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Effect of Technology Capability, Government Regulation on Production Capability and Company Size(Study on Embroidery SME's in East Java Province)

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ABSTRACT

There are many small and medium-sized embroidery companies in East Java Province that in stagnation or only survive without any change in company size due to their low production capabilities. The solutions through increasing technological capabilities and an active role of government regulation that has been carried out so far. Based on the objectives of this study, the survey related to Technology Capability, Government Regulation, and Production Capability was tested for 83 small and medium-sized embroidery entrepreneurs in East Java Province. PLS analysis results show that the relationship between each variable proved to be significant (except for the relationship between Technology Capability on Company Size), and also there is an opposite direction relationship between the Government Regulation and Production Capability. The finding of this study is that the Government Regulations which should be able to increase Production Capability, but the difficulty to fulfill administrative requirements of business expansion permits caused many of small and medium-sized embroidery entrepreneurs are reluctant to obtain the permit.

Key Words: *Technology capability, Government regulation, Production capability, Company size.*

1. INTRODUCTION

In total, SME's play a role in national economic growth (Kuwayama, 2001; Ahyari *et al*., 1995), but in reality there are still many of small and medium-sized embroidery industry in East Java Province are unable to contribute to the economy caused by their low production capacity (Disperindag Prov. Jatim, 1995). To solve this problem, on year 1995 Indonesian Department of Industrial and Trade created the Technology Entry Village program as an effort to increase the production capacity of entrepreneurs. Through this program it is expected that embroidery as one of the mainstay commodities of East Java Province will be able to develop. Furthermore, having a technological capabilities that can increase production capacity is a must if the industry want to win a competition (Assauri, 1999:42; Figueiredo, 2002:74; Kim L. and Kim, Y., 1985). Using an embroidery machine is an example of the Technology Capability of an embroidery company, manual embroidery machines and high-tech machines will differentiate production results in terms of quality and quantity. Tambunan (2001:78) stated that almost 70% of small-scale embroidery industry in East Java Province use traditional technology, resulting in their low production capacity. Different results are shown by Yuniarti's research (2013), that the use of high-tech machines is not always needed by small industries.

Furthermore, there are several researchers stated that Technology Capability will have a direct effect on Company Size (Tambunan, 2001:78; Martin,1994:56;Angel et al., 2012; Acha, 2000;Eternad and Lee, 2001; Lee et al., 2001;Afuah, 2002;Schoenecker and Swanson, 2002;Vanhaverbeke, 2002; Tsai, 2014; Zahra et al., 2007). Production capability which is one of the factors influencing the size of Small and Medium Industries is only achieved if supported by government regulations in the field of industrial business licensing (Ministry of Industry and Trade. No 256 / MPP / Kep / 7/1997; Desai, 2003:138). For example, a company must have a Company Environment Licence (heidenordantie) to legalized their industry, the company cannot

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carry out the production process if they do not have an Industrial Business License, and the company can not sell their products if they do not have a Trading Business License; that means government regulation has a direct effect on production capability. Schotter (1981:21) states that government regulation regulates activities that are allowed and prohibited by business owners in producing goods for the safety of people who use their products, including the business environment. If a company is able to comply with these rules, the company can carry out their activities and considered legal through the ownership of an Industrial Business License, and vice versa, if business owners are unable to comply with the rules in government regulations, their business license will be revoked and their production process must be stopped for the safety of community. Furthermore, the Indonesian Law UU. No. 3 of 2014 Article 101, North (1990: 46), Abrahamson et al. (1995), Schotter (1981: 87), Ko, S. and Butler, J.E. (2006), and Clapper (2006) states that the cessation of the production process will also affect the size of the company. While different results shows in Kiching's study (2013) that government regulation is still doubtful in its use to increase company size. Specifically, the purpose of this research is to analyze and prove empirically about:(1) The effect of Technology Capability on Production Capability of Small and Medium Embroidery Industries in East Java Province, (2) The effect of Government Regulation on Production Capability of Small and Medium Embroidery Industries in East Java Province, (3) The effect of Production Capability on Company Size of Small and Medium Embroidery Industries in East Java Province, (4) The effect of Technology Capability on Company Size of Small and Medium Embroidery Industries in East Java Province, (5) The effect of Government Regulation on Company Size of Small and Medium Embroidery Industries in East Java Province.

2. MATERIAL AND METHOD

This research is a business-based economic research in the scope of Small and Medium Embroidery Industries located in 12 regencies / cities of East Java Province.The population in this study were 83 entrepreneurs who later became the research sample. The total sample is a combination of several entrepreneurs who are included in the Sentra of Small and Medium Embroidery Industry in East Java Province with each business unit has an Industrial Registration Certificate (TDI). Table 2.1 shows each respondent unit in 12 Regencies / Cities based on data from the Indonesian Ministry of Industry (2016 - 2017).

Table 2.1.Small and Medium-Scale Embroidery Business Units in East Java Province 2016 - 2017

No.	Regency/City	Business Unit
1	Banyuwangi Regency	8
2	Pasuruan Regency	36
3	Probolinggo Regency	18
4	Surabaya City	5
5	Trenggalek Regency	3
6	Lumajang Regency	3
7	Bondowoso Regency	1
8	Sidoarjo Regency	3
9	Jombang Regency	1
10	Malang Regency	3
11	Tulungagung Regency	1
12	Gresik Regency	1
	Total	83

Inclusion criteria:

1. Small and Medium-sized Embroidery entrepreneurs in East Java Province who already have Industrial Registration Marks (TDI).
2. Male (72%) and women (28%) entrepreneurs.
3. Aged ≥26 years.
4. The entrepreneur will then be researched related to technology capability, government regulation, production capability and company size in accordance with their business conditions so far.

Based on previously described theoretical framework, the conceptual model of this study can be shown in the figure 1 below:

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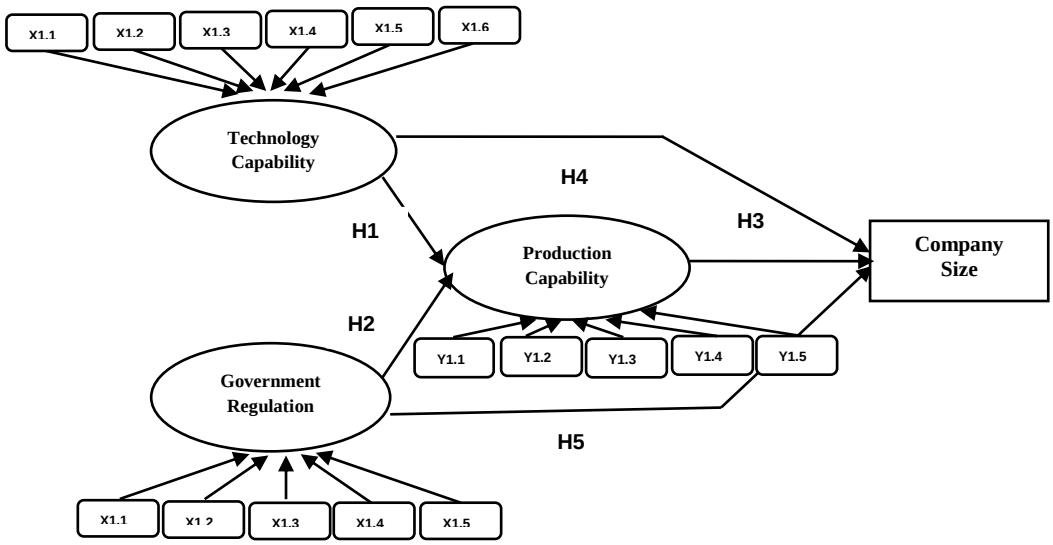

Figure 3.1: Conceptual Model Of The Study

Research Hypotheses:

Hypotheses 1: Technology Capability affects on Production Capability of Small and Medium embroidery industries in East Java Province.

Hypotheses 2: Government Regulation affects on Production Capability of Small and Medium embroidery industries in East Java Province.

Hypotheses 3: Production Capability affects on Company Size of Small and Medium embroidery industries in East Java Province.

Hypotheses 4: Technology Capability affects on Company Size of Small and Medium embroidery industries in East Java Province.

Hypotheses 5: Government Regulation affects on Production Capability of Small and Medium embroidery industries in East Java Province.

3. STATISTICAL ANALYSIS AND RESULT

The data of this study were analyzed using SPSS version 18 (SPSS Inc., Chicago, IL) and SmartPLS version 2 (SmartPLS GmbH., German). Validity and Reliability Tests are used to measure the perception of 83 Embroidery entrepreneurs, and Partial Least Square (PLS) analysis used to test the effect of the relationship between the variable Technology Capability and Government Regulation as an independent variable with Production Capability and Company Size as the dependent variable.

3.1 Result

The Outer Model Testing. A loadingfactor indicates the weight of each indicator as a measure of each latent variable. An indicator with the largest loadingfactor indicates that it serves as a dominant measure of a variable. Table 3.1 shows the loading factor for each indicator of independent variables.

Table 3.1. Loading Factor Test

Technology Capability (X1)		Government Regulation (X2)		Production Capability (Y1)	
HR skills in managing production (X1.1)	0.733*	Procedure for issuing permits (X2.1)	0.574*	Conduct planning (production, storage, expenditure, and distribution) (Y1.1)	0.674*
Machinary tools and equipment suitable to production needs (X1.2)	0.696*	The amount of the permit fee (X2.2)	0.152*	Prepare human resources and division of tasks (Y1.2)	0.567*
Machines and equipment are easy to operate (X1.3)	0.771*	Length of issuance of permits (X2.3)	0.064*	Treat natural resources well (Y1.3)	0.747*
Efficiency of the production process (X.1.4)	0.650*	Type of document required (X2.4)	0.670*	Diversity of production for consumer needs (Y1.4)	0.491*
Improve the quality of	0.896*	Administrative officer	0.102*	Optimizing the function of wealth	0.590*

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product (X1.5)		competence (X2.5)		in the form of currency (Y1.5)	
Increase work motivation (X1.6)	0.917*				

Note: * indicates significance (*p*-value of <0.05)

Table 3.1 shows that:

a. Technology Capability Variable (X1). The implementation of Technology Capabilities for Small and Medium Embroidery Industries in East Java Province is suggested to lead to factors that can increase work motivation, because the technological capabilities possessed by a company generally will also increase their employee work motivation. Thus, it is recommended for Small and Medium Embroidery entrepreneurs to make efforts improving their technological capabilities.

b. Government Regulation variables (X2). Embroidery entrepreneurs of Small and Medium Industries in East Java Province are advised to pay attention to the types of documents required in the licensing. There is the most important focus related to government regulation, the length of business issuance has the smallest loading factor although it is significant in describing the characteristics of government regulation.

The Inner Model Testing. Table 3.2 shows the *R*-squared values for dependent variables of the research model.

Table 3.2.Inner Model Test

Dependent Variables	R-Squared Values
Production Capability (Y_1)	0.760
Company Size (Y_2)	0.309

The test for inner model using the predictive-relevance value (Q^2) was calculated as follows:

$$Q^2 = 1 - (1 - R_1^2)(1 - R_2^2)$$

$$= 1 - (1 - 0.760)(1 - 0.309) = 0.834$$

The Q-squared value of 0.834 means that this research model was capable of accounting for 83.4% of employment, while the remaining 16.6% for other variables not included into the research model and errors. Results of PLS analysis of the relationships among variables in accordance with the hypotheses are shown in Table 3.3 and Figure 3.2.

Table 3.3.Hypotheses Test Result

Hypotesis	Coefficient	*P*-value	*information*
H1: Technology Capability→ Production Capability	0.179	0.043*	accepted
H2: Government Regulation→Production Capability	-0.364	0.040*	accepted
H3: Production Capability→Company Size	0.249	0.004*	accepted
H4: Technology Capability→Company Size	0.017	0.932*	not-accepted
H5: Government Regulation →Company Size	0.317	0.002*	accepted

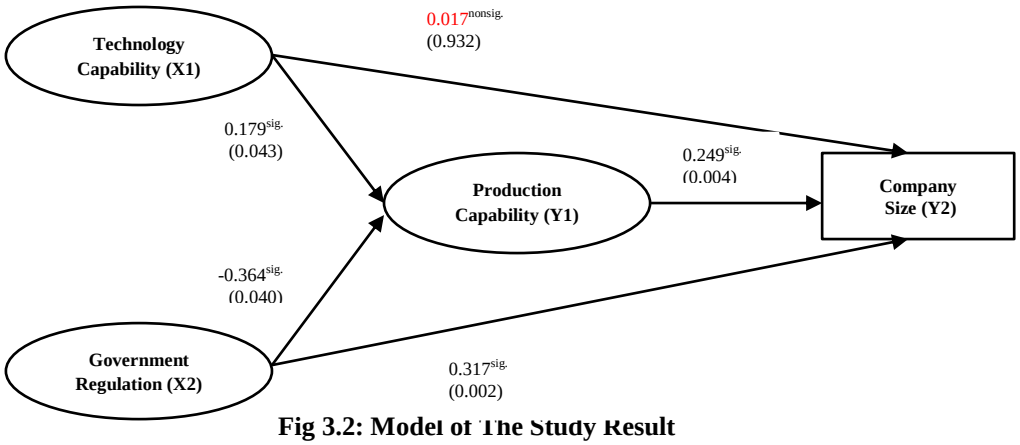

Fig 3.2: Model of The Study Result

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4. CONCLUSION

The results of the PLS analysis show that the Technology Capability does not significantly influence the changes in the Company Size of small-scale embroidery companies in East Java Province. Thus, these results are not in accordance with the concept of production theory which illustrates that industries are assumed to always try to produce the maximum level of output by using a certain combination of inputs and the lowest cost, then considers trying to maximize profits. This means that if a company is able to synchronize the availability of production factors with the ability of the production process and output both in quantity, quality and distribution in accordance with market demand, the company will make a profit so that the size of the company will increase. In fact, even though most embroidery business units experience an increase in total sales, the company size does not change statistically.

Government regulations that refer to the types of documents required actually weaken the production capacity of the Small and Medium Industries Embroidery entrepreneurs in East Java Province, because they spend a lot of time completing the documents needed to get a business license compared to the production process. As Doing Business (2012) states that getting a business license to start a business in Indonesia requires 8 procedures within completed in 45 days and costs around 17.9 percent of per capita income. This is why the government regulation on business licenses is not optimally to increase industrial production capabilities.

Overall, the relationship between each variable proved to be significant (except for the relationship between Technology Capability and Company Size). There is an opposite direction between the Government Regulation on Production Capability, which means that the number of administrative documents and procedures for managing business licenses in Government Regulation will actually weaken the Production Capability of Small and Medium-sized Embroidery Industries in East Java Province.

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