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Realizing Factors of Success Factors Implementation of Erp From Organizational Perspective

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ABSTRACT: Some previous research assessed that a key to the success of ERP implementation is derived from the success of the organization. Therefore the purpose of this study is to analyze and re-evaluate the factors that affect the successful implementation of ERP. The data used are primary data with spreading questionnaires with Likert scale used for data collection and analyzed using multiple linear regression which previously conducted reliability test and classical assumption test. The 60 respondents obtained were from service companies, manufacturing and banking in Indonesian firm. From the results of regression analysis, partially organizational culture, organizational leadership and organizational environment have a significant and positive relationship to the success of ERP implementation. While top management support has no significant relationship to the success of ERP implementation. simultaneously tie regression analysis results show that all variables discussed are organizational culture, top management support, organizational leadership, organizational environment have a significant effect on the success of ERP implementation.

KEYWORDS : *ERP Implementation, Organizational culture, Organizational Leadership, Top Management, Organizational Enviroment.*

I. INTRODUCTION

Over the past few years, companies around the world have started implementing Enterprise Resource Planning (ERP) systems, as Enterprise Resource Planning (ERP) is now a major factor in driving business activities across companies. Enterprise Resource Planning (ERP) System is a software that can connect and integrate information between different divisions within a company. The existence of Enterprise Resource Planning (ERP) systems from various divisions can use information that is well integrated and can be used for decision making within the company. The existence of Enterprise Resource Planning (ERP) system can facilitate in making decisions in a timely, consistent, and reliable from various divisions of the company. Yang and Su (2009) say that Enterprise Resource Planning (ERP) is a suite of application modules that can connect back-office operations to front-office operations, as well as internal and external supply chains.

The use of Enterprise Resource Planning (ERP) system is very useful for every division within a company. Brazel and Dang (2008) say that by adopting an Enterprise Resource Planning (ERP) system within a company or organization can create a positive market response and can improve operational performance (Hunton et al., 2003). The most important contribution of the Enterprise Resource Planning (ERP) system shows that the Enterprise Resource Planning (ERP) system significantly reduces the time to complete all business processes and helps a company or organization get a variety of company information. Enterprise Resource Planning (ERP) systems can also help companies or organizations to meet the needs of changing customers, as the system is able to reconstruct new structures and respond to customer needs quickly. Enterprise Resource Planning (ERP) consists of various divisions, such as human resources, sales, finance, and production that can be adjusted to some extent for specific needs within a company or organization. Enterprise Resource Planning (ERP) system implementation consists of five different stages: design, implementation, continuous improvement, and transformation (Ross and Vitale, 2000).

On the other hand, in implementing Enterprise Resource Planning (ERP) system found various kinds of failures. Many failures even within a large company have the resources needed to implement and implement a good Enterprise Resource Planning (ERP) system (Bingietal., 1999; Hayesetal., 2001; Mandal and Gunasekaran, 2003). Failure in Enterprise Resource Planning (ERP) systems is due to inadequate user training, lack of user commitment, no change in management activities (Klein and Sorra, 1996; Kemp and Low, 2008). This is also supported by research conducted by Bhatti (2005) who says that failure to implement Enterprise Resource Planning (ERP) systems is a lack of top management support, employee resistance, poor ERP system and vendor selection, and poor end result.

Judging from the failure rate in implementing the Enterprise Resource Planning (ERP) system is very high and can damage the process of business enterprise, there is good reason to investigate the factors that can affect the successful implementation of Enterprise Resource Planning (ERP) system in a company or organization (Somers and Nelson, 2001; Singh and Wesson, 2009). Specifically, the research objectives of this study are: to identify factors affecting ERP implementation in service companies in Surabaya and the relationship between the factors affecting ERP implementation and the successful implementation of ERP in service companies in Surabaya.

II.   MODEL AND HYPOTHESIS

2.1   *Organizational culture and ERP Implementation*

Some research has examined the organizational culture for ERP implementation which shows that there is a match between ERP and organizational culture. Thus, organizational culture plays an important role in implementing ERP. In the life cycle stage of the ERP project, organizational culture must be managed for the effective use of ERP system implementation. A culture that is judged by shared values and common goals for bias towards success within the company. An open mind to change (Robey et al., 2002) and a strong commitment to using systems to achieve business goals (McCredie and Updegrove, 1999) will assist in the successful implementation of ERP.

Organizational culture includes the collective experience, values, beliefs, and behavior of the norm. It promotes learning and organizational innovation, which will affect the success or failure of ERP. Organizational culture is useful for understanding the successful implementation of ERP as stated by Nah et al. (2007) and Johnson et al. (2005). Thavapragasam (2003) discusses the notion of cultural influence on user satisfaction with ERP. He argues that how the cultural dimensions developed by Hofstede (2001) can be used to understand the different cultural settings that may exist among ERP system users. Thus, the above discussion leads to the following hypothesis:

H1: Organizational culture has a significant effect on ERP Implementation

2.2   *Top Management Support and ERP Implementation*

Top management support, has been emphasized, as an important factor in successful ERP implementation by many people (Al-Mashari et al., 2003; Umble et al., 2003; Zhang et al., 2005). Ngai et al. (2008), claiming that top management support, plays an important role in the successful implementation of ERP because ERP is usually large-scale and requires extensive resources. Al-Mashari et al. (2003) suggests that top management support should not cease during initiation and facilitation, but should continue throughout the ERP implementation process. According to Zhang et al. (2005), top management support has two major aspects in the ERP implementation project: providing the necessary resources and providing leadership. Top management responsibilities in ERP implementation include communicating corporate strategy to all members of the organization, developing an understanding of limitations and capabilities, demonstrating commitment, and establishing rational objectives for ERP implementation (Umble et al., 2003).

H2: Top management support has significant relation to ERP Implementation.

2.3   *Organizational Leadership and ERP Implementation*

The theory of strategic choice assumes that users can actively shape their environment and can play a role in organizational success and failure (Ketchen Jr and Hult, 2007). The IT department, with the right ability and understanding, has the ability to influence the success or failure of the system in use. However, in order for this to happen the organization must make strategic choices with concern for the company as a prime mover (Ketchen Jr and Hult, 2007). In addition, organizational leadership must have sufficient knowledge of the needs of ERP users when it comes to implementing an ERP system. This is particularly true when organizations are restructured during business process reengineering (BPR), which requires management to focus on strategic decisions that are in line with the central principles of the organization as a whole. If management takes into account user needs and makes adequate strategic decisions during BPRs, the likelihood of ERP implementation will be successful. This relationship will be further analyzed in the next section.

H3: Organizational leadership is significantly related to ERP Implementation.

2.4   *Organizational Enviroment and ERP Implementation*

Several previous studies have used the organization as one of the key success factors in the implementation of ERP in the company. Based on the description and evaluation of the five existing MIS research frameworks, Ives et al. (1980) proposed a more comprehensive research model partially validated by mapping 331 MIS Ph.D. dissertation into the framework. There are three IS environments, three IS processes, and an information subsystem itself, all of which exist within an organization's environment and external environment. In their model, Ives et al. states that environmental characteristics determine resources and constraints, which determine the scope and shape of each information subsystem (Ives et al., 1980).

H4: The organizational environment is significantly related to ERP Implementation.

In Figure 1 shows the framework showing the relationship of organizational culture, top management support, organizational leadership, organizational environment with successful implementation of ERP.
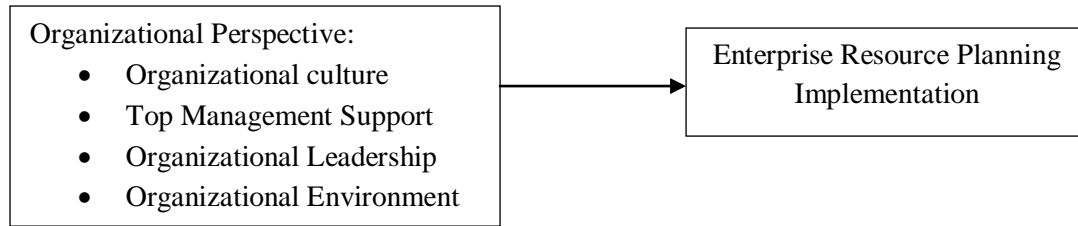
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┌─────────────────────────────────────┐              ┌────────────────────────────┐
│ Organizational Perspective:         │              │ Enterprise Resource Planning│
│   • Organizational culture          │─────────────▶│      Implementation        │
│   • Top Management Support           │              │                            │
│   • Organizational Leadership        │              │                            │
│   • Organizational Environment       │              │                            │
└─────────────────────────────────────┘              └────────────────────────────┘
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Figure -1 Proposed Research Hypothesis

III.   RESEARCH METHODOLOGY

Questionnaires were used to collect empirical data for this study. Items used in construction operations are adapted from relevant previous studies (Zhang et al., 2005; Chen, 2008). The questionnaire consists of two parts. In part 1, respondents were asked to fill out their demographic profiles such as age, sex, education level, length of work, and frequency of ERP use.

Section 2 requires respondents to show their perceptions on the factors that affect the successful implementation of ERP in their companies. All items in part 2 are measured using a five-point Likert-type scale with anchors ranging from "strongly disagree" to "strongly agree". The questionnaire was translated from English into Persian using back-to-back techniques to ensure the same meaning as the original. The population for this study is the employee of the company where the company they work with ERP in working activity in Indonesian firm. This study uses multiple regression analysis test using SPSS 25 software.

IV.   RESULT

4.1 Demographic profile of respondents

Table I depicts the respondents' demographic profile. It can be seen that there are more men than women that is equal to 58.3%. The highest percentage for education is to have a 73.3% graduate degree. In terms of work experience, it is found that 73.3% have worked for more than 1 year in their company. For the field of work 66.7% of respondents are working in the field of services. These statistics imply that respondents are very experienced and resourceful with their organization's ERP, therefore, they are the best informants to participate in the survey.

Table 1
Demographic respondents

Categories	Frequency	Percent	Cumulative (%)
Gender			
Male	35	58,3	58,3
Female	25	41,7	100
Education			
Secondary Education	2	3,3	100
Diploma	8	13,3	13,3
Undergraduate	44	73,3	96,7
Postgraduate	6	10	23,3
Employment with this company			
less than 1 years	16	26,7	26,7
more than 1 years	44	73,3	100
Field of work			
Services	40	66,7	66,7
Other	9	15	81,7
Banking	4	6,7	88,3
Manufacturing	7	11,7	100

Source: data processed, 2019

4.2 Reliability Analysis and Validity Analysis

Based on Table 2, the results of reliability analysis for all indicators of measurement variables are shown from the value of Cronbach's Alpha Organizational Culture of 0.808, for Top Management Support 0.812, for Organizational Leadership 0.741, Organizational Environment 0.662 and for Implementation of ERP of 0.852. It can be said that all the variable measurement indicators have passed the reliability test because the value of cronbach's alpha is more than 0.6. So, it can be concluded bawha constructs on each indicator variable can be said to be valid and reliable because it has a value of Cronbach's Alpha above the minimum value of 0.6.

Table2
Realibility Test

Variabel Contrusct	N of item	Cronbach's Alpha
Organizational culture	2	.808
Top Management Support	2	.812
Organizational Leadership	3	.741
Organizational Environment	3	.904
ERP Implementation	5	.852

Source: data processed, 2019 (Using SPSS 25)

4.3 T test

T test is known as partial test, that is to test how the partial influence of independent variable individually to its dependent variable. T test results are shown in table 3.

Tabel 3.
T Test Result

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.926	.379		2.442	.018
	Organizational culture	.176	.060	.383	2.927	.005
	Top management support	.044	.112	.050	.395	.694
	Organizational leadership	.558	.138	.554	4.037	.000
	Organizational environment	-.063	.045	-.177	-1.394	.169

Source: data processed, 2019 (Using SPSS 25)

Based on the results of multiple regression shown in table 3 on the independent variable to the dependent variable with significance at level 5%. Here is the regression equation that is formed:

$$Y = 0{,}026 + 0{,}176\ X1 + 0{,}044\ X2 + 0{,}558\ X3 - 0.63$$

The result of t test analysis for organizational culture variable shows a significance number of 0.005 below probability α = 5% meaning organizational culture has a significant effect on the success of ERP implementation. Hence hypothesis 1 is acceptable which indicates that there is a significant positive relationship between organizational culture towards the success of ERP implementation in company. The coefficient value of 0.176 shows that each 100% increase in organizational culture will increase the success of ERP implementation by 17.6%. These results are in line and support previous research that has been done (Shao, 2013; Mwika and Kunda, 2014), Based on empirical observations within the company, the establishment of corporate culture greatly affects the success of ERP. Implementation of a new ERP module can be run after a pre-made procedure and work instructions and done manually. So, at the time of ERP implementation, the behavior and work steps of ERP users did not undergo drastic changes.

A culture that is judged by shared values and common goals for bias towards success within the company. An open mind to change (Robey et al., 2002) and a strong commitment to using systems to achieve business goals (McCredie and Updegrove, 1999) will assist in the successful implementation of ERP.

For the top management support variable shows the number of significance 0.694 above the probability value $\alpha = 5\%$ which means that top management support has no significant effect on the success of ERP implementation hence hypothesis 2 is unacceptable indicating that there is a significant relationship between top management support with ERP success. This result shows that peak management support in ERP implementation is considered by some users as opposed to should happen. Possibly because of this change makes them (users) depressed which in the end did not achieve success in the implementation of this ERP.

For organizational leadership shows a significance of 0.000 under the probability $\alpha = 5\%$ means that organizational leadership has a significant effect on the success of ERP implementation. Hence the acceptable hypothesis 3 which shows that there is a significant positive relationship between organizational leadership towards the successful implementation of ERP in the company. Coefficient value of 0,558 indicates that every increase of organizational culture equal to 100% will increase success of ERP implementation equal to 55,8%. This result is in line with the research that has been done (Ketchen Jr. and Hult, 2007: Zhang et., Al, 2005). Organizational leadership becomes one of the keys to successful ERP implementation. because the ERP implementation requires users to change the old habits and behavior of the manual system to be integrated, so a lot of rejection will use it. In some departments that have good organizational leadership, ERP implementation can be faster. Leaders can provide motivation and direction, so that employees are more motivated to complete the ERP implementation

For the organizational environment shows the number of significance 0.169 above the probability value $\alpha = 5\%$ which means that the organizational environment does not have a significant effect on the success of ERP implementation hence hypothesis 4 unacceptable indicating that there is a significant relationship between the organizational environment with the success of ERP. This possibility can happen because even though the organization's environment is good enough to encourage employees to implement ERP but if it does not get support like training or something it is useless. It takes another factor for a good organizational environment to be able to implement the ERP.

4.4 F test

Test F is known by the simultaneous test or ANOVA test, that is to see how the influence of all independent variables together with the dependent variable. The result of F test for this regression is shown in table 4

Tabel 4.
Anova F Test Result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.328	4	6.082	21.871	.000[b]
	Residual	15.295	55	.278		
	Total	39.623	59			

Source: data processed, 2019 (Using SPSS 25)

In table 4 it can be seen that from F test result, F calculated is 21,874 with significance value 0,000. Since probability (0,000) is much smaller than $\alpha = 5\%$ (0.05), it can be said that hypothesis 6 is accepted. This shows that organizational culture, top management support, organizational leadership, organization environment together has a significant effect on the success of ERP implementation.

V.   CONCLUSION

Based on the formulation of the problem and the analysis described earlier, can produce some conclusions and suggestions as follows:
1. Organizational culture has an influence on the successful implementation of ERP This results support the research that has been done
2. Top management support has no effect on the success of ERP implementation

3. Organizational leadership has an effect on the success of ERP implementation
4. The organizational environment has no effect on the success of ERP implementation

Only the organizational culture has an impact on the success of ERP implementation in the case studies of companies in Indonesia. that makes it clear the presumption that this culture provides and increases the likelihood of achieving the desired results. Companies that implement ERP have companies must be aware of cultural differences to conduct additional training to fill the gap between embedded in ERP systems. the possibility of ERP implementation increases when system users must be willing to learn how organizations have cultural attributes. In this study there are various limitations. It is expected that further research can add variables or also explore the influence of culture that occurs in the success of ERP implementation. because each region has a different culture which can be an opportunity for further research. the sample in this study is very limited, it is expected that further research can add to make it clearer to explain the success factors of ERP implementation.

REFERENCES

[1] Bingi, P., Sharma, M. and Godla, J. (1999), "Critical issues affecting an ERP implementation", Information Systems Management, Vol. 16 No. 3, pp. 7-14.

[2] Davenport, T. (1998), "Putting the enterprise into the enterprise system", Harvard Business Review, Vol. 76 No. 4, pp. 121-31.

[3] Davenport, T. (2000), Mission Critical, Harvard Business School Press, Boston, MA.

[4] DeLone, W.H. and McLean, E.R. (1992), "Information systems success: the quest for the dependable variable", Information Systems Research, Vol. 3 No. 1, pp. 60-95.

[5] Ein-Dor, P. and Segev, E. (1978), "Organizational context and the success of management information systems", Management Science, Vol. 24 No. 10, pp. 1064-77

[6] Hofstede, G. (2001), Culture's Consequences, 2nd ed., Sage, Thousand Oaks, CA.

[7] Igbaria, M. (1990), "End-user computing effectiveness: a structural equation model", Omega: International Journal of Management Science, Vol. 18 No. 6, pp. 637-52.

[8] Ives, B., Hamilton, S., Davis, G.B., 1980. A framework for research in computer-based management information systems. Management Science 26, 910–934.

[9] Johnson, T.P., Kulesa, P., Cho, Y.I. and Shavitt, S. (2005), "The relation between culture and response styles: evidence from 19 countries", Journal of Cross-Cultural Psychology, Vol. 36 No. 2, pp. 264-277.

[10] Krumbholz, M. and Maiden, N. (2001), "The implementation of enterprise resource planning packages in different organizational and national cultures", Information Systems, Vol. 26 No. 3, pp. 185-204.

[11] Liang, H., Saraf, N., Hu, Q. and Xue, Y. (2007), "Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management", MIS Quarterly, Vol. 31 No. 1, pp. 59-87.

[12] McCredie, J. and Updegrove, D. (1999), "Enterprise system implementation: lessons from the trenches", Cause/Effect, Vol. 22 No. 4, pp. 9-16.

[13] Mwika, D., Chembe, C. & Kunda, D., 2014, "Comparative Study of Cultural Differences of Success Factors Of Erp Implementation In Developed And Emerging Economies: Case Study Of Norway And Zambia". International Journal of Computer Engineering & Technology (IJCET). Volume 5, Issue 8.

[14] Nah, F.F.-H., Islam, Z. and Tan, M. (2007), "Empirical assessment of factors influencing success of enterprise resource planning implementations", Journal of Database Management, Vol. 18 No. 4, pp. 26-50.

[15] Nandhakumar, J., Rossi, M. and Talvinen, J. (2005), "The dynamics of contextual forces of ERP implementation", Journal of Strategic Information Systems, Vol. 14 No. 2, pp. 221-42.

[16] Robey, D., Ross, J.W. and Boudreau, M.-C. (2002), "Learning to implement enterprise systems: an exploratory study of dialectics of change", Journal of Management Information Systems, Vol. 19 No. 1, pp. 17-46.

[17] Shao, Zhen, Yuqiang Feng dan Qing Hu, 2013, The impact mechanism of transformational leadership style on exploitative and exploratory learning of ERP systems.

[18] Somers, T.M. and Nelson, K.G. (2004), "A taxonomy of players and activities across the ERP project life cycle", Information & Management, Vol. 41 No. 3, pp. 257-78.