly, Themistocleous *et al.* (2001) identified conflict with consultants as the major CFF that hamper ERP implementation. The benefits of consultant to business are enormous (like provision of specialized skills, experience and helping with needs), however; it can also be time-consuming and expensive causing delay for projects execution (Gable, 2003). Whenever, there is a conflict between the business managers and the consultant, failure or delay is the resultant outcome.

Likewise, Umble *et al.* (2003) argued that mismatch between ERP and organization is the major CFF that causes ERP implementation failure. Business goes for ERP for the sake of profitability and operational improvement. This usually results to greater customization of ERP which leads to complexity in implementation. Mismatch can be classified into business function, data and output (Soh *et al.*, 2000; Lucky *et al.*, 2014). Thus, systematic evaluation and selection of ERP is needed to ensure that there is reduction in the potential risk of mismatch which can hamper implementation.

Therefore, it is vital for businesses to be aware of these crucial factors before embarking on ERP implementation. Cautious consideration of these crucial factors shall ensure smooth and efficient implementation and realization of full potential advantageous ERP solution. Hence, this study explored CFFs that can hamper ERP implementation in SMEs from Malaysia perspective.

## **MATERIALS AND METHODS**

Qualitative research method using face to face in-depth interview is utilized for data collection. This study used of semi-structured questions and the interview session took place on the date approved by the company and the respondents. A confidential and well-spaced room which was located within the company premises was venue of the interview session. Whereas, the respondent preferred outside the company premises then the researcher enabled that a confidential and well-spaced room is booked for the session. The collection served to capture pertinent information as

provided by ERP implementation consultants and all stakeholders (IT personnel, ERP users, suppliers, management and customers) in Malaysia SMEs. Literature review and expert opinions are used for identification of critical failure factors.

There are 60 respondents from 12 different companies within northern region of Malaysia. The 12 companies consist of three companies from four different states within Malaysia northern region namely Perlis, Kedah, Penang and Perak. It is noticed that the number of the male respondents were more than the females personnel. The gender disparity of 60-40% ratio of male to female respondents was observed. This depicts that most SMEs assigned key personnel positions to males compared with females on ERP administration. In addition, most of the respondents are first degree (BSc) holders making 90% while the other 10% are second degree (Masters) holders. This depicts that majority of the study respondents are educated and knowledgeable on the subject matter.

## RESULTS AND DISCUSSION

CFFs focus on those that can deflect successful ERP implementation which usually leads to ERP projects abandonment (failure) or non-started. This study identified seven CFFs that are responsible for the unsuccessful implementation of ERP in SMEs. These vital CFFs are categorized into two namely customization and cost and time. These two categories are summarized in Fig. 1 which are further details discussed in the following subsections.

**Effect of cost and time:** The first category is titled cost and time because these factors have to do with the measure of the business period and used resources. On one hand, this study refers to business period as the punctual and exact completion interval of the business task which implies the duration of completing a target business task. On another hand, the business cost is the exact amount of resources utilized or money paid to complete or achieve a business task. Based on the study, it can be inferred that cost and time factor will take the forms of monetary value material effort risk acquired moments wasted and opportunity missed. These forms are obtained in the following three identify factors namely delayed approval, expensive and initial challenge and delayed time which are presented in the next subsections.

**Delayed approval:** Delayed approval factor depicts a situation where approval for implementation resources or

phases of ERP are postponed, slow, later or cancelled and affect the timeline to complete the implementation. This can be between any of the stakeholders directly or indirectly attached to the implementation. This finding is supported by one of the study respondents concern that:

“The process have to take me through series of approval from the head of sales, the senior accountant and the store manager after which the equipment will be released by the store officer, although this approval just takes a click on the system of the person suppose that is to approve, the main problem is the three heads of department to approve the request are not always available at the same time or they don’t get to see the request for approval on time (RP 29)

Also, another respondent pointed out that:

“The challenge I experience with ERP is that there are too long processes or maybe I say too many level of approvals before a task is approved, for instance, if I want to make request to collect a client premises equipment for a new customer, the process have to take me through series of approval from the head of sales, the senior accountant and the store manager after which the equipment will be released by the store officer” (RP 17)

These situations presented often put companies in a difficult position in order to anticipate and overcome created bottleneck and pains which will result in implementation failure or abandonment. Therefore, in order to prevent such situations, there is a need to critically consider the factor of delayed approved to deflect unforeseen failure and abandonment with ERP implementation in the SMEs.

**Expensive:** This study has been able to the differential between project costs and expensive. It can be seen that all project expenses are regarded as costs whereas not all project costs are project expenses. This fact is explained by one of the study respondents that:

“Any costs incurred in making more profits or income generated assets cannot be referred as expenses because the income will take care of these costs” (RP 9)

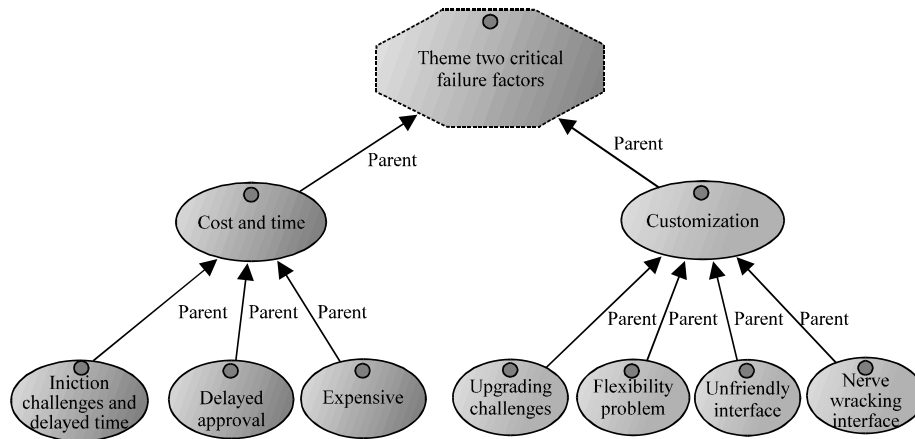


Fig. 1: ERP implementation critical failure factors for Malaysia SME

Thus, it becomes imperative to really understand the role that ERP implementation will play in business profits before deciding to go ahead. This is because the more money spends on expenses will affect the company profit and performance. Although, trying to reduce expenses might increase business profit, however, it might also affect sales by failing to meet customer’s expectations and cutting on quality. This finding is stated one of the respondent that:

“We are running 5 modules, yes, we intended to run about 7 modules but we could not because of the cost, the management ask us to streamline to the most important modules, I must tell you seriously that this investment was a big impact on the company’s pocket, I was told that ERP is sold in hundreds of thousand dollars” (RP 41)

This proves that issues of expenses, costs and incomes are vital in predicting any technology that will be implemented by a company. The reason for this is that these three have a strong influence on business survival particularly SMEs that are known for weak structure compared with large companies.

**Initial challenges and delayed time:** As pointed out by one of the users of the ERP who is a study respondent that:

“Almost 1 year. Of course, after 1 year, the problem lessened. The beginning session, a few months of course, were very messy. Even we, the project team members also did not understand well. So, what I can say is we hit a problem and then solve the problem. Hit and solve approach” (RP 10)

This implies that unprepared for unforeseen situations can offset the success of ERP implementation in its early stage. This concern is further expressed by another respondent that:

“The decision to implement ERP is good but the challenge with the way it is slow to process things is becoming unbearable. The disadvantage is that the processes of implementing the executable tasks are too long for me (RP 29)

Thus, the need to take to heart factor of initial challenges and delayed time to ensure successful ERP is vital because all stakeholders must be prepared and ready to within stand these limiting issues.

**Customization:** The second category is classified as customization because these factors focus on modification of the ERP system according to stakeholder’s needs and requirements. Customization focuses on making the features and functionalities of ERP specifications conform to all the stakeholder’s needs which are done by modifying features and content items. This study identifies four factors that are associated with customization namely flexibility problem, nerve-wracking interaction, unfriendly interface and upgrading challenges which are discussed in the next subsections.

**Flexibility problem:** This factor depicts the ability to easily bend and modify system specification in order to fulfil stakeholder’s requirement and needs. However, the increasing interest in the flexibility of ERP customization by stakeholders could make the system weak which can create loopholes and complexity in achieving successful

ERP implementation. It should be understood that ERP cannot satisfy all the stakeholder's needs, requirement, and expectation. If this fact is not well defined and explained to the stakeholders then it will lead to failure and abandonment of the implementation at its early stage. This finding is communicated by one of the study respondents saying:

“But there was a long delay which almost led to the abandonment of the implementation. This is because there are too many complaints and customization related issues whereas many of these are unreality and impracticable in system development and business environment” (RP 37)

**Nerve-wracking interaction:** In addition to flexibility problem, the study further identify interaction among all the stakeholders as one of the major factors that will determine successful or unsuccessful ERP implementation in the SMEs. When the interaction is cordial and mutual then success will be at hand, however, if there is nerve-wracking interaction then the implementation can be abandon or fail. IT personnel must take this factor vital because it will help in getting fast approval, easy completion and smooth implementation of ERP. One of the respondents mentioned this factor as follows:

“The challenge I experience with ERP implementation is that there are too long processes or maybe I say too many levels of approvals before the system is agreed by other departments. This can be simplified if there is more friendly and cordially interaction among all the departments and stakeholders” (RP 36)

**Unfriendly interface:** Contrary to nerve-wracking interaction which involves all stakeholders, the unfriendly interface is only mentioned by ERP users. This factor depicts that the successful implementation of ERP depends on user's perception of its usefulness and efficiency. It shows the extent to which ERP can be used by users in order to accomplish their goals with satisfaction and effectiveness in their specified context of use. This finding is vital because it is needed in order to achieve successful post implementation of ERP especially in SMEs where users enjoy some level of freedom. This finding is expressed by one of the respondents saying.

“I can say that ERP created more work for us, during and after the implementation, we have to employ more workforce, many times it looks like we are only solving the ERP issues meanwhile there are many other responsibilities like managing the whole company inter and extra networks, we get calls and complaints that it's slow, it hangs, the interface did not launch after clicking, the account department say oh I can't find this information and so on, then you have to teach new employee and attending to him/her every time, the bottom line is that if anything those not keep us busy, ERP will, also we need to interface with the support from Japan because we were not very familiar with it even despite our training” (RP 56)

Also, another respondent acclaimed that:

“I think the software was already customized during implementation, besides I don't see much difference, the unfriendly interface will always be there (RP 17)

Hence, in order to ensure successfully and continuous usage of ERP, there is a need to consider user's behaviour by creating a system that will be more user-friend.

**Upgrading challenges:** Both top management and users expressed their concerns on the issue of ERP upgrade. Although, the main aim of system upgrading is to maintain operational efficiency by overriding security issues, however, it can likewise bring pain and discomfort. For instance the difficulty of continuous upgrading can be overbearing for SMEs in term of financial commitment which is expressed by top management respondents like:

“My major worry of ERP is that there are lots of hidden costs involved like we the management are not ready to incur more costs for upgrading and updating” (RP 27)

This reflects that most SMEs are not ready to have a system that will continuously incur additional costs. Likewise, this view is supported by user's stand that upgrading and updating can create unforeseen problems and difficulties in terms of the breakdown of other line-of-business application. This will lead to losing of business time and profit which will create a great

discomfort for both users and top management. This finding is pointed out by many user's respondents in this study such as:

"Some of this companies more than 6 months to recover from the issues caused by the upgrade, let me refer back to the implementation stage also took a lot of commitment from us financially, materially and our times" (RP 41)

In another comment, the finding is stressed by another user's respondent saying:

"I just noticed recently that the business is not booming as it used to be before we worked over time dealing with different customer's goods and so on, I want to relate this drop in business to the recent inefficiency of ERP, may be we also need to upgrade" (RP 53)

Based on above findings, this study identified seven factors that are considered critical for implementing ERP in SMEs which include flexibility problem, nerve-wracking interaction, unfriendly interface, upgrading challenges, delayed approval, expensive and initial challenge and delayed time. These eight factors are classified as the effect of customization, cost and time factors. This implies that the biggest threat to successful implementation of ERP in SMEs has to do with issues of the project cost, project time duration and customization complexity. This study argues that many ERP implementations will continue to fail if attentions are solely given to ERP software license cost and time taken to run the software only without considering other implementation phases such as upgrading, training, interaction and the software interface. Hence, this study pointed out that unrealistic cost, customization and time commitments will drive poor implementation decisions that will lead to fail or abandonment of the project.

This finding is in line with some studies such as Ganesh and Mehta (2016), Garg and Garg (2013) and Umble *et al.* (2003) where these studies agreed that many SMEs implementations failed due to unforeseen and unbudgeted costs which are been referred to as hidden costs. These hidden costs can be in many areas such as data conversion, integration and testing, data analysis, training, retaining best staff for the project, post implementation, hardware and others. It can be seen that all the stakeholders involve in ERP implementation agreed that the issue of hidden costs has great influence on the failure or success of ERP in SMEs. In addition, Powell *et al.* (2013) and Gattiker and Goodhue (2005) pointed out that ERP implementation is a time-consuming operation with vast investment whereas SMEs might not

be able to courageously and patiently invest in it. It is discovered based on findings of this study that many ERP implementations fail because SMEs are not ready to commit enormous funds and invest into it. The major reason for this might be due to lack of fund and resources within their reach. This reason supported Dixit and Prakash (2011) argument that, if SMEs can devote huge funding and invest into ERP then there will not be any cases of abandonment nor failure in the implementation. Furthermore, the finding on customization factor is in line with Buonanno *et al.* (2005) claim that there are lots of complications when it comes to ERP customization with SMEs compared with LE. These complications can occur at any phase of the implementation (initial, early, during and post) and these are found to be difficult to manage as pointed out in this study. Also, this study identifies that customization complications have a direct influence on project time and costs. This is because complex customization can prolong the implementation time and can give additional cost which might lead to implementation abandonment or failure.

## CONCLUSION

Evidences from the wide literature have shown that ERP is playing a vital role in the economic and global expansion markets in the USA and Europe but a little role is observed in Asia and particularly Malaysia (Goni *et al.*, 2011). Thus, this study has identified eight CSFs that are limiting Malaysia SMEs from ensure economic and global expansion markets. These factors include accessibility, flexibility, simple system, cost-effectiveness, increased productivity, customer's needs, time and resources saving and reduced personnel. The study argues that these eight CFFs are vital in order to ensure successful ERP implementation and bring lots of benefits and gains to businesses.

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