

# Is Closed Communication a Major Hindrance in an Enterprise Resource Planning Implementation? A Case Study of an Indonesian Family-Owned Company

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## Abstract

The high risk of failure associated with the implementation of enterprise resource planning (ERP) system relates to resistance among employees by rejecting or sabotaging the system. Communication has been identified as a critical success factor on ERP implementation in several studies, whereas, many others do not depict any relation at all. The current study, however, argues that communication regarding the benefits of ERP system is the most critical success factor for the accomplishment of ERP implementation in family-owned company in Indonesia. Empirical data from 116 ERP users were examined by using logistic regression, which reveals that communication has significant negative effect on ERP implementation. It means the more company practices closed communication, the lesser success of ERP implementation will be achieved. Findings show that closed communication leads to poor coordination between departments which reduces the speed of problem solving in the field and causes ERP implementation in PT ABC to not be fully utilized.

## Apakah Komunikasi Tertutup merupakan Masalah Utama dalam Implementasi *Enterprise Resource Planning*? Studi Kasus Perusahaan Keluarga di Indonesia

### Abstrak

Tingkat kegagalan yang tinggi dalam implementasi enterprise resource planning (ERP) terkait dengan konfrontasi karyawan melalui penolakan atau sabotase sistem ERP. Komunikasi diidentifikasi sebagai faktor penting dalam implementasi ERP di beberapa penelitian sebelumnya; namun penelitian lain tidak menemukan adanya hubungan. Studi ini berargumen bahwa komunikasi mengenai manfaat sistem ERP adalah faktor keberhasilan utama untuk pencapaian implementasi sistem ERP pada perusahaan keluarga di Indonesia. Data empiris dari 116 responden pengguna ERP dianalisis dengan menggunakan regresi logistik. Hasil penemuan studi ini adalah komunikasi memiliki pengaruh negatif yang signifikan terhadap implementasi ERP. Artinya, semakin diterapkannya komunikasi tertutup, semakin rendah tingkat kesuksesan implementasi ERP. Temuan studi ini menunjukkan bahwa komunikasi tertutup mengakibatkan koordinasi buruk antar departemen yang berakibat pada penurunan kecepatan pemecahan masalah di masing-masing departemen dan implementasi ERP di PT ABC belum sepenuhnya berhasil.

*Keywords: enterprise resource planning, indonesian family-owned company, open communication*

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## 1. Introduction

Responding to the increased competition and fast-changing business environment, many companies have felt the urgent need to integrate and incorporate business functions into a single system. This system is often referred to as Enterprise Resource Planning (ERP); which focuses on

the integration of business functions throughout the entire enterprise by facilitating the flow of information across the line of the business processes (Vandaie, 2008).

Prior studies indicate that while some firms achieve successful outcomes with regard to their ERP implementation, more firms face the costs of unsuccessful adoption

process (Ke and Wei, 2008; Deloitte, 2012; Jeng and Dunk, 2013). As seen in Table 1, success rate of ERP implementation is only between 25 to 40 percent.

The low success rate of the implementation of ERP system may have been caused by a lack of attention to technology as well as the people (Soh, Kien, and Tay-Yap, 2000). Implementing ERP in a company typically creates high level of resistance among employees such as sabotaging or rejecting the system if it is perceived to interfere with the established social network or when information technology is in conflict with an organizational culture (Martinsons and Chong, 1999 and Cooper, 1994; cited in Ke and Wei, 2008).

To deal with this problem, several studies have identified communication as a critical success factor for the implementation of ERP system (Yang and Wu, 2003; Nah and Delgado, 2006; He, 2007; Momoh, Roy, and Shehab, 2010; Dezdard and Ainin, 2011; Chockalingam and Ramayah, 2013; Aubert, Hooper, and Schnepel, 2013). Considering that ERP implementation is complex, this system must be communicated well to lower-level employees who are the end-users of this system, so that they are willing to go through the implementation process and will not resist it. Having transparent communication among various departments during the transformational process from being a stand-alone to an integrated system will also help in gaining commitment of users and in creating trust and solid teamwork across departments, thus avoiding complaints from unsatisfied employees (Zwell, 2000).

In relation to this situation, PT ABC, one of the machinery supplies companies and a family-owned company in Indonesia, had faced increased global market competition. Therefore, ERP systems were used to support its business process and manage company operation within PT ABC head office, branch, stores and distribution center. Moreover, the systems were implemented in order to internally consolidate all business functions and subsidiaries under ABC group, in line with its strategy to enhance competitive advantage and strengthen market position. By using the single system across business unit, PT ABC and their subsidiary would have standardized platforms and easily consolidate the reporting process.

However, while PT ABC was seeking to derive competitive advantages by adopting this advanced

**Table 1. Survey on ERP Implementation**

Survey Conducted by	Success Rate
Deloitte (2012)	25%
Conference Survey Board (2001)	34%
KPMG (1997)	39%
Panorama Consulting (2013)	40%

Source: Ke and Wei (2008); Deloitte (2012); Jeng and Dunk (2013)

information system, the actual experiences exhibited lower performance in the first semester of utilizing the systems. The occurrence of these conditions had caused disruption into company operation, thus, reducing the company sales. The preliminary interviews with the project team leaders indicated that during ERP implementation several communication problems arose—such as ineffective cross-functional communication, unwillingness to share knowledge, lack of training and development support, and limited coordination across departments.

PT ABC's problems illustrated how communication was not utilized in an effective way during working culture transformation from not-yet integrated systems to ERP systems. This situation usually existed in family-owned company in which communication was considered as the biggest problem (Fleming, 1997; cited in Tarhan, 2010). For instance, some managers were reluctant to share company-related information (Clampitt, DeKoch, and Cashman, 2000), or withheld vital information from non-family employees (Zahra, Neubaum, and Larrañeta, 2007). Consequently, the implementation of the ERP system might not turn out to be as successful as expected.

In contrast with prior studies on communication as a critical success factor, several previous studies had different findings on the role of communication during ERP implementation. For instance, Aubert, Hooper, and Schnepel (2013) emphasized the importance of openness in communication during ERP implementation, whereas He (2007) on the interdepartmental communication and collaboration. However, the study of Sarker and Lee (2003) showed that ERP implementation could still be obtained where communication was not open or honest; likewise Maditinos, Chatzoudes, and Tsairidis (2011) found no relationship between communication effectiveness and ERP implementation success.

To sum up, communication has been identified as a critical success factor on ERP implementation in several studies, however, many others do not find any relations at all. Based on these controversies and challenges during ERP implementation faced by PT ABC, this paper argues that communication is the most critical success factor during the implementation of ERP system in family-owned company to avoid misunderstanding which may lead to employees' rejection or sabotage actions. Therefore, the research question of this study is whether communication has significant effect on ERP implementation in PT ABC.

## 2. Methods

The current study conducted a survey by utilising the dimension of communication from the Organizational Practices Scale (Hofstede, Neuijen, Ohayv, & Sanders, 1990). This measurement was chosen because it allowed

the current study to examine the ERP implementation in a family-owned company with either open or closed communication. Open communication reflects employees' and managers' ability to openly criticize one another such that the organization can learn from mistakes without having to resort to self-defensive tactics; whereas in closed communication, the organization and its people are felt to be closed and secretive, even among insiders (Hofstede et al., 1990).

Respondents were asked to rate the questionnaire based on their perception on a 5-point Likert scale from 1 (very disagree) to 5 (very agree). Table 2 illustrates the item statements of communication after performing validity and reliability test that resulted in a Cronbach's alpha of 0.67.

In order to evaluate ERP implementation success, this study utilizes a measurement based on the definition from Markus, Axline, Petrie, and Tanis (2000). They state that ERP implementations success depends on the point of view of the person who defines it. For example, success for manager means implementation has been finished on-time and on-budget; while for top management is when the company improves their performance and receives both tangible and intangible benefit (Markus *et al.*, 2000). Moreover, Markus and colleagues (2000) also introduce the user perception towards ERP implementation as an alternative measure of success. Hence this study utilizes user perception to measure the ERP implementation success.

The nominal scale was used to describe the perception of respondents on ERP implementation success. Normally, the rating consisted of two options, namely "successful" and "not successful". However, the present study took place for an on-going project of ERP implementation, thus another option (i.e., "not yet successful") was added.

The participants of the present study were 227 employees out of 1,349 employees who were ERP users in PT. ABC. The participants were located in the head office of the company it had the majority of ERP users, while Cikarang had the largest ERP users in the warehouse department.

**Table 2. Communication Items**

Statements	Factor Loading
Company and its people are open to newcomers.	0.78
Company and its people are closed and secretive towards employees who do not belong to the group.	0.85
Company and its people are closed and secretive towards outsiders (i.e. mass media, consultant).	0.62

To get representative number of ERP users, participants were selected from three roles in ERP implementation process. The first was project team leaders who mostly were managers or supervisors actively involved in the implementation since the beginning of the ERP project. The second role was key users who were supervisors involved in testing and training phases. These key users were assigned to acquire ERP system training from external consultant and later to transfer the knowledge to the end users. The last role was end users consisting of staff level employees and primary ERP users on the daily business operations.

To collect data from respondents, questionnaires on communication and ERP implementation were distributed to respective managers, supervisors, and staff who understood the business processes and ERP implementation within their workplace. They were required to fill their demographic profile (e.g., age, gender, education, years of working in the organization, job level, and roles in the ERP implementation). Within one-month period, data from 116 respondents were gathered, giving a response rate of 51.1 percent (116 out of 227).

Of 116 respondents, the characteristics were dominated by ERP users from head office (85.3%) and female employees (75%). Most respondents held bachelor degree (73.3%) and were employees in PT ABC for around 5 to 10 years (27.6%). The majority of the respondents are staff (77.6%), followed by section head (18.1%). The staff and section head level were the most active ERP users in daily business operations. Most of the respondents in this study were end users of the ERP system (75%). A total of 12.9% of respondents were key users, while 12.1% were project team leaders.

To find out whether communication has significant effect on ERP implementation in PT ABC, logistic regression was performed. This analysis was used because this study had a non-metric dependent variable (i.e., ERP implementation) and metric independent variable (i.e., communication).

### 3. Results and Discussion

This study found that communication had a significant negative effect on ERP implementation (Table 3). It means that closed communication yields lesser success in the ERP implementation at PT ABC.

PT ABC was perceived to have closed communication (Table 4). With closed communication, it may not seem to be suitable to the nature of ERP system. ERP has a nature of integrating business process across departments which require sharing of a centralized database and empowering frontline employees. When PT ABC is still unwilling to have open communication by sharing information between departments, ERP implementation cannot be performed as planned.

ERP implementation was perceived to be "not-yet successful" (77.6%; Table 5), because respondents still encountered many problems in the daily operations. However, considering that none of the respondents perceived ERP implementation as "not successful", it means respondents still have positive thinking that there is room for more improvement in the future because the implementation is still going on.

This finding showed there was a communication problem during the ERP implementation in PT ABC. An example of poor communication and coordination across departments was that the company prohibited any vendor information to appear in the ERP system except for the procurement and finance department. This condition did not represent the ERP system characteristic in which vendor information should be available across departments. Consequently, instead of accessing the information from the system directly, users from the other departments had to ask manually to the procurement department.

This study reveals that communication has negative effect on ERP implementation; meaning, due to closed communication, ERP implementation has not been implemented in PT ABC. PT ABC wants to change business process from many supporting systems to ERP system that can integrate all of its business functions in branches and subsidiaries. Additionally, still implementing closed communication with secretive culture that discourages coordination between departments has prevented PT ABC's employees from learning the whole process of ERP systems.

**Table 3. Impact of Communication on ERP Implementation**

	Beta	SE	p
Communication	-0.513	0.23	0.03

SE = Standard Error

**Table 4. Communication Item Statements**

Statements	Mean	SD
Company and its people are open to newcomers.	2.97	0.93
Company and its people are closed and secretive towards employees who do not belong to the group.	2.66	0.79
Company and its people are closed and secretive towards outsiders (i.e. mass media, consultant).	2.37	0.94
Communication	2.66	0.66

SD=Standard Deviation

**Table 5. Perception of ERP Implementation Success**

	Frequency	Percent
Not yet successful	90	77.6
Successful	26	22.4

During ERP implementation, sharing real-time conditions is important for senior and middle-level managers. If employees keep information for their own departments' interests and practice a secretive culture, it will reduce the speed of problem identification and hinder the effective decision making. This condition is called *silo culture* in which there is minimal communication between departments, or even that communication does not take place at all (Eunson, 2007).

In PT ABC, several departments in the company were not willing to change and standardize the business process. This condition is in conflict with the nature of ERP system that integrates best-practice business processes. One of the reasons was that before implementing the ERP system, PT ABC had been supported by several systems, such as warehouse management system (WMS), payroll system (KLHC), point-on-sale system (POS), and any other legacy systems (Accenture, 2013). There was a lack of coordination for software integration among departments in the organization before ERP was designed which had reduced the benefit of streamlining the business processes and lowered the speed of solving the synergizing business issues.

These situations show that even though PT ABC has implemented the ERP system, it has not fully transformed from a stand-alone to an integrated system. Employees in each department still have a high level of comfort zone in using their old stand-alone system. Moreover, PT ABC seldom conducts intensive communication programs, such as daily sharing session or weekly meeting across departments. According to Ifinedo (2007), this situation has neglected the most important ingredients of communication required for successfully adopting an ERP system, namely cooperation, collaboration, and supportive attitudes.

Such condition reflects that a socialization program on the benefits of implementing ERP system does not penetrate well from project team leaders and key users to the end-users in every department. The top management is very rarely involved actively in socializing the rationale and the benefits of the ERP system to the company and its members. They also do not have continuous briefing of change management strategies and tactics during the process.

Ideally, a company that is implementing new ERP system has to practice open communication to help with the organizational learning process, that consequently contributes to the success of ERP system implementation (Ke and Wei, 2008). Open communication will encourage improved relations across departments, which accordingly can help communicating the concept of ERP systems to the end-users. In addition, members of the organization need to share knowledge to make the necessary changes in the company to achieve the long-term benefits of ERP (Dezdar and Ainin, 2012).

In PT ABC, the external consultants are in charge of the ERP learning process by giving training programs to project team leaders and key users. Key users then share ERP knowledge to their respective teams and department members (i.e., end users). Although respondents in this study admitted that they received training (87.9%) and simulation business (94%), the training was done in a marathon schedule in which end users only had two weeks to learn everything about the ERP system and the business process.

An integrated system, such as ERP, cannot be learned in a short period of time because there are many scenarios they have to face in the daily operations which might not be covered during the training. Aside from that, 88% of respondents did not have prior knowledge in using ERP before working at PT ABC, which indicated that additional time was required to getting used to the new system. Therefore, misinterpretation was likely to happen during the transfer of knowledge process, even though several documents had been prepared for the training session such as training material, user manual, and exercise book.

Based on the analysis, it can be concluded that closed communication leads to poor coordination between departments by keeping information for their own departments' interest and misinterpretation of the ERP learning process. These conditions reduce the speed of problem solving in the field and have caused ERP implementation in PT ABC (such as integrated business processes, real-time reporting, and business process standardization) to not be fully utilized.

This finding is an important academic contribution by producing the empirical evidence to support the theories of critical success factors and ERP implementation success based on different ERP users. Therefore, this research confirms that open communication during ERP implementation is very critical in a family-owned company.

This study only limits the effect of communication on the ERP implementation. Future research is suggested to provide a more complete picture of the role of communication as mediating variable in the relationship between top management and the ERP implementation because previous studies have claimed that top management is a critical success factor.

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