

## **Analysing ERP Implementation Critical Success Factors for SME: A Study of SAP One Implementation in Jakarta**

**Angtyasti Jiwasiddi\* and Benyamin Mondong**

*Management Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Syahdan Campus, Jl. K.H. Syahdan No. 9, Kemanggisan / Palmerah, Jakarta, Indonesia 11480*

### **ABSTRACT**

Stimulating the development of local Small Medium Enterprises (SME) has been an important agenda for Indonesia to strengthen its local and regional economy. The SMEs here have their own unique characteristics. The government had set up Enterprise Resource Planning (ERP) system to improve SME's business process and to share knowledge. However, implementing a successful ERP comes with its own challenges. This research investigated the factors that led to a successful ERP implementation. Using case studies, in-depth interview and observation at Trinity Era Aplikasindo, one of SAP representatives in Indonesia, as well as literature review, this study found factors such as Top Management support, good change management, and training have a significant impact on a successful ERP implementation in SME. This article discusses a comprehensive approach to understanding how ERP contributes to the success of SMEs.

*Keywords:* Business improvement, critical success factor, enterprise resource planning, sharing of knowledge, SMEs

### **INTRODUCTION**

Small Medium Enterprises have contributed extensively to Indonesia's growth by contributing to its GDP and job creation. The SMEs also help to stimulate local and regional economy. According to a government website ([www.depkop.gov.id](http://www.depkop.gov.id)) SMEs account for 90 per cent of all employment in Indonesia. Therefore, SMEs contributes to national income and also

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*E-mail addresses:*

[ajiwasiddi@binus.edu](mailto:ajiwasiddi@binus.edu) (Angtyasti Jiwasiddi)

[benyamin.mondong@gmail.com](mailto:benyamin.mondong@gmail.com) (Benyamin Mondong)

\* Corresponding author

creates jobs and strengthens the regional economy.

The ERP serves 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 resources (O'Brien & Marakas, 2010). The use of ERP has been considered as a major determinant to gain competitive advantage (Dezdar & Ainin, 2011). The Goal of ERP is to allow a company to manage its business with potential benefits of improved process flow, reduced inventories, better data analysis, better customer service, and improved profit margins (Fan & Fang, 2006).

Therefore, understanding how ERP works for SME is both useful and interesting and useful to boost the efficiencies of SMEs.

## LITERATURE REVIEW

### Enterprise Resource Planning

Earlier studies have examined how companies face increasing competition, market expansion, and rising expectations. This pressures the companies to increase productivity and efficiency and that is where ERP benefits them: 1) a unified enterprise view of the business that encompasses all functions and departments; and 2) an enterprise database where all business transactions are entered, recorded, processed, monitored, and reported (Umble & Umble, 2002).

Data integration is where clean data can be entered once into the system and then

reused across all applications (Motiwala & Thompson, 2012). Dantes and Hasibuan (2011) also found out that implementation would boost the value of company's stock, and it can improve public confidence. Implementing a new software in a company is a real challenge for managers. ERP system is one of the most complicated information systems for the organisation (Umble & Umble, 2002). The ERP implementation is a lengthy and complex process, and there have been many cases of failure to produce good outcome (Parr & Shanks, 2000).

Majed (2000) reported that 70% of ERP implementation did not achieve their estimated benefits. Langenwalter (2000) even claimed that 40% to >60% of ERP implementation could be classified as "Failures." The result of an unsuccessful ERP implementation can even lead into bankruptcy (Markus, Axline, Petrie, & Tanis, 2000). Dantes and Hasibuan (2011) found out that in Indonesia, 33% of companies failed in implementing a successful ERP system. However, these failures were not due to incorrect coding of the ERP software but inability of the companies to understand their organisational needs and to solve their business problems. Thus, what are the critical success factors to minimise the failure of ERP Implementation.

Due to saturation of ERP targeting large-scale enterprises, ERP system manufacturers today are also focusing on the growing market of small and medium-sized enterprises (SMEs) (Deep, Guttridge, Dani, & Burns, 2008). The ERP system manufacturers are competing to provide the

best ERP system for SME nowadays. One of them is SAP Business One which is business management software designed for SMEs.

### **Small Medium Enterprises (SME)**

The SMEs foster economic growth, boost employment and alleviate poverty. In 2004 alone, the World Bank Group approved an estimated USD\$2.8 billion to support of micro, small and medium enterprises. There is also a growing recognition of the role that SMEs play in sustained global and regional economic recovery.

This area of research has been crucial, especially for developing countries that still require substantial economic improvement. A World Bank Group study suggests there are 365 - 445 million micro, small and medium enterprises (MSMEs) in emerging markets: 25-30 million are formal SME while 55-70 million are formal micro enterprises, and 285-345 million are informal enterprises.

Indonesia is one of the biggest economies in Asia and has a very good potential market and investment opportunities. The Indonesian government have taken steps to nurture and increase the growth of SME. Under the Kredit Usaha Rakyat (KUR – the People’s Credit Scheme) scheme, an initiative to nurture the growth of small business, the Ministry of Finance provides insurance for 70% of loans given to SMEs, while banks take up the rest. In 2014, the six participating national banks provided more than 11.3 million SMEs with a combined Rp146.3trn (\$11.2bn) of funding under the KUR programme. A

total of 26 regional lenders also signed up for the initiative. Smaller businesses also faced technology and training challenges. According to a recent report by Deloitte, published in August, just over one-third of Indonesian SMEs are offline, while another 37% has only basic online capabilities. (oxfordbusinessgroup.com). According to Bank Indonesia, micro businesses are those havin Rp. 50.000.000, in net worth and up to Rp. 500.000.000 for Medium-scale business.

### **Research Gap**

Markus et al. (2000) argued there are no agreed measures on defining ERP system implementation success.

Many studies have focused on characteristics of ERP (Ayyagari, Beck, & Demirgüç-Kunt, 2007; Bernroider & Mitlöhner, 2005; Shahab, Ahmed, & Khan, 2009). Some of this research has taken a perspective of the company, some taking the perspectives of the users. None took the perspective of an IT consultant. Their point of view would be quite interesting because they understand the operational characteristics, the consumer and the software.

Leyh (2014) studied ERP implementation from 1998 to 2013. He identified several factors in ERP implementation, from perspective and categorisation, which was divided into Strategic, tactical perspective and Technological and Organisational aspect as well as Critical Success Factor Categorisation.

Table 1  
*Critical success factor categorization*

	Strategic	Tactical
Organizational	Clear goals and objectives	User Training
	Top management support and involvement	Communication
	Project team leadership / Empowered Decision makers	
	Balanced project team	
	Involvement of end-users and stakeholders	
	Company's strategy / strategy fit	
Technological	Organisational fit of the ERP system	ERP system tests
	ERP System configuration	

The research addressed Critical Success Factor for ERP implementation: Organisational factor and Technological factor. However, regarding ERP implementation, it appears that the main issues and challenges come from the people and regulation which are related to the organisation (Leyh, 2014). The current research focused on the organisational aspect, using the top five factors, which are 1) Top management support and involvement, 2) Project Management 3) User training 4) Balanced project teams 5) Change Management. These are called Strategic – Organisation matrix. In many occasions both from company or software developer point of views, employee readiness is also an important factor in implementing new system (Salwa & Susanty, 2016).

The purpose of this study is to have a better understanding of Strategic – organisational aspect that play an important role in ERP implementation, more specifically ERP implementation for Small Medium Enterprises in Indonesia. This can be very useful not only for the SME but also

to the government and authorities on how to integrate technology to promote SME in Indonesia.

## MATERIALS AND METHODS

This research was conducted using a qualitative approach, with data triangulation to conduct a robust research. Several approaches were used 1) interview 2) Observation 3) Literature Study 4) Case study. The source of data is both primary and secondary source for a reliable and dependable data analysis.

Primary data was obtained through observation of the implementation process. This was followed by a structured interview with some senior consultants, who have some experience with a successful implementation. The interview was aimed at obtaining Critical Success Factors that will determine successful implementation.

Literature review boosted analysis of primary data. A qualitative approach was used to explore behaviour, perspective, and experiences of people they study (Holloway, 1997). The experiences of consultants

are the desired inputs that the researchers wanted to analyse.

### **Data Collection**

Data used were in the form of words (Sekaran & Bougie, 2010). The researcher conducted in-depth interviews with two top management personnel, and six senior consultants. Interviews, observation and literature review were the methods adopted for this study. Primary and secondary source of data were included for a reliable and dependable data.

The primary source of data refers to information obtained first-hand by the researcher on the variables of interest for the specific purpose of the study (Sekaran & Bougie, 2010). Researchers observed the implementation and the factors underlying it.

Interviews were also conducted with consultants who have experience with a successful implementation. The interview offers an insight into critical success factors that influence a successful implementation.

Finally, literature review was conducted to support the findings and suggestion of future research.

### **Data Analysis Method**

A qualitative research method was adopted in this study. Data was selected, coded, and categorised (Sekaran & Bougie, 2010).

Coding is an analytic process through which qualitative data gathered is reduced, rearranged, and integrated. The purpose of coding is to help you draw meaningful

conclusions about the data (Sekaran & Bougie, 2010) before it is analysed.

Purposive sampling method was used in this research. The participants were chosen based on pre-selected criteria relevant to a particular research question (Bernard & Ryan, 2010; Wahyuni, 2012).

## **RESULTS AND DISCUSSIONS**

A key to a successful implementation is to deliver the software as expected. The expectation comes from the top management because they are the people who make a decision of ERP system and in the position to make a crucial decision. Therefore, fulfilling the expectation of the top management is critical to a successful implementation.

In this research, Top Management support is the most significant success factor. A successful implementation is greatly influenced by top management, especially in terms of decision making which is often considered as a complex and time-consuming process. Having top management capable of making a fast decision is very helpful in ensuring the project is completed on time. Decision making must be in the hands of the top management because they are responsible in implementing ERP system. Crucial decisions are made by top managers. Other roles that also influence successful implementation is supervision, namely to keep the project on track and fulfil expectations of top management.

Change management is the second critical success factor the success of an

implementation. Having a new system means that employees must change their culture in doing their daily job. The consultant is not in the position to force employees to change. That is why a consultant needs full support from the management. Specifically, executive management support is the most influential in change management of SME. The change is normally led by top managers or executive managers, and it must be done in a short period of time. Implementing ERP in SME usually takes three months from kick-off meeting to go live with the system.

Implementing a system change must be supported by training. Training is also considered as critical in change management influencing the success in implementing ERP. Egan and Fjermestad (2005) found that resistance is a product of people lacking skills, or they do not understand the changes initiated by the application of the new ERP system. A way to minimise resistance due to lack of skills is via training. Every training is done, so employees know how to use the new software. The consultant also has to share their knowledge and best practices about the software, so employees understand the changes necessary for the implementation of the new ERP system.

Balanced Project Teams (ERP team composition, skill, and compensation) is not exactly the most influencing factor in a successful implementation. However, this factor also has interesting points for an implementation. Based on the observation and interview, the project teams must have rich knowledge of both business process and

technical requirements. The leader should not only have much knowledge but also have the authority to make some minor decision to reduce delays in decision-making process. Therefore, the right composition of the team is essential not only so that they can learn to use the system, but also that they can understand the purpose of the system and to be able to communicate well with the consultants.

## CONCLUSION

In considering Critical Success Factor for a system implementation, two factors must be considered: organisational and technical aspects. This study was focused on implementing a SAP One software which was a simple version of SAP targeted for SMEs but at a considerably more affordable price.

Based on observation and in-depth interviews, the organisational aspect is very important. The factors most critical to a successful implementation were top management support, change management and proper training. However, this research also added balanced project teams, even though it didn't always occur (from the interviews) as a significant factor but from observation and literature review, balanced project teams were important. Balanced project team understood as the right composition of people, and the skill they possessed together with the right amount of compensation based on their contribution to the project. Putting together a team that has a good understanding

and capability to communicate with the consultants makes a difference to achieve a successful implementation.

### Recommendation

Based on the analysis, the study suggests a member of top management to be in charge of implementing a project. The top management assigned to the project should possess not only excellent decision making but also a decent understanding of the system.

A further question was asked to the consultant on what they find as the most critical success factors. The answer was communication. The level of communication is one of the most critical non-organisational-strategic critical success factors. There has to be an efficient communication between consultants and clients.

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