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Does Technology Improve SMEs Business Success? Empirical Research on Indonesian SMEs

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Abstract

This study aims to examine the effect of technology usage and financial resources on SMEs business success. Besides, it studies the relationship between SMEs business success and SMEs ownership. This study uses primary data in the form of questionnaires with purposive sampling method. The questionnaires are given to 120 SMEs owners who responsible for the success of their companies. The result proves that technology usage and financial resources have a significant impact on SMEs business success. Besides, there is a significant difference between technology usage and success of business based on SMEs ownership. This study is expected to provide benefits for the SMEs owners in planning the need for technology to raise business success. This study explains the relation between technology usage, SMEs business success and SMEs ownership that has never been performed before.

Keywords: technology usage, financial resources, business success, SMEs ownership

1. Introduction

Small and Medium Enterprises (SMEs) have a critical role in economic growth in Indonesia. Data from BPS shows that SMEs contribute 18.3% of Gross Domestic Product (GDP) each year, while large enterprises only 15.7%. Also, SMEs absorb more than 97% of the workforce while large companies are only less than 3%. SME is one of the business sectors that proved its ability to survive in two times of crisis in 1998 and 2008 (Hapsari et al., 2014).

Although SMEs have an essential role, SMEs also have various limitations making it difficult to compete for both between SMEs and with large companies. Some of the obstacles that SMEs have to deal with are capital constraints, technology utilization, human resource capability and marketing reach (Toyib, 2017). Internal and external factors influence the development of SMEs. Internal factors that may affect are managerial ability and owner 's experience, the ability to access technology and capital owned. While external factors are government support, market conditions and industrial progress (Purwidianti & Rahayu, 2015). This study only examines internal factors because the owner more easily controls the internal element so that the owners of SMEs can quickly adjust any problems encountered with existing resources (Radzi et al., 2017).

Some previous research has tried to prove the relationship between innovation (Kinyua, 2014; Radzi et al., 2017); IT alignment (Budiarto, 2014; Budiarto et al., 2018); financial resources (Chowdhury et al., 2013; Dyer et al., 2014; Hapsari et al., 2014) to the success of SMEs, but the results are inconsistent. The purpose of this study is to examine the effect of technology usage and financial resources on business success. Besides, this study also tested the success of businesses based on the level of ownership of SMEs. This research is expected to provide the recommendation for the owner of SMEs to choose an appropriate technology with the need so its performance increases.

2. Literature Review and Hypothesis Development

Business success is usually related to the company's ability to create innovation up to success in achieving the goals set by the organization. Besides, business success is related to organizational performance in both financial and non-financial performance, both short and long-term (Radzi et al., 2017). Although SMEs in Indonesia contribute significantly to economic growth, SMEs still have various constraints. There are many SMEs in Indonesia who are traditional companies even with low productivity then end up with being unsuccessful when competing at the global level (McKague et al., 2011).

Some fundamental issues being the main obstacles for SMEs's development in Yogyakarta are business activities with less of strategies, product designs that not really attractive and technology adoption (Handayaningsih &

Pujiyono, 2015; Muafi, 2015). Information technology has a crucial role in the development of SMEs because with technology the owners of SMEs able to choose strategies efficiently to compete in a competitive business environment. One factor that can improve the competitiveness of SMEs is the utilization of information technology. Use of information technology can improve business transformation through the speed of accuracy and efficiency of information exchange in company operation (Rahmana, 2009). Some research proves that the use of information technology can improve the performance and competitiveness of SMEs (Al-Eqab & Ismail, 2011; Budiarto et al., 2017; Urquíaet al., 2011). Based on those findings, the hypothesis is proposed as follows:

H_1: technology usage has a significant effect on SME business success

The performance and success of SMEs can be seen from customer service quality, innovation, product quality, and efficient operation. Besides, financial resources also affect the success of SMEs in achieving business goals (Radzi et al., 2017). One of the main factors that are an obstacle for SMEs to develop is financial resources (Leonidou et al., 2017). Financial Resources is a fund used to cover small firm daily operational needs. The financial resource is an essential factor because it can ensure that the company is going concern. Financial resources can be used to meet the company's operating needs and make innovations to survive in a competitive environment. Access to finance is related to firm growth (Fowowe, 2017).

The results of previous research explain that financial resources affect the development of SMEs (Kinyua, 2014; Munizu, 2010). The ability of SME owners to develop business strategies will determine the success of the business. The higher the ability of SME owners to develop financial policies, and operations strategies, the higher the level of business success. The higher the financial resources owned then, the higher the possibility of successful SMEs. Based on some arguments above then the hypothesis is:

H_2: Financial resources have a significant effect on SME business success

Previous research has explained that the application of technology between family-owned SMEs and non-family owned SMEs is very different. Family-owned SMEs tend to be better at applying technology because owners feel more responsible. Owned responsibilities encourage owners to increase technology usage to improve organizational performance (Budiarto et al., 2015; Chu, 2009). There was very a long time discussion about family and non-family business firm mainly correlates the performance. The previous findings are inconsistent both in favor of and against the effect of ownership on firm performance (Wagner et al., 2015). Herrero (2017) state that non-family firm tends to be more risk-averse when deciding that family firm which impacts on performance (Zahra, 2005). Family-owned companies have higher confidence since they will face the risk in groups. The other finding state that the performance differences between family and non-family firms, family involvement has a significant impact on firm performance (O'Boyle et al., 2011). Furthermore, Calabro et al., (2018) found that designation of a next sibling has a related to small firm performance, mainly when the small firm is in its first and the next generation. It means that the family firm has significant correlate to the prosperity of the small firm (Dyer et al., 2014; Dyer 2018). Based on some arguments above then the hypothesis is:

H_{3a}: Family owned SMEs implement technology better than non-family owned SMEs

H_{3b}: Family owned SMEs are more successful than non-family owned SMEs

3. Research Model

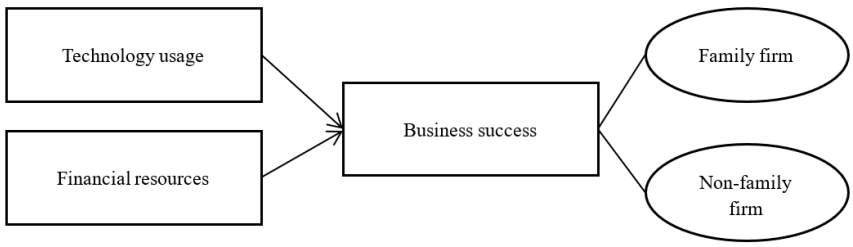

Figure 1. Research Model

The research model explains that technology usage and financial resources are related to business success. Several previous research findings have made it clear that the commitment of SME owners will improve business success. Besides, the better the technology used and the higher the financial resources make it more possible to reach business success.

4. Research Method

4.1 Data Collection Method

Data collection technique used is questionnaires addressed to SME owners. Sampling technique used in this research is purposive sampling method with a specific criterion refers to Law No. 20 the Year 2008 About SMEs. The requirements are: a one-year turnover of less than 2.5 billion; maximum assets of 200 million rupiahs; having workforces of between 5-19 for small-sized businesses and 20-99 for medium-sized businesses.

This research was conducted within 6 months from February up to July, 2018. Based on the results of 200 questionnaires distributed directly to the owners of SMEs spread on 5 regencies in Yogyakarta Province, only 150 questionnaires submitted. Then, 120 questionnaires are used as an analytical tool whereas 30 questionnaires cannot be used because of incomplete filling. 65 of the 120 respondents are family firms, and the remaining 55 are non-family firms.

4.2 Variable Measurement

This study uses two independent variables, namely technology usage, and financial resources, while the dependent variable in this research is a business success. All answers to the questionnaire are measured with a 5-point Likert scale that is 1 = not agree up to 5 = strongly agree. The research instruments are shown in the table below:

Table 1. Research Instrument

Variables	Instrument
Business success	1. I feel happy because the business runs smoothly
	2. I am satisfied with the profit growth
	3. I am confident that the business will be successful
	4. I am confident that business will grow rapidly
	5. I am confident that the business will flourish
	6. I am sure the market share will grow
Technology Usage	1. Company uses web, email, e-commerce
	2. Company information can be accessed via the internet by customers and suppliers
	3. Companies use the Internet to analyze industry trends
	4. Companies use online system for bank transactions, taxes, etc.
Financial resources	1. The Company has sufficient cash
	2. The Company has adequate accounting system for operating activities
	3. Obtaining additional funds from the community
	4. Reporting financial condition, purchase and sale constantly

Source: Radzi, et al. (2017)

5. Results and Discussion

5.1 Data Testing

The result of validity test using person correlation indicates that all questions are valid. Table 2 is an example of a validity test for the SME business success variable. Reliability test results show that all variables have reliability> 0.6 (table 3). It means that the answer to the questionnaire statement is consistent or stable.

Table 2. Result of validity test of business success variable

	YI	Y2	Y3	Y4	Y5	Y6	TOTAL
Y1	1	0.426**	0.251**	0.053	0.122	0.138	0.517**
Y2	0.426**	1	0.464**	0.248**	0.149	0.172	0.669**
Y3	0.251**	0.464**	1	0.482**	0.353**	0.349**	0.762**
Y4	0.053	0.248**	0.482**	1	0.496**	0.502**	0.714**
Y5	0.122	0.149	0.353**	0.496**	1	0.982**	0.664**
Y6	0.138	0.172	0.349**	0.502**	0.982**	1	0.670**
TOTAL	0.517**	0.669**	0.762**	0.714**	0.664**	0.670**	1

** Sig < 1%

Table 3. Reliability test results

Variables	Cronbach alpha	Description
Business success	0.767	Reliable
Technology Usage	0.759	Reliable
Financial resources	0.903	Reliable

5.2 The Classical Assumption Test

The first classical assumption test is the normality test of the data. This study employee one sample Kolmogorov-Smirnov test to examines the normality of the data. The result shows that all of the data has a normal distribution (p value= 0.714). The second is a test of multicollinearity to determine the correlation between independent variables. The result of multicollinearity test show that the tolerance value is above 10% with VIF value is less than 10 (Table 5) its mean that there is no correlation between independent variables. The third is a test of heteroscedasticity to ensure that all of the independent variables have the same variance. The result of heteroscedasticity is shown in figure 2.

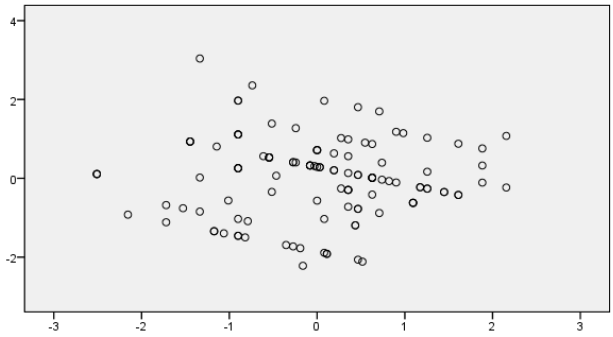

Figure 2. The test of heteroscedasticity

5.3 Result and Discussion

This study is a quantitative research by using questionnaire as an instrument to get the primary data. The samples of this research are SMEs owner in Yogyakarta. The following table (Table 4) is a description of respondents.

Table 4. Profile of Respondent

Profile of respondent	**Family firm**	**Non-family firm**	**Percentage (%)**
(1)	**(2)**		**(3)**
Company age:			
1. < 5 year	17	22	32.5
2. 5-10 year	28	16	36.7
3. > 10 year	20	17	30.8
The number of employee:			
1. < 10 people	29	21	41.7
2. 10-20 people	27	18	37.5
3. > 20 people	9	16	20.8
Based on owners			
1. Family firm	65		54.2
2. Non-Family firm		55	45.8

According to the Table 4, 32.5% of small firm are less then < 5 years in operation, the firms which have been in operation for 5-10 years were 36.7%, and 30.8% have been in operation more than 10 years. Based on the number of employees can be explains that 41.7% small firms have less than 10 employee, 37.5 % small firms have 10-50 employees and 20.8 % have 9 employee. Based on SMEs ownership can be explain that 54.2% small firms are family firm, while 45.8% are non-family firms.

Based on table 5 can be explain that the beta coefficient of technology usage variable is 0.273 show that technology usage have a positive influence on the SMEs business success. The financial resources variable has beta coefficient 0.253, it show that financial resources has positive influence on the SMEs business success. The results of the first hypothesis test show that technology usage has a significant effect on the success of SMEs business Utilization of information technology can improve business transformation through speed, accuracy, and efficiency of information exchange in the company's operations. So, it increases production efficiency and reduces cost (Jasra et al., 2011; Rahmana, 2009). Companies with a reasonable timeline of information access, industry knowledge, and insight into the latest technological developments will be more successful in innovation (Xie et al., 2013).

The results of the second hypothesis test show that financial resources have a significant effect on the success of SME business. The results of this study are consistent with research (Radzi et al., 2017) which states that financial resources also affect the success of SMEs in achieving business objectives. A financial resource is an essential tool for a business to run a profitable operation (Jasra et al., 2011). Small business owners are always problematic because they cannot find sufficient funding to fund their need so that financial constraints make a limited economic activity in technology usage (Xie et al., 2013). Therefore, SMEs need financial resources as one of capital, both short-term capital and long-term capital so that SMEs can continue to survive in a competitive environment.

The third hypothesis test (Table 6) shows that family-owned SMEs implement technology better than non-family owned so family-owned SMEs can be more successful than non-family-owned SMEs. The results of this study are supported by research (Deng et al., 2013) stating that single-owned companies are more likely to research and develop product innovations more efficiently than companies with multiple owners. Therefore, single-owned companies are better at applying technology to support the development of making efficient product innovations than multiple-owned companies. Besides, family-owned SMEs have control over the company's strategy to the owners feel more responsible. Meanwhile, non-family ownership is mostly controlled by external parties so the company has a high transparency of information.

Table 5. The multiple regression testing

Variables	Beta	Tolerance	VIF	Sig	Description
Constant	12.580			0.000**	
Technology Usage	0.273	0.973	1.028	0.002*	H1: accepted
Financial Resources	0.253	0.973	1.028	0.004*	H2: accepted
F value: 11.282				0.000**	
Adj R^2: 0.147					

** Sig < 1%, ** Sig < 5%

Table 6. The independent sample t test

Variables	Mean		Lavene's Test	Sig	Description
	Family owned	Non-family owned			
Business Success	3.50	2.87	0.001*	0.005*	H3a: accepted
Technology Usage	3.95	3.63	0.528	0.000**	H3b: accepted

** Sig < 1%, ** Sig < 5%

6. Conclusion, Limitations & Research Recommendations

Hypothesis testing results show that technology usage and financial resources affect the success of SMEs business. Besides, there are differences in technology usage and business success of SMEs based on ownership. Family-owned SMEs apply better technology than non-family owned, so family-owned SMEs are more successful than non-family owned SMEs.

The limitation of the research is the population range which is only conducted on SMEs in Indonesia. Therefore, the sample in this study cannot be generalized. Also, this study does not research a specific industry of SMEs. The next survey is expected to investigate the same topic with generalizable samples, such as specialization to examine the effect of technology use and financial resources on SME business in poor, developing, and developed countries.

Further research is also expected to examine SMEs that have more industry specifications, such as SMEs of the food industry, manufacturing (Budiarto et al., 2015). The second limitation of this study is not investigated the diversification strategy on SMEs, and future research can explain the diversification of strategy (Herrero, 2017). The diversification strategy in the context of the small firm is possibly related to the performance of SMEs.

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