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The Analysis of the Influence of Business Incubator to Small and Medium Enterprises (SMEs) Success

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Abstract: ***Business Incubator (BI) is a facility aims to make supportive environment for SMEs to grow, so BI can minimize the failure rate of UKM especially on start up phase. The achievement of BI toward SME development can be seen from two aspects, namely hard outcome and soft outcome. Hard outcome gives influence in SMEs toward statistic aspect, such as, increasing the capital and product development. While the soft outcome gives influence through the entrepreneurial skills such as, sense of confidence and widespread business network. This research aims to explain the influence from incubator hard outcomes and incubator soft outcomes toward SMEs successful. This research conduct case studies on 18 respondents from BalaiInkubasiTeknologi-Serpong. Methode used in this research is multiple linier regresion. The result of this research explain that incubator hard outcomes together with incubator soft outcomes have a significant influence toward SMEs success. Despite all that, incubator hard outcomes do not have any significant influence, however, incubator soft outcomes have significant influence.***

Keywords: Business incubator, SMEs, Incubator hard outcome, Incubatorsoft outcome, multiple linier regression

1. Introduction

Small and Medium Enterprises (SMEs) are one of the aspect that play an important role to improve the national economy especially in developing countries, such as Indonesia. In Indonesia, SMEs have a significant role in developing the nation's economy, such as building GDP around about 63.58%, absorb labor by 99.45% and export value to reach 18.72%. SMEs are one of the most important aspects to increase national economy. However, there are some obstacles to develop SMEs in Indonesia (Marsuki, 2006). Based on BPS's data, there are several problems that will be faced in order to develop the SMEs sector, such as (1) capital, (2) raw material, (3) marketing, (4) human resources and management, (5) networking and partnership, and (6) infrastructur and goverment policy. To be able to develop SMEs sector, it needs a proper and stable environment to suppress and control any of them.

Business Incubator (BI) is a facility created to support the growth of SMEs and minimize the failure rate at start up phase (Stephens,2012). BI has purpose to develop SMEs sector through entrepreneurship training, also gives access to capital resources and market opportunity as well as expand networking and partnership. However, there is no guarantee that by joining BI then all the SMEs member will be success. BI can increase the success of SMEs around 31.5%. Based on Hubeis (2009) around 80% start up company failed in their first years. This situation explain that BI has high potential in order to increase the number of SMEs success.

Based on this research, it needs some explanation about the influence of BI's success rate towards the SMEs success, also the factors that have a significant role in order to increasing SMEs success. This research will examine a case study at BalaiInkubasiTeknologi – Serpong, about the BI influence towards SMEs success. The BI aspects that explained in this paper are BI's hard outcomes and soft outcome. Based on Stephens (2012) the measurement of success of BI is not only determined by statistics aspect like revenue but also how much the ability of entrepreneurship increases. The ability of entrepreneurship is one of the most important aspects that can make SMEs become successfull (Rubin, 2015). The result of this research is evaluation and measurement influence from BI outcomes toward SMEs success, so BI can improve their methods to make good outcomes and increase the SMEs success.

2. Literature

2.1. Small and Medium Enterprises (SMEs)

Small and Medium Enterprises or SMEs is an independent productive business unit, run by an individual or a business entity in all sectors of the economy. SMEs have a direct impact on the economic development in both developed and developing countries. SMEs have the ability to create jobs at minimum cost and have high flexibility (Munizu, 2010).

2.2. Business Incubator

Based on Perpres No. 27 Year 2013, Entrepreneur incubator is an intermediate institution that undertakes incubation process towards incubation participants (tenant). Incubations have a role on coaching and mentoring program. Business Incubators aim to creat and develop new business that have high economic value by stimulating the innovation process to create bridge between the market failures and improving access to capital on a firm at early stage (Allen, 1990).

2.3. Influence of Business Incubation

Business Incubator (BI) has a role in developing SMEs by creating a supported environment for SMEs tenants to grow and innovate by giving access to market opportunities and sources of raw materials (Stephens, 2012). Based on Nahavandi and Cheseteen (1998), SMEs that has joint BI have more high potential to become success than SMEs who have not join BI yet.This research indicates that BI have

influence at SMEs success. Measurement of influence BI towards SMEs needs to be broader than statistical outputs like revenue (Stephens, 2012). Based on Stephens (2012), personal development of the SMEs owner is an important feature of business incubation because improving their personal skill, such as, confidence and networks has a positive impact on SMEs succesful.

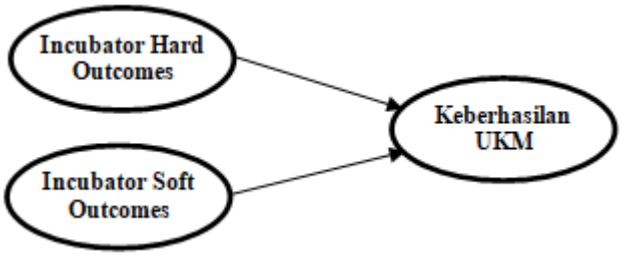


Figure 1 : Influance Business Incubator toward SMEs succesful

2.4. Multiple Linier Regression

Linear regression analysis is a statistic method that aims to make a model to explain the correlation between Independent variableand dependent variable. There are two types in linier regresion, those are simple linier regression and multiple linier regression. Multiple linier regression is a linier regression analysis that uses two or more indepenet variabels. The general formula for multiple linear regression is:

$Y = a + b_1X_1 + b_2X_2 + ... + b_nXn + e$

Wherein:

Y	= Dependent Variable
a	= Constant
X_1 , X_2, X_n	= Regression Coefficient
e	= error

3. Methodology

3.1. Type and Source Data

The data used in this research is primary data from SME's tenants that is registered for one year at BalaiInkubasiTeknologi – Serpong.

3.2. Sampling Tehnique

Sampling technique used in this research is non-probability sampling. Non-probability sampling makes different opportunities for research population to become a research sample. The samples in this research were selected by using purposive sampling technique that meets the criteria.

3.3. Data Collection Tehnique

The data shown in this research was obtained through depth interview with SME's owner, using questionnaires which have been prepared beforehand. The questionnaire in this research is made by likert method with one until five interval.

3.4. Multiple Linier Regression

In this research, soft outcome incubator and hard outcomes incubator become independent variable that explain the influence of BI towards SME's succesful. Soft outcome incubator illustrates that BI develops the SMEs owner personal skill and increase entrepreneurship skill. In this paper, soft outcome incubator is measured by three categories such as, building SMEs owner confidence, marketing and financial knowledge, and networking and partnership. Different from soft outcome incubator, hard outcome incubator explains influence of BI from statistics of productivity, innovation, and amount of employee.

There are four main steps in multiple regression analysis:

a.Validity and Reliability
Validity and reliability are used in order to make sure all the variable that used in this research can represent all measurement point according to purpose of the research. Based on Basuki (2016), the correlation requirements on the validity test is 0.30 while the correlation requirement in the reliability test is 0.6.

b. Multiple Linear Regression Analysis
Multiple regression analysis is an analysis that aims to examine the influence of incubator hard outcomes and incubator soft outcomes to the success of SMEs, with the following equation:

$$Y = a + b_1X_1 + b_2X_2 + e$$

Wherein:

Y	= SMEs succes
X_1	= incubator soft outcomes
X_2	= incubator hard outcomes

c. Hypotesis

- $Ho:\beta_{1,2}= 0$

There is no significant influence from incubator soft outcomes and incubator hard outcomes towards SMEs succesful

- $Ha:\beta_{1,2} \neq 0$

There is significant influlence from incubators soft outcomes and incubator hard outcomes towards SMEs succesful

- $Ho:\beta_{1,2} = 0$

There is no significant influlence from incubators soft outcomes and incubator hard outcomes simultaneously towards SMEs succesful

- $Ha:\beta_{1,2} > 0$

There is significant influlence from incubators soft outcomes and incubator hard outcomes simultaneously towards SMEs succesful

There are two way to do hypotesis analysis,
1. *t*-test
t-test was conducted to determine the influence of each independent variable to the dependent variable. This test done by comparing the value of $t_{statistic}$with P_{value} on signification level 5%. If the value $t_{statistic} \geq P_{value}$, then the independent variables together have a significant effect on the dependent variable (Basuki, 2016).

2. *F*-test
The F test is performed to find out whether all independent variablessimultaneously have a significant influence on the dependent variable. This test is done by comparing the value of $F_{statistic}$ with P_{value} on signification level 5%. If the value $F_{statistic} \geq$ Pvalue, then the independent variables together

have a significant effect on the dependent variable (Basuki, 2016).

Table 1: Research Variabel

Variable	Sub Variable	Indicator	Measurement Scale
SMEs succesful (Y)	Financial	Increasing revenue	Linkert scale
	Marketing	Repeat order minimal by 2 times	
	Business legality	Alteration business Legality before and after join IB	
Incubator's soft outcomes (X_1)	Confidence	Increased confidence for doing business	Linkert scale
	Marketing and financial knowledge	Increased marketing and financial knowledge	
	Networking and Partnership	Increased Networking and Partnership	
Incubator's hard outcomes (X_2)	Productivity	Increased number of product	Linkert scale
	Innovation	Increase of product variant	
	Employees	Increased number of employees	

4. Result and Discussion

In this research, the validity of research instrument measured by corrected item-total correlation. Based on the data analysis on Tabel 2, all the research instrument shows pearson correlation with value above 0.3, this explains that all the research instruments used on questioner arevalid value and can be used in this research.

Table 2: Validity measurment

Correlations				
Sub Variables			Variables	
K_1	K_2	K_3		
0.866	0.829	0.706	Pearson Correlation	SMEs Succesful (Y)
0.000	0.000	0.001	Sig. (2.tailed)	
Sub Variabels			Variabel	
S_3	S_2	S_1		
0.908	0.694	0.792	Pearson Correlation	Incubators Soft Outcomes (X_1)
0.000	0.001	0.000	Sig. (2.tailed)	
Sub Variabels			Variabels	
H_3	H_2	H_1		
0.420	0.815	0.803	Pearson Correlation	Incubators Hard Outcomes (X_2)
0.083	0.000	0.000	Sig. (2.tailed)	

Reliability test in this research was measured by cronbach's alpha value. Research instrument is reliable if cronbach's alpha value is higher than 0.6. Based on data analysis on Tabel 2, all the research instrument shows cronbach's alpa higher than 0.6, so this explainsthat all the research instrument used in this research is reliable.

Table 3: Relibiality Measurment

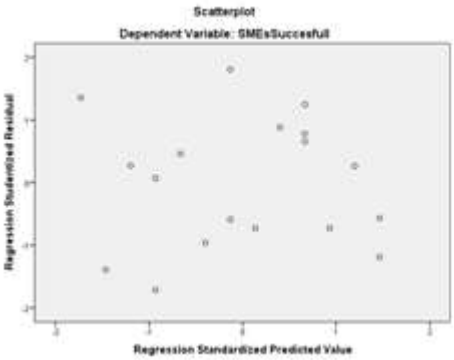
Reliability Statistics	
Variable	Cronbach's Alpha
SMEs Succes (Y)	0.721
Incubators Soft Outcomes (X_1)	0.717
Incubators Hard Outcomes (X_2)	0.703

Before measuring the multiple linear regression, it is needed to know that data used in this research fulfils the classic assumption. There are three categories at the classic assumption. First is normality test which can measure with Kolmogorov-Smirnov test. In the case of a large sample, most researchers use *K-S* test to test the assumption of normality. This test should not be significant to meet the assumption of normality. Based on data analysis on Table 4, signification of Kolmogorov-Smirnov test is 0.200, so that it is proven that the research instrument used is normal distribution or meet the classic assumption.

Table 4: Normality Test

Normality Test						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	0.146	18	0.200	0.972	18	0.832
a. Lilliefors Significance Correction						

The second test is heteroscedasity test by look scatter plot between *ZPRED* an *SRESID*. Look at scatterplot at picture 2, there is no siginificant pattern or all the dot is spread evenly, this pattern indicates heteroscedasity does not occur, so all variables used in the measurement meet the classic assumption. Third is multicollinearity which can be measured by seeing the*VIF*, when *VIF* is under 10 point it indicates that the multicollinearity does not occur, based on Tabel 5, *VIF* for variabel in this research is under 10 point, therefore it shows that the multicillinierity does not occur. Based on normality test, heteroscedasity test and multicollinierity all instrument that used in this research meet the classic assumption.



Picture 2: Scatter plot ZPRED vs SRESID

4.1. Multiple Linier Regression

In this research, multiple linear regression used for analysis correlation incubators soft and hard outcomes toward SMEs successful with signification level 5%. In this research, the dependent variable determined by the success of SMEs which is also affect the independent variable such as soft outcomes incubator and hard outcomesincubator. Based on the data in Table 5, the regression modelis:

$$Y = 0.669\ X_1 + 0.335\ X_2 - 0.158 + e$$

This model shows Constanta *B* is negative, which explains that when independent variables is zero then the depedent variable will be also in negative, so it mean that SMEs

successful will be difficult to achieve without any incubators business role. Independent variable in this research shows positive value which means that everytime the value increases, it will increase the success number of SMEs. Soft outcome incubators value is higher than incubators hard outcomes, so it indicates that the increase of soft outcomes incubators will increase the SMEs successful which is higher than the hard outcomes incubators.

Table 5: Multiple linier regression result

Coefficients[a]							
Collinearity Statistics		Sig.	T	Standardized Coefficients	Unstandardized Coefficients		Model
VIF	Tolerance			Beta	Std. Error	B	
		0.968	-0.041		3.912	-0.158	(Constant)
1.026	0.975	0.033	2.349	0.492	0.285	0.669	Incubator Soft Outcomes
1.026	0.975	0.209	1.312	0.275	0.255	0.335	Incubator Hard Outcomes
a. Dependent Variabel: SMEs Succesful							

Table 5 summarizes the descriptive statistic and analysis result, as that can be seen that P value from independents variable have positive value but not all of them is significant with the dependent variable. Based on the result in Table 5, it explains that incubator soft outcomes has P value which is smaller than the t statistic. This is show incubator soft outcomes has significant influence towards SMEs successful. On the other hand, the incubator hard outcomes has P value higher than t statistic, so it means that the incubator hard outcomes does not have any significant influence toward SMEs successful.

Based on Onferi (2012), the research indicates that the personal development of tenant (SMEs) is an important feature of business incubator. In this research, personal development is measured by soft outcomes incubator variabel which is explained by self confidance, entrepreunerial skill, and networking. Stephens (2012) explained that incubator business can improve self confidence from tenant. Self confidence is one of aspects that built personal maturity skill, Irawan (2016) on his reserach explained that personal maturity skills have significant influence on SMEs sucessful. According to Irawan (2016), not only personal maturity skill but also entrepreuner skills have significant influence on SMEs sucessful. Networking in SMEs have a role to become marketing assistantto inform customer about SMEs existence, and it can be a way for SMEs owner to sell their product. Based on Zhang (2016), there have been a significant knowledge interaction and network evolution among of tenants in business incubator.

In this reasearch, hard outcome incubator explaines that by the Increase number of product, emoloyees, and variant product. In this research shows that hard outcomes incubators have a positive value that will not give any significant influence towards the success of SMEs. It is possible because the sub variable in this research did not showed the aim of this variable as well. Even though SMEs in Balai Inkubator Teknologi-Serpong is difficult to incrasethe employee or variant product, the revenue that they gain increases. The difficulty of adding the number of employees caused by all the works already using mechanical machines that no longer need a person to operate it. Also, it is difficult to create a new varinat because it will need more research and development.

Table 6: F-test result

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26,945	2	13,472	4,210	0,035[b]
	Residual	48,000	15	3,200		
	Total	74,944	17			
a. Dependent Variable: SMEs Succesfull						
b. Predictors: (Constant), HardMeasurment, SoftMeasurment						

Incubator business gives impact on tenant (SMEs) ability, based on Vanderstraete (2012) incubator business has a role to create customer value. Even thought the incubator businees cannot give service for the tenant which will make the business fails (Udel, 1990). Service on incubator business has a role to create customer value for SMEs. Based on Stephens (2012) research, itexplains that the measurment of incubator outcomes needs to be broader than a set statistic output, because based on the conceptual framwork from Stephens (2012) analysis, that personal development from tenant is important to make the business succesful.

The research indicates that the measurment of business incubator outcomes need to be broader than a set of statictic. On Tabel 6, P_{value} for both independents variable show smaller value than $F_{statistic}$, so both independents variable simultaneously have significant influence toward SMEs successful. In this model, the $t_{statistic}$and $F_{statistic}$, used are $t_{statistic}$and $F_{statistic}$in signification level at 5%. This explains that:

Teble 7: Coefisient determination

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.600[a]	0.360	0.274	1.78885
a. Predictors: (Constant), Incubator Soft Outcomes, Incubator Hard Outcomes				
b. Dependent Variable: SMEs Succesful				

On Table 7 above, it shows the coeffisient determination from multiple linier regression model. The value of R^2 in this model is 36%. This value explains that the incubator

hard outcomes and incubator soft outcome are variables that explain SMEs succesful in the amount of 36% and their is 74% portion of SMEs succesful that explained by another variabel that not used in this model.

5. Result

Incubator business has a role to develop successful SMEs and minimize the failure rate. Incubator business aims to make suitable environment for SMEs to grow up and gain successful. The success of the business incubator in developing the SMEs can be measured not only from the statistical aspects but from the personal development aspect too. In this research, incubator hard outcome explains the statistic aspect, while incubator soft outcomes describes personal developing. In this research, it is known that incubators soft outcomes have significant and positive influence towards SMEs successful but hard outcomes incubators does not have any significant influence towards the success of SMEs. Therefore, soft outcomes incubators and hard outcomes incubators together have a significant influance towards the success of SMEs.

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