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Financial Constraints Help the ERP System Success Improving the SMEs' Performance: An Empirical Study

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Abstract:

Purpose: *The study investigates if financial constraints help the ERP System success, and improve SMEs' financial performance.*
Design/Methodology/Approach: *There are 100 eligible data to be analyzed by using SPSS and the Smart-PLS.*
Findings: *The results indicate that financial constraints have a significant impact on the success of the ERP System and the Indonesian SMEs' performance. Furthermore, the ERP System helps to mediate between the financial constraints and the performance and the financial constraints are more crucial to improve the performance rather than the ERP system.*
Practical Implications: *The financial constraints should be seen as an important instrument to improve the performance of both short and long-run periods of time. Then, it seems that in the future, the ERP will play an important role to improve the performance. Therefore, it needsl to prepare the implementation of the ERP system in a professionally way.*
Originality/Value: *The study views the ERP system as an intervening variable, and as a new approach to mediate the financial constraints and the performance.*

Keywords: *Financial constraints, ERP system success, SMEs performance, Indonesia*.

JEL codes: *G2, M15, M21*.

Paper type : *Research article.*

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1. Introduction

Small Medium Enterprises (SMEs) are the backbone of the economy and are today faced with global competition (Dixit and Prakash, 2011). SMEs have been recognized as an important part of the national economy, especially in the developing countries Sumiati *et al.* (2019). In Indonesia, SMEs are a business unit productive and independent, carried out by individuals or enterprises in all economic sectors (Tambunan, 2012). The Indonesian Central Bureau of Statistics (BPS, 2018) mentioned that SMEs are an essential part of economic growth and their contribution to job creation and economic growth. There are at least three indicators that show that the existence of SMEs has such an important position, namely a large number of industries, absorb a huge number of employees, and a huge contribution to GDP. The main problem which is fundamental to the SMEs is financial constraints in IT, investment and capital (Lubis & Juanidi, 2016), and low to utilize IT to implement an ERP system (Falgenti & Pahlevi, 2013; Valencik and Cervenka, 2016; Mares Dlaskova, 2016).

SMEs performance in the SME sector is currently still showing many deficiencies and limitations. Suliyanto (2009) stated that SMEs are more suitable to use for the approach of sales growth and profitability in organization's performance measurement. Generally, small enterprises are less open to using financial statements. They are so difficult to interpret, especially their finance-related business. Thus, the Indonesian SMEs business performance is indicated by performance aspects, such as sales growth and profitability (Suliyanto, 2009; Ariawan *et al.*, 2017; Kambey *et al.*, 2018).

Enterprise Resource Planning System (ERP-System) is a business information system that is still not widely implemented to SMEs compared to large businesses. The limited mastery of Information Technology (IT) in SMEs has an impact on performance and business productivity (Falgenti & Pahlevi, 2013; Wibowo, 2016; Barus, 2017). According to the SME survey (BPS, 2018), and from these several studies stated that the use of Information Technology such as ERP systems among SMEs was still low. The survey results also state that only 4 percent of SMEs have used IT, and only 20 percent of these SMEs have implemented ERP systems.

Therefore, implementation requires higher investment and there are failures associated with it. The ERP system is one of the most powerful IT tools for business sectors. Wibowo (2016) mentioned that the ERP system is implemented by the required modules so that ERP systems can be classified according to their needs (Hamilton, 2003; Wibowo, 2016). Based on this, it will be easier for Indonesian SMEs to adopt ERP systems. The problems of successful ERP systems are needed to encourage the improvement of the performance of Indonesian SMEs. A few years ago, many business organizations attempted to implement the ERP system (Dantes & Hasibuan, 2011; Venkatraman & Fahd, 2016). This study is motivated partly by

the lack of utilization of information technology to implement the ERP system. Current research in information systems (IS) is dealing with the success of ERP systems beyond the implementation phases (Gable *et al.,* 2003; Ifinedo, 2007).

Furthermore, successful firms may display high investment-cash flow sensitivity because they are systematically relying on internal sources of financing (Maditinos *et al.,* 2019). Basically many Indonesia SMEs faces that financial constraints are a common problem, which affects the SMEs in running a business. Therefore, it is reported that most of the SME investments are financed by internal funds and only 6% of SMEs use bank loans as a source of financing (Teja, 2017). The constraints will have an impact on business growth (Beck *et al,* 2006; Kira, 2013). Indications of the financial constraints are limited business capital (Sulistyo, 2010), limited funds for working capital (Sukoco *et al.,* 2015) and limited investment funds for the allocation of information technology applications (Agboh, 2014; Lubis and Junaedi, 2016). These studies are away from the adoption of information technology, such as the success of ERP systems and financial constraints in SME management. In this study, the problems of financial constraint and ERP System Success are considerable in improving the performance of Indonesian SMEs. The objectives of this study are to investigate the effect of: 1) financial constraints on the ERP systems success; 2) the ERP systems success on the SMEs performance; 3) financial constraints on SMEs performance; 4) ERP System success mediates financial constraints and SMEs performance.

2. Theoretical Background

2.1 Financial Constraints

Financial constraints in capital markets can underline the macroeconomic effect of fluctuations in investment to cash flow and liquidity which has as a result several firms to reduce their access to low-cost finance (Maditinos *et al.,* 2019). One factor that has become a problem in the development of Indonesian SMEs is the financial constraints they have. The financial constraint for Indonesian SMEs is due to many difficulties in accessing financing to commercial banks and other financial institutions due to problems with guarantees and high-interest rates (Minerva, 2016). According to Sulistyo (2010) the limitations of capital/business capital are internal problems of small and medium enterprises. Financial constraints on Indonesian SMEs can be defined as the limitations of business capital development, managed working capital and investment capital in IT adoption, and utilization (Sulistyo, 2010; Sukoco *et al.,* 2015; Agboh, 2015; Lubis & Junaidi, 2016).

2.2 ERP System Success

Ullah (2018) stated that an ERP system is a business management system. It consists of a series of comprehensive software designed to integrate and manage all business functions in an organization. Furthermore, Hamilton (2003) classified the ERP into:
"A" Classification, if the company uses all modules integrated with the ERP system effectively on all departments in the company, i.e., Human Resources module, Finance module, and Operations module;
"B" Classification, if it uses a combination of two modules that are integrated into the ERP system;
"C" Classification, if it uses the ERP system module partially.

Furthermore, Gable *et al.* (2003) stated that ERP system success depends on four indicators: (1) information quality, (2) system quality, (3) individual impact, and (4) organizational impact.

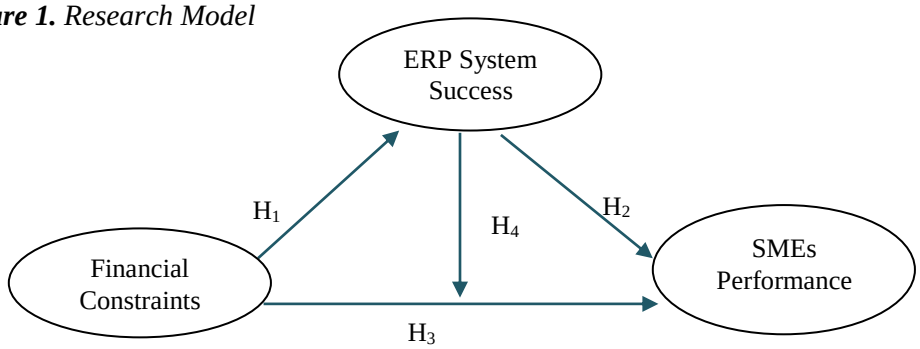
2.3 SMEs Performance

The performance of Indonesian SMEs is an achievement on the success of the ERP system, and the existence of financial constraints (Suliyanto, 2009; Ariawan *et al.*, 2017). Moreover, SMEs performance is indicated by sales growth, and profitability (Suliyanto, 2009; Ariawan *et al.*, 2017).

2.4 Research Model and Hypothesis Development

The research model can be seen in Figure 1, which attempts to answer the following research questions: 1) Do financial constraints effect on the ERP system success? 2) Does the ERP system success affect SMEs performance? 3) Do financial constraints affect ERP system success? 4) Do the ERP system success mediates financial constraint and SMEs performance?

Figure 1. *Research Model*



The financial constraints of SMEs in financing generally have a significant influence to invest in IT, in this case, the ERP system. The low availability of investment capital or financial constraints possessed by SMEs will influence the utilization of technology in their business (Lubis & Junaidi, 2016). Most SMEs pay close attention

to limited financial resources available for the adoption of new technologies, such as ERP systems (Chang *et al.*, 2010). Therefore the first hypothesis is:

H_1: Financial constraint has a significant impact on ERP System Success.

The second hypothesis identifies the ERP System Success associated with SMEs Performance. Almgren and Bach (2014) said that an ERP system success has managerial and operational influences in organizational performance. ERP systems have the effect of improving business processes so that they influence the overall performance of SMEs (Lečić & Kupusinac, 2013). The second hypothesis is:

H_2: ERP System Success has a significant impact on SMEs performance.

In a previous study by Beck *et al.* (2006) it was stated that financial constraints influence the growth of SMEs performance. Financial constraints have a greater and more significant impact on the performance of SMEs than in large companies (Zhou, 2015). The third hypothesis is:

H_3: Financial constraint has a significant impact on SMEs performance.

ERP System Success as a mediation variable is rarely explored in the construct of financial constraint and SMEs performance in the Indonesian SMEs perspective.

However, several researchers suggested that financial constraint has a significant positive influence on ERP System success (Agboh, 2015; Lubis & Junaidi, 2016; Venkatraman & Fahd, 2016). In recent times, several researchers stressed that ERP System success has a significant positive impact on SMEs performance (Haddara & Zach, 2011; Farhanghi *et al.*, 2013; Lecic & Kupucinac, 2013). Visualizing the above discussion, it is justified to construct a path such as: financial constraint, ERP System success, and SMEs performance. Therefore ERP System success as a mediating variable is rightly positioned and well-justified to explore its impact on SMEs performance and this can be seen as the fourth hypothesis as follows:

H_4: ERP System success mediates financial constraints and SMEs performance.

3. Methodology

Data concerning companies included in the sample were obtained via the web sites of the leading ERP system providers that operate in Indonesia. Convenience sampling technique is used for this study, as there are few SMEs who have implemented ERP systems in their businesses. Thus, the unit of analysis of this study is from various SME industry sectors in several cities in Indonesia. There are 150 prospective SMEs in Indonesia which are used ERP system as clients of ERP service provider, and 100 eligible data to be analysis from 115 returned questioner.

The five-point of Likert's scale is used for the measurement of all variables (from 1 "strongly disagree" to 5 "strongly agree"). From 150 respondents there are 115 questionnaires returned, and there are 100 eligible respondents who complete all the information which is needed. Data analyze is using SPSS and smart-PLS.

Partial Least Squares with smart PLS 3.2.7 was used to the data. Prior to testing the hypothesis, both outer and inner model evaluation was conducted to convince the robustness of measures used and the proposed model. The hypothesis was tested by using alpha 5% (t = 1.960).

4. Empirical Findings

The 100 valid samples analyzed are from Indonesian SMEs which are using ERP Systems in their business. The Indonesian SMEs analyzed were mostly in the trading business sector (29%), located in Jakarta and other cities around Jakarta. The majority of the SMEs as respondents (62%) preferred to use "C" classification packages of ERP system for their business. The majority of the SMEs samples are 55 medium-sized enterprises, while 45 are small size enterprises.

Data analysis using the SEM-PLS approach was carried out in two stages. The first stage is done by testing the outer test the validity and reliability of indicators for each construct. Next is the inner model test to find out the relationship between latent constructs. The two indicators (KU1 and KU2) are then eliminated, and the outer model is tested again. The test results of the repeat outer model show that the entire outer model is valid and reliable so that it continued by conducting an inner model test. Figure 2 of the research model with Smart-PLS application after eliminating invalid indicators is shown below. The measurement analysis of validity and reliability is also shown in Table 1.

Table 1. *Results of Validity and Reliability*

Constructs	Average Variance Extracted	Cronbach's Alpha	Composite Reliability	Rho_A
Financial Constraint	0.757	0.821	0,894	0.822
ERP System Success	0.807	0.924	0.943	0.968
SMEs Performance	0.749	0.766	0.857	0.768

In measuring reliability, the researchers calculated a Cronbach's Alpha and Composite Reliability greater than 0.7, which showed that all variables met the reliability requirements. After the measurement model had established the levels of validity and reliability, the model was executed using bootstrapping in Smart-PLS.

(Ringle *et al.*, 2015). The path analysis model using the bootstrapping algorithm in Smart-PLS, based on the measurement model presented in Figure 3.

Figure 2. *Output of Outer Loading*

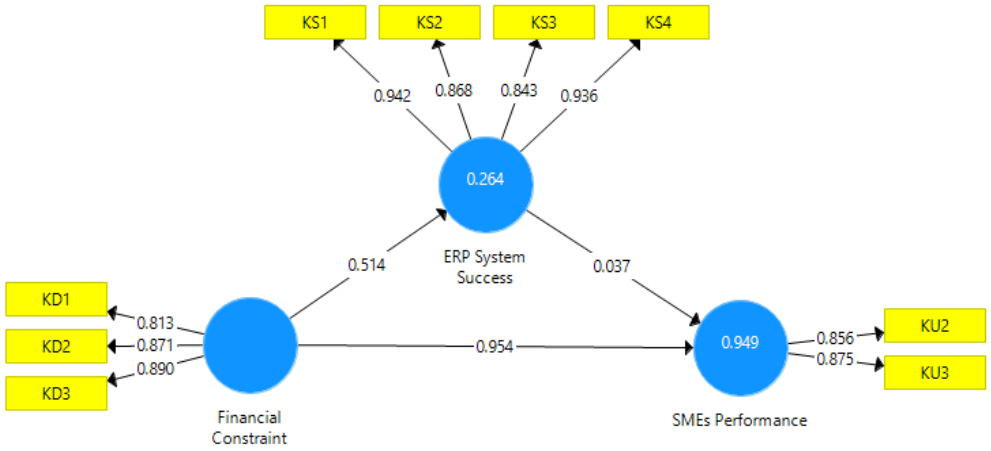
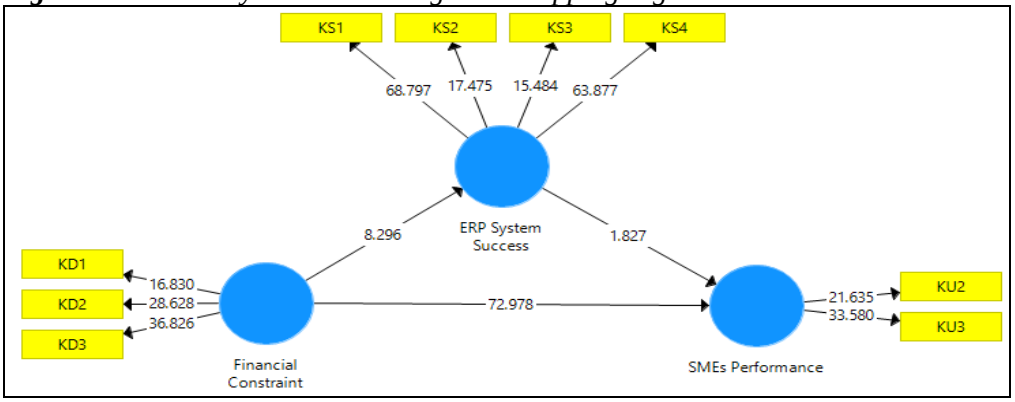


Figure 3. *Path Analysis Model Using Bootstrapping Algorithm*



4.1 Results, Discussion and Hypothesis Testing

H1 identifies the correlation between financial constraint and ERP System success. As shown in Table 3, the measurements included a coefficient value beta of 0.514, a T-statistics value of 8.296 (>1.96), and P-Value of 0.000(<0.05) which indicates that financial constraint has a significant positive effect on ERP system success in Indonesian SMEs. These findings support those of a previous study (Chang *et al.*, 2010; Lubis & Junaidi, 2016).

Table 3. *Results Of Measurement Model*

Variables	Orginal Sample	T-Statistic	P-Value

Financial Constraint→ERP System Success ***(direct effect)***	0.514	8.296	0.000
ERP System Success →SME Performance ***(direct effect)***	0.087	1.827	0.060
Financial Constraint→ SME Performance ***(direct effect)***	0.954	72.978	0.000
Financial Constraint → ERP System Successt → SME Performance ***(indirect effect)***	0.045	15.157	0.001

H2 proves that the success of an ERP system does not have a significant effect on the performance of SMEs which indicated by the T-statistics value of 1,827 (<1.96) and P-Value of 0.000(<0.05). Some previous studies said the success of ERP systems in general improved overall organizational performance (Lecic & Kupucinac, 2013; Almgren & Bach, 2014). This financial constraint always causes the failure of SMEs in achieving the success of an ERP system.

H3 proves that financial constraint has a strong correlation and a significant effect on the performance of SMEs. The measurements included a coefficient value beta of 0.954, a T-statistics value of 72.978 (>1.96), and P-Value of 0.000 (<0.05) which indicate that financial constraint has a significant positive effect on Indonesian SMEs performance. Furthermore, Financial constraint and ERP System success both have a significant impact on SMEs performance. Through empirical analysis it seams that it has a total effect with R-square value 0.949 (Shown in Figure 3).

H4 the value of the indirect effect of financial constraint and SMEs performance through ERP System success is 15.157 (<72.978, the direct effect value), where all of the t-statistic values are greater than 1.96. The analysis also indicates that ERP system success fails to mediate between financial constraint and SMEs performance. It is evident that financial constraints and ERP systems success are two factors that prove to be very important in SMEs performance and subsequently have a significant impact on SMEs performance.

4.2 Findings that Refer to the Objectives of the Study

Financial constraint usually tends to consider the implementation of information technology as a means to improve the performance of their organizations (Croteau & Bergeron, 2001). Based on the survey results that identify the majority of Indonesian SMEs uses ERP System application in ‘C' Packet. The results of this research show that financial constraint and ERP System success has a significant impact on performance (H1 and H2). Other results (H3) show that financial constraint is also strongly correlated in the support and improvement of the SMEs performance. Both are areas in which difficulties often arise in the implementation of ERP systems.

The indirect effect (H4) analysis also indicates that financial constraint has a significant impact on SMEs performance mediated by ERP system success. The financial constraint of investment capital for ERP system adoption and the quality system in the ERP system success are both factors that affect the improvement of SMEs Performance.

4.3 Research Implication and Limitations

Theoretically, the ERP system success approach refers to the success model of information systems. Therefore, the success of the ERP system is vital in aiding decision making processes in modern organizations that have a high dependency on information technology. The ERP system success depends on the implementation of the system to achieve organizational goals. The managerial aspects of this research provide valuable insights for SME practitioners and ERP system service providers, and to those who have vested interests in SMEs in Indonesia. SME managers must carefully consider the quality system of the ERP System success, and the investment capital as a financial constraint. They can determine the success of the ERP system. On the other hand, ERP system service providers must create ERP System module packages that are suitable for the requirements of Indonesian SMEs. The article has certain limitations: Firstly, there are some method-related elements of the study that may limit the empirical findings because the sample size is small. Secondly, this study only analyses SMEs that use the prospector business strategy. Lastly, the questionnaire approach is not entirely free from the subjectivity of the respondents.

5. Conclusion

In summary, the main findings of this study show that financial constraint and ERP System success are two main variables that affect the Indonesian SMEs' performance. Financial constraint shows a strong correlation to the SMEs' performance than ERP System success. Based on this fact, these factors are required to be seriously considered if SMEs are interesting to improve their performance. In terms of future research, this study could be expanded by investigating other issues in Indonesian SMEs' performance, such as business strategy and organizational resources that influence the success of an ERP System.

Finally, for conducting the study more accurately by taking into account the employee size of SMEs as a control variable of performance (John & Adebayo, 2013; Dut, 2015).

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