LESSONS FROM FAILURE ERP IMPLEMENTATIONS

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Abstract

Organizations need IT capability to improve their productivity. While the cost of using IT technologies is very high, the rate of IT project failure is notable, as well. Organizations attempt to find solutions for decreasing the IT project cost as well as increasing chance of IT project success. This paper empirically investigates the reasons for a failed implementation of an ERP system in a company that was a member of a large holding. More importantly, the failed ERP implementation occurred after four successful experiences. By making group decisions for using one ERP software and training internal implementation team, the implementation cost reduced significantly in the first four projects. Our analysis illustrates that the failed ERP implementation was due to the lack of attention to the companies-specific IT strategy. In this study, nine failure factors were identified where the lack of top management support was the most critical one. Lack of top management support was due to the reason that they believed the selected software was not suitable and fit for their company. The other failure factors were lack of: communication, change management strategy, explicit strategy for business process re-engineering and customization, powerful team and project management, qualified consultant, capable key user, and relevant training material.

Keywords: Enterprise resource planning (ERP), Failure, Implementation.

1   Introduction

The existing body of research on information system (IS) suggests that organizations need to use IS to keep track of their business activities and manage them from planning phase to product delivery phase (Abusamhadana, Elias et al. 2018). Enterprise resource planning (ERP) is a kind of organizational information systems that have been used to improve business process efficiency by providing real-time data (Saade and Nijher 2016). ERP can play an essential role in organizations in addressing the issues of creating information coordination and eliminating organizational failure due to the application of legacy systems (Nah, Zuckweiler et al. 2003). A key aspect of ERP is covering all organizational functions with its integrity nature and using a shared database to increase the level of information sharing and integrity of business processes (Hadidi, Assaf et al. 2017). ERP plays a critical role in the maintenance of efficiency, productivity and service quality for organizations. Therefore, a successful ERP project can reduce the cost of services and help the organization to make effective decisions (Ngai, Law et al. 2008). The organization achieves an opportunity to re-engineer their business processes by implementing ERP (Al-Mashari and Al-Mudimigh 2003).

 An ERP implementation project includes people, organizations, and technology (Bansal and Agarwal 2015). In fact, ERP implementation is part of an organization's strategic IT initiatives (Ahmed, Kumar et al. 2018) and several studies have revealed that it can be a complex, difficult, costly and time-consuming task for organizations (Al-Mashari, Al-Mudimigh et al. 2003, Shehab, Sharp et al. 2004, Xue, Liang et al. 2005, Ali and Miller 2017). In 2013, Panorama Consulting Solutions published a report in which they described that 53 percent of the ERP implementations had been delivered late and 58 percent of them have gone over budget as well as around 58 percent of implementations failed to realize less than 50 percent of their organization's goals (Panorama Consulting Solutions 2013).

It is now well established from a variety of studies that organizations need to gain a competitive advantage by implementing ERP systems. On the other hand, the high rate of ERP implementation failure is one of the most frequently stated problems with organizations (Amid, Moalagh et al. 2012, Bafna, Kaur

et al. 2015). A considerable amount of literature has been published on critical success factor (CSF) (Ngai, Law et al. 2008, Alsulami, Scheepers et al. 2016, Leyh 2016, Saade and Nijher 2016, Ahmed, Kumar et al. 2018) and critical failure factor (CFF) (Al-Mashari and Al-Mudimigh 2003, Amid, Moalagh et al. 2012, Bafna, Kaur et al. 2015). Because of recent developments in the use of ERP systems, the need for investigating and identifying the reasons for ERP implementation failure under different contexts has been increased. Through these studies, solutions for a higher success rate of ERP implementation may be found. (Calisir and Calisir 2004, Ali and Miller 2017). Sitkin (1992) also suggested that organizations must try to follow the strategy of learning by experimentation, which means they should see their failure as an opportunity to learn from failure (Sitkin 1992).

In the new global economy, using ERP has become a central issue for organizations, and the implementation cost is a critical factor that organizations need to consider. A group decision for using one ERP software and training a group of employees to implement the software for all companies can be a kind of IT strategy in order to reduce the implementation cost in the holding companies. Most of the previous studies investigated implementing ERP for one company. In this paper, I attempt to investigate the reasons for a failed ERP implementation in a situation where the strategy for choosing the ERP software was a group decision between all companies of a holding by considering that they had four successful experiences before the failure one. Understanding the reasons for this failure can contribute to IS literature for organizations adopting this strategy.

Throughout this paper, the term XYZ is used to refer to a large-scale company where it was a member of a large holding company, and the term Alpha is used here to refer to that holding. Alpha intended to improve the productivity of all companies in its group by deciding to use one ERP software for all its companies. The term ABC is also used here to refer to the ERP software that was chosen by Alpha for all companies. After four successful ERP implementations in the Alpha group, implementing ERP in XYZ failed. This study seeks to obtain data that will help Alpha to address the reasons for their failure and improving its implementation process based on this experience.

This paper first gives a brief overview of the recent history of ERP implementation, CSF and, CFF of ERP project and then introduces the case and the research method and then reports the results of this study and finally discusses and concludes the results.

2   Literature review

ERP can broadly be defined as a kind of software package that integrates business activities across different functional areas of an organization. Another significant aspect of ERP is including knowledge of business practices prepared from vendor implementations that affect many aspects inside and outside an organization (Alsulami, Scheepers et al. 2016). Besides, ERP systems can be seen as a platform for electronic business applications that helps organizations to decrease inventory costs and increase the level of supply chains and customer relationship management. ERP helps organizations by coordinating their activities and tracking items. The organizations can trace the items throughout the supply chain and prevent theft and determine their delivery time accurately so that it can increase the level of customer satisfaction as well. Improving the information flow across multiple sites or in different countries is one of the essential aspects of ERP (Beheshti, Blaylock et al. 2014).

As explained in the introduction, it is clear that ERP implementation is a process that needs technical, organizational, and financial resources to provide an efficient operating system to the organization (Abdinnour-Helm, Lengnick-Hall et al. 2003). Due to the reason that the ERP implementation phase involves various essential activities for its success, it can take an extended period, indeed, identifying the end of this phase is difficult (Abdinnour-Helm, Lengnick-Hall et al. 2003). As noted by Aladwani (2001) ERP implementation can take between 12 and 30 months based on the organization's size (Aladwani 2001). Previous research has established that assessing organization readiness and planning for resource availability are very important before starting the ERP implementation (Yusuf, Gunasekaran et al. 2004, Ali and Miller 2017). In a study investigating the impact of CSFs for different stages of ERP implementation, Somers and Nelson (2001) divided the ERP stages into initiation, adoption, adaption,

acceptance, routinization, and infusion and determined which factors are most critical for each stage of the ERP implementation (Somers and Nelson 2001).

A considerable amount of literature has been published on CSF and CFF of ERP implementation. These studies include: top management support and commitment (Bradley 2008, Chen, Li et al. 2008, Lin 2010), effective project management and team (Huang, Chang et al. 2004, Chen Charlie C, Law et al. 2009, Rothenberger and Srite 2009, Beheshti, Blaylock et al. 2014), business process re-engineering (BPR) and standardization (Biehl 2007, Chen, Li et al. 2008, Napier, Mathiassen et al. 2009), vendor support and employees training (Ehie and Madsen 2005, Law and Ngai 2007, Bernroider and Management 2008, Chen, Li et al. 2008), strategic implication on firm's performance and competitiveness (Bradford and Florin 2003, Ragowsky and Gefen 2008, Venkatesh 2008).

The existing literature on ERP is extensive and focuses mainly on cost reduction and improve productivity (Ifinedo and Nahar 2006, Jones and Young 2006, Kamhawi 2008, Goeke and Faley 2009), development of a plan for ERP acquisition and implementation (Biehl 2007, Bradley 2008, Lin 2010), improvement of customer service (Stratman and Roth 2002, Zhang, Lee et al. 2005, Bernroider and Management 2008, Kamhawi 2008) and firm performance (Yang and Su 2009, Chan, Lau et al. 2012).

Bafna et al. (2015) indicated several challenges in ERP implementation including: requiring high financial recourse, poor communication about strategic goals, poor planning, unqualified vendor, lack of enough attention on selecting implementation team, lack of adequate training, failed technical support, practical approach, lack of consideration to upcoming challenges, lack of management support (Bafna, Kaur et al. 2015). Amid et al. (2012) investigated identifying the critical failure factors in Iranian organizations. They introduced seven groups of CFF, which are as follows: vendor and consultant, human resources, managerial, project management, processes, organizational and, technical (Amid, Moalagh et al. 2012). There is a large volume of published studies describing the attributes associated with implementation failure and indicated that inappropriately understanding the scope of the project, lack of user training, inadequate testing, poor re-engineering the business processes, insufficient attention to data quality problems, weak human capital, and data migration problems, are the main reasons for failed implementation (Markus, Axline et al. 2000, Ali and Miller 2017).

Different factors have been shown in different studies, and due to the reason that each study was based on a different sample and research setting, there may have placed more emphasis on some CSFs but less on others. It also can be the reason why different studies have reported different categories of CSFs. Also, due to different studies conducted in different countries with different cultures, government regulations, and economic environments, different results have been presented in different studies (Ngai, Law et al. 2008).

Together these studies provide valuable insights into which factors are critical for successful ERP implementation. In this study, after studying these CSFs and CFFs, I find a similarity between the challenges of XYZ and the literature. Table 1 shows the critical failure factors mentioned in the literature which I used for our data analysis. It is worth to note that, in most of the previous researches, the decision for implementing ERP was made internally by the company itself. While what makes our study to be particular is that I investigated a failed ERP implementation in a situation where the strategy for choosing the ERP software was a group decision, and the failure happened after four successful implementation experiences.

Factors	Researches
Misfit (unsuitable for business practices and processes of the organization)	(Iskanius 2009), (Bansal and Agarwal 2015), (Saade and Nijher 2016),(Ngai, Law et al. 2008)
Communication challenges	(Orlikowski 1995), (Bancroft, Seip et al. 1998), (Nah, Zuckweiler et al. 2003), (Shanks, Parr et al. 2000), (Bafna, Kaur et al. 2015)
Lack of top Management Support	(Bradford and Florin 2003), (Ngai, Law et al. 2008), (Amid, Moalagh et al. 2012), (Beheshti, Blaylock et al. 2014), (Abusamhadana, Elias et al. 2018),(Bradley 2008), (Chen, Li et al. 2008), (Lin 2010), (Bafna, Kaur et al. 2015), (Amid, Moalagh et al. 2012)
Change Management	(Al-Mashari and Al-Mudimigh 2003), (Reitsma and Hilletofth 2018), (Shanks, Parr

challenges	et al. 2000), (Ngai, Law et al. 2008), (Amid, Moalagh et al. 2012)
BPR and Customization challenges	(Al-Mashari and Al-Mudimigh 2003), (Reitsma and Hilletofth 2018), (Nah, Zuckweiler et al. 2003), (Hadidi, Assaf et al. 2017), (Biehl 2007), (Chen, Li et al. 2008, Napier, Mathiassen et al. 2009), (Shanks, Parr et al. 2000)
Weak team and Project Management	(Somers and Nelson 2004), (Espinosa, Davison et al. 2006), (Ngai, Law et al. 2008), (Huang, Chang et al. 2004), (Chen Charlie C, Law et al. 2009), (Rothenberger and Srite 2009), (Beheshti, Blaylock et al. 2014), (Shanks, Parr et al. 2000), (Bafna, Kaur et al. 2015), (Amid, Moalagh et al. 2012)
Consultant challenges	(Amid, Moalagh et al. 2012), (Tsai, Chien et al. 2005), (Xue, Liang et al. 2005), (Alsulami, Scheepers et al. 2016), (Ali and Miller 2017)
Poor key User	(Rasmy, Tharwat et al. 2005), (Abusamhadana, Elias et al. 2018), (Reitsma and Hilletofth 2018), (Calisir and Calisir 2004), (Beheshti, Blaylock et al. 2014)
Poor training	(Dowlatshahi 2005), (Botta-Genoulaz and Millet 2006), (Beheshti, Blaylock et al. 2014), (Umble, Haft et al. 2003), (Ehie and Madsen 2005), (Law and Ngai 2007), (Bernroider and Management 2008), (Chen, Li et al. 2008), (Shanks, Parr et al. 2000), (Bafna, Kaur et al. 2015)

Table 1. Critical Failure Factors (CFFs) identified in the literature

3 Research Methodology

3.1 Case Description

Alpha is a holding company that owns 38 companies. Alpha had decided to increase its productivity by implementing ABC as an ERP system for all companies. They decided to choose one ERP software and train eight employees as an internal implementation team to implement it in all companies. In the first company, the internal implementation team was as key users. By working beside external consultants, they learned how ABC was implemented. They had participated in the meetings and courses related to ABC implementation, without any other organizational task. Indeed, Alpha was preparing them for taking the responsibility of implementing ABC in the rest of the companies.

The external consultants were responsible for implementing ABC in the first company, which was a successful experience. The second project was implemented with 50-50 responsibility between external consultants and internal implementation team. They also got a successful result in this project. The next two projects were accomplished with 100% responsibility for the internal implementation team. After that, some problems arose between five out of eight persons in the internal implementation team and Alpha. Finally, they left Alpha and established a consulting company for themselves. Therefore, Alpha started to train new implementation team for implementing ABC in other companies. The new implementation team was selected from the key users of prior projects.

XYZ was the fifth company that wanted to implement ABC. XYZ was a financially solid company with high employee work satisfaction. In parallel with implementing ABC, two other large-scale projects were started in the company. XYZ also had some changes in its structure at that time due to the other projects. When in the Alpha, the decision about the ERP wanted to be made, the top managers of XYZ strongly believed that ABC would not be suitable for XYZ. However, they could not convince the Alpha that they need another kind of software. Because XYZ worked with many companies, they believed their main problems for increasing their level of productivity were not only due to the internal issues, but also there were related to managing collaboration with other companies. In all the previous four projects in the Alpha group, the companies were a product-based company, but XYZ was a project-based company. Table 2 summarizes the information related to the responsibilities of external consultants and internal implementation team, organizational characteristics, and the result of implementing ERP in the companies of Alpha.

Company	The responsibility of external consultants	The responsibility of internal implementation team	Organizational characteristic	Result
1	100%	Key User	Product-Based	Successful
2	50%	50%	Product-Based	Successful

3	-	100%	Product-Based	Successful
4	-	100%	Product-Based	Successful
5 (XYZ)	-	100% (five out of eight members were changed)	Project-Based	Failed

Table 2.   Summary of the case description

3.2 Method

This study started almost one year after beginning ERP implementation in the XYZ. The research method in this paper is an interpretive case study (Walsham 2006) where the researchers do not prove or disprove a hypothesis they try to identify, explore and explain how all factors in a particular social setting are related and interdependent. The case study method is one of the more practical ways of finding ERP implementation problems (Yang, Wu et al. 2007). In the case study, the researcher focuses on one instance of the "thing." This one instance, or case, is studied in depth, and different data generation methods that can be used in this method, and the researcher can investigate the relationship between components in the case study (Blaxter 2010). A case study is a systematic way to gather needed information for having a comprehensive study of a social unit (Zikargae 2018). When the researcher has little control over events and interested in finding answers to "how" and "why" questions, the case study approach can be fit (Hadidi, Assaf et al. 2017).

Data collection activities took about three months intending to explore the consequences of Alpha's group decision regarding ERP selection and implementation strategy with a focus on the failed implementation to discover the reasons for a failure experience after four successful implementations. Since Alpha supported the research, researchers could collect the data efficiently in different ways. Individual interviews, group interviews, observations and, document analysis, were the data gathering methods in this study.

Thirty-three in-depth formal interviews were conducted, lasting from 1 to 2 hours. Four first interviews were the group interview and aimed to introduce the goals of research and gain the overall idea regarding ABC implementation in the XYZ. The key users were the participants of these interviews. An interesting issue was the attendance of one of the top managers in the third group interviews who was the only top manager in XYZ that supported the key users of his department in implementing ABC. After these group interviews, 10 individual interviews with key users, 3 interviews with top managers, 2 interviews with old and new project managers, 8 interviews with new implementation team, 4 skype interviews with the project managers of previous companies, 1 interview with an Alpha's manager who was responsible for this project, and 1 group interview with the implementation team who left Alpha were conducted.

The author was granted a desk in the project management office, and he spent four working days a week at XYZ company. The author could carry out participatory observations and informal discussions during the three months of research in all departments of XYZ that had involved in the ABC project. A significant amount of time spent to understand the key users' actual opinions about ABC's challenges.

The third empirical data source was the documents regarding the ABC project. There was not much relevant information in these documents due to the reason their context was very technical. The only interesting document was the results of evaluating ABC implementation to find the reasons for its challenges.

Data analysis was done based on the explanatory theory where explains how, why and when things happened (Gregor 2006). I also had an informal and formal discussion with the new project manager, Alpha's manager, and motivated key users. Every two weeks I had an informal meeting with the motivated key users and discussed the findings. The new project manager was also very supportive, and almost every day I had a one-hour informal meeting and discussed a lot.

4   Results

4.1   Misfit

The majority of participants agreed with the statement that ABC was not suitable for XYZ. They refer to the top managers' ideas regarding ABC. When Alpha wanted to decide about ABC, the top managers of XYZ believed that this information system is not suitable for their company. However, due to the reason that Alpha wanted to use one software for all companies and employ internal implementation team for implementing ABC, they were not convinced to use another software for XYZ. A common view amongst key users was also that ABC was not suitable for XYZ because they did not see any similar company with themselves that uses ABC.

4.2   Communication Challenges

In parallel with implementing ABC, two other projects had started in XYZ. There were a lot of conversations and signs related to those two projects in the XYZ. For instance, at the main entrance, there was a huge monitor that introduced one of the projects. Also, for the other project, there were a lot of "red signs" in the different places of the XYZ (red was a specific color that the members of that project used in their works and all XYZ's employees knew that the signs refer to that project). However, there was no specific sign or conversation related to implementing ABC. There were only three or four posters that introduced the ABC project.

Talking about this issue, most of the interviewees said that they had not heard about ABC before starting the project, or maybe some of them had heard only one time in a short meeting. One individual stated that *'we often were invited to a meeting without knowing any information about the goals of the meeting.'*

4.3   Lack of Top Management Support

XYZ was a financially solid company, and they were able to allocate enough resources to the project (the same as two other projects), but in this project, the key users believed that managers did not support them, not only in the financial issues but also in decision-making issues.

When asked about top management support, most of the participants were unanimous in the view that top managers did not pay attention to the ABC project. For example, one participant said: *'if you look at the walls of company you can understand what is important for managers'* (refer to advertisement strategies for these three projects in the company) and another commented *'I need my manager to approve the decisions, but he often did not approve quickly or even did not answer me'*. Overall, key users believed that top managers did not spend time on the ABC project.

4.4   Change Management Challenges

Some interviewees argued that they did not need to use a new information system, while others believed that a new information system could help them to improve their productivity. For instance, designing department believed that they did not need ABC. They believed their current software could cover all their needs, and they strongly disagreed with ABC. They told *'if the company decided to use this software, due to the reason that by using this software we had to enter much data, we will need new members in the department.'* While the product department stated that *'we had to enter the designing department's data in our software and when designing department enters their data in the ABC themselves, it can reduce mistake and be more trustworthy.'*

The majority of participants agreed with the statement that it was not the right time for this change because at that time, two other projects had started, and some employees were responsible for more than one project.

Also, some employees had a failed experience in implementing another software in previous years in XYZ. They felt that ABC could be the same as that one because the organization has not done any study for discovering the reasons for the problems of that project and solving them. Therefore, these employees believed that the company was not ready for this change. Indeed, they believed managers decided to implement ABC only because the other companies of the group had implemented it, and implementing ABC was not a choice; it was a command from Alpha, and we had to implement it.

4.5   BPR and Customization Challenges

There were different information systems in each department of XYZ, and users worked with them. All of them were easy to use, and they did not need to enter much data in that information system. Indeed, due to the reason that they had used stand-alone systems, each department was able to fulfill their needs with the minimum level of data entry.

By implementing ABC, which had an integrity nature, some changes were inevitable. However, during these changes, some users believed entering such amount of data is useless. Indeed, they did not know what the usage of this data is. Although they knew that there were some problems in their process, sometimes they did not want to change their processes. Indeed, there were two different views related to change the processes. Someone believed that ABC had to change its processes to be the same as XYZ, while others believed they had to change their processes if they want to use ABC's best practices. There was not an acceptable reference for deciding in these cases.

4.6   Weak Team and Project Management

The project manager was changed during the project. The first project manager was one of the top managers, and he was very busy. The reason for choosing him for the project was his organizational influence and his power in the decision-making situation.

There were no clear instructions for choosing the key users. For example: whereas the sales department had three different sections with different tasks, all sale's key users were from one of these sections, and they did not have enough information about the other sections. In the same way, key users from another department were chosen from newly hired employees, and they did not know the processes that they were responsible for them. Besides, another example: key users were concern whether, after implementation, they would be at this department or not; because they had experience of changing some employee's position due to their role in other projects. The new project manager believed that, at the beginning of the project, it was not enough consideration to choose the key users, and, in several departments, managers assigned a weak employee as a key user.

Project management had different challenges, as well. For example, sometimes key users and implementation team had disagreements, and there was nobody that could decide in these situations; in other words, there was a lot of open issues that had to be solved. Additionally, they did not have any regular schedule for their meetings, and most of them were started with delays.

4.7   Consultant Challenges

The primary internal implementation team in Alpha implemented ABC in four companies with successful results. They were very famous in the Alpha group because they went to the best courses regarding implementing ABC, and they had experiences of working directly with external consultants in two projects. Before this project, five principal members of the primary internal implementation team, due to some conflicts, left Alpha and established their consulting company. Alpha replaced five new members instead of them. These new members were the best key users from previous projects. They were very young, and some of them did not have enough experience for these kinds of projects. This project was

different from the last four projects. XYZ was a project-based company, but the others were the product-based company. Finally, XYZ started to implement ABC with this new internal implementation team.

During the implementing ABC, key users requested to see how the processes can work in ABC, but some members of the new implementation team told them it was not the right time to show the functionality of processes. The implementation team believed they first had to get all the information from the key user to know the processes and then simulated them. They believed that they could not simulate processes correctly, without in-depth understanding, and it may cause key users to judge them or ABC as inappropriate. Indeed, the young members of the implementation team had this problem. They were anxious about not to make a mistake.

Some key users complained that the meetings were long and tedious. They believed that external consultants could implement ABC very fast without having any meeting with them. They thought that due to the consultants' weakness, they had to participate in the meetings. There was a strong belief in the company that the software could not be relevant for XYZ processes, and even though it could be relevant for them, these consultants did not have enough experience for this project. They believed if the primary internal implementation team wanted to implement ABC, they could manage all the problems.

4.8   Poor Key User

After more than one year, some key users could not still explain clearly what the primary application of ABC is. Some of them did not pay attention to the meetings. The majority of participants agreed with the statement that when the implementation team could not understand our processes, there was no point for us to participate in the meetings. Because there was not any mechanism for encouragement and punishment, some key users did not participate seriously. Also, some of the key users were a manager of their section. They were very busy, and they only paid attention to their professional tasks. Indeed, they did not care about the integration and relation between the departments.

4.9   Poor Training

Key users did not have enough free time to participate in the meeting. Some consultants also could not interestingly present the training material, and the project became tedious for key users. On the other hand, the work processes were new for the implementation team, and they needed to train themselves first and then train key users. Most of the time, key users asked a question from the implementation team, and they could not respond to the key users.

5   Discussion

In this paper, I studied a failed ERP implementation. What was surprising was that some employees, after more than one-year of weak ERP implementation had been participating in the project. When they were asked about their motivation, they referred to their intrinsic motivations. They believed because they worked in a successful company and company provides many facilities for them, now they must show their loyalty to the company and try for the success of ERP implementation. In 2010, Chang et al. published a paper in which they described user motivation encourages users to obtain the organizational goal with dedicating considerable efforts. It is a psychological state that comes from the desire of users and helps them to achieve their individual needs (Chang, Sheu et al. 2010). In fact, in this project, these users were who took the project forward. Otherwise, these results show that it was not so long after starting the project that ABC failed, but it continued more than one year because of the motivation of these users. This case had several challenges that I discuss the reasons for each of them in the following:

5.1 Misfit

In their review of CSF in ERP implementation, Saade and Nijher (2016) reviewed the literature from the different case studies and found considerable evidence for the importance of selecting an ERP software which must be suited with business practices and processes of an organization. There is a large number of published studies (Iskanius 2009, Bansal and Agarwal 2015, Saade and Nijher 2016) that describe this issue. The organizations by selecting a fit software can minimize the efforts, risks, and time in ERP projects (Ngai, Law et al. 2008). On contrary, by selecting the wrong software, organizations need a high level of customizing the software or changing the processes, which in the Iskanius (2009) research it was found to cause enhancing the risk of projects (Iskanius 2009). In this study, XYZ's top managers believed that this software was not fit with their needs. They tried to change the decision related to the use of one software for all companies of the Alpha group, but because Alpha emphasized the implementing cost a lot, they could not convince Alpha. A common view amongst interviewees was that ABC is suitable for product-based companies, but XYZ is a project-based company, and this package could not adapt to the XYZ's processes.

5.2 Communication Challenges

As mentioned in the result section, two other projects had started in parallel with implementing ABC in the XYZ company. It was apparent that compare to two other projects; the ABC project was in the silent state. All XYZ's employees knew about the status of two other projects, but even some key users of ABC project did not know about the condition of the ABC project in the other departments. It seemed that there was not any motivation to speak about the ABC project between the employees while in a study conducted by Orlikowski (1995), it was shown that having communication is very important for understanding the goal of the project (Orlikowski 1995). Up to now, several studies have confirmed the effectiveness of having clear and effective communication on ERP implementation, and it also has been emphasized to having communication at all levels of an organization (Bancroft, Seip et al. 1998, Nah, Zuckweiler et al. 2003). It seemed that the silent state was due to the lack of top managers' support of the ABC project. The lack of communication about ABC has caused employees to feel that ABC is not essential for the XYZ.

5.3 Lack of Top Management Support

As mentioned in the literature review, top management support is one of the most important CSF in ERP implementation (Bradford and Florin 2003, Ngai, Law et al. 2008, Amid, Moalagh et al. 2012, Beheshti, Blaylock et al. 2014, Abusamhadana, Elias et al. 2018, Reitsma and Hilletofth 2018). In a study conducted by Abusamhadana, Elias et al. (2018), it was shown that while supporting top managers can motivate users to use the system to accomplish their work task or participate in develop and implement the software, the lack of that, increase the risk of the project (Abusamhadana, Elias et al. 2018). Before the beginning of the ABC project, top managers of XYZ tried to change the decision regarding implementing ABC in their company. However, they could not change this decision. There was only one top manager that supported ABC and choose talent key users for his department. He supported them in many ways; therefore, there were not many unsolvable challenges in this department. On contrary, in other departments, key users complained about lack of top manager's support, and there were a lot of open issues that needed to be considered.

5.4 Change Management Challenges

In a study conducted by Ziemba and Oblak (2015), it was shown that change management strategies could impact the users' acceptance of change in the projects (Ziemba and Oblak 2015). Thus far, several studies have reported the importance of having change management strategy in the ERP project because change management reduces the resistance of users for changing the processes (Ngai, Law et al. 2008,

Amid, Moalagh et al. 2012). In this case, there were different concerns between employees regarding ABC; most of them believed that it was not the right time for implementing ABC, some employees predicted the failure of ABC based on their experience in the previous project in XYZ where they did not succeed. They said it was necessary to investigate the reasons for that failure and then start a new project. In some departments, there was intensive resistance to change the processes, and they believed ABC must be changed to fit with their processes. All the problems came from the lack of employee's knowledge about the goal of the project, ABC's abilities, and the importance of integration. It is worth noting that all these problems could be solved with training and education (Ngai, Law et al. 2008).

5.5 BPR and Customization Challenges

However, almost all key users knew that a high level of customization is dangerous for system performance, and it could damage the integrity nature of ABC, in some departments, there was an intensive resistance to change their processes. It seems possible that these results are due to the key users in these departments had a failed experience related to implementing another information system in the previous years and they could not trust ABC, too. This situation was also mentioned by Al-Mashari and Al- Mudimigh (2003) where because of a failed experience, users could not trust a new project, and they resisted to change (Al-Mashari and Al-Mudimigh 2003). Reitsma and Hilletofth (2018) said that if users understood the negative consequences of the high level of customization, they avoided the resistance of changing their processes (Reitsma and Hilletofth 2018). In this case, it was evident that the main reason for user's resistance to changing their processes was because they believed ABC would not work in XYZ, and it is not reasonable to change their processes for a failed system.

5.6 Weak Team and Project Management

The role of the project manager is vital to the success of ERP implementation. When we talk about project management, we must consider his duties as well. A project manager must create a team. This team is a balanced combination of members with both technical and business competence. The project manager must plan and track the performance of the project and judge in the different situations (Somers and Nelson 2004, Espinosa, Davison et al. 2006, Ngai, Law et al. 2008). As mentioned in the results, one of the significant challenges in implementing ABC was changing the project manager during the implementation phase. At the beginning of the project, one of the top managers was the project manager. He was chosen because of his organizational influence, and it is expected that he could manage the problem and conflict efficiently. However, he was very busy, and he could not manage the project well. He did not have an explicit instruction for selecting key users. Therefore, unqualified key users were selected in different departments. In several departments, key users changed during the project because they were responsible for other projects. There were many different situations that the project manager did not have enough time to decide. The new project manager wanted to change the situation and tried to solve problems; however, one of his critical challenges was that there were many informal agreements between key users, and the previous project manager and the key users also expected the new manager to accept those agreements.

5.7 Consultant Challenges

In the implementing ERP, we need extensive knowledge related to business process and ERP functionality. The organizations need external consultants to overcome ERP implementation difficulties. The consultant is a professional who comes to the company for sharing knowledge with users. The consultant must have relevant experience and allocate time for users to help them during the implementation phase (Tsai, Chien et al. 2005, Xue, Liang et al. 2005, Alsulami, Scheepers et al. 2016, Ali and Miller 2017). There were different challenges regarding consultants in the ABC project. These challenges included consultant ability (for the new members of the implementation team), users' perception and, consultant experience (for all members of the implementation team). The new members

of the implementation team were not able to present the ABC's functionality very well. They were always worried about negative judgment. These concerns decreased their self-confidence, so they responded to the users' questions late. The reputation of the primary implementation team also affected the new implementation team's performance. While the new implementation team tried to show that they could solve the problems, the key users thought if the primary implementation team were in the project, they could manage all the difficulties. However, this project was new for all groups.

5.8   Poor Key User

The key user challenge in the ABC project had different dimensions. Although Rasmy, Tharwat et al. (2005), introduced key users as organization soldiers who are contacted directly with ERP systems (Rasmy, Tharwat et al. 2005), not enough attention was given to select them in XYZ. In reviewing the literature user involvement had been known as one of the main CSF in ERP (Abusamhadana, Elias et al. 2018, Reitsma and Hilletofth 2018) but we saw key users did not have enough time to participate in the meeting or some of them did not pay attention to integrity nature of ABC. Most key users were dissatisfied because they saw their manager did not care about ABC. There was not any encouragement strategy for the key users, so they were not interested in spending much time on ABC meetings. However, much of the current literature on ERP implementation pays particular attention to the importance of user satisfaction to the success of ERP implementation (Calisir and Calisir 2004, Beheshti, Blaylock et al. 2014).

5.9   Poor Training

Dowlatshahi (2005) mentioned that training is the most important CSF in implementing information systems, and the success of the system only can be obtained with having sufficient training for users (Dowlatshahi 2005). Beheshti et al. (2014) believe that training must be realized as a continues process with managers (Beheshti, Blaylock et al. 2014). Botta-Genoulaz and Millet (2006), pointed out that providing customized training material with sufficient tools is an organization's responsibility (Botta-Genoulaz and Millet 2006). In the ABC project, key users complained about training quality. They stated that "*we cannot understand what the main application of ABC is yet. We do not know how ABC can help us to do our works*". Most of the time, the implementation team could not respond to their questions.

On the other hand, key users did not have free time for the meetings, and when they were in the meeting, they were worried about their work duties. Participating in the ABC meetings did not consider as key users' work duties. Most of the key users believed that the meetings were always dull.

6   Conclusion

This study set out to investigate a group decision related to implementing one ERP software (ABC) for all companies of Alpha holding, and the focus was on the failed implementation of them. Alpha could reduce the implementation cost significantly in its successful previous projects because it used its internal implementation team as a consultant for implementing ERP in the companies. This implementation team was familiar with the Alpha's organizational culture that was an essential point for facilitating the implementation process.

Before starting to implement ERP in the XYZ, Alpha had a challenge with its primary implementation team and had to change some members of the implementation team. Implementing ABC started in the condition that top managers of XYZ believed that ABC was not suitable for them, and the new implementation team did not have enough experience. Nevertheless, top managers tried to blame the implementation team for this failure. For instance, they created a questionnaire with 20 questions, which was structured as follows: 18 questions indirectly about the implementation team's weakness, one

question about top management support, and one question related to the software. By doing this, they wanted to show to Alpha that the implementation team was responsible for this failure.

The results of this investigation show that the lack of top management support was the most critical failure factor in this case. When the top managers could not change the decision regarding implementing ABC for their company, they no longer paid attention to the project. For this reason, all other problems arose. Selecting weak implementation team, poor project management, poor key users, communication and BPR challenges, lack of user encouragement strategy, etc. were only due to the reason that top managers felt ABC was not suitable for them and implementing ABC is a wrong decision that they had to do. Bradford and Florin (2003) also indicated that irrationally adopt an ERP system cause an adverse effect on ERP implementation success (Bradford and Florin 2003).

ERP implementation can be a part of the digital organizational transformation, and it was right that Alpha was a holding company, and most companies of the Alpha group had a similar condition, but it is essential that, when the organizations want to decide about their IT strategy, they must consider their characteristics. Therefore, I strongly recommend that every organization needs to have a specific IT strategy, even if they are members of a central holding. I believe understanding the level of IT maturity and having IT strategy is very important when organizations decide to conduct digital transformation project.

The empirical contribution of this paper is helping Alpha to discover the reasons for this failure and increase the chance of successful implementation in the rest of the companies. This paper also addressed a failed ERP implementation, which was a part of holding company's IT strategy. In this kind of business model, due to the several company cooperation, there is an opportunity for reducing the ERP implementation cost. The essential finding of this study is that, when the organizations want to employ holding's IT strategy, they must consider their companies-specific IT strategy as well. By considering these two strategies, holding companies can reduce their digital transformation costs.

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