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The Role of Total Quality Management in Batik Business

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ABSTRACT: In economics, production factors are divided into four groups namely labor, capital, resources, and entrepreneurship. Schumpeter (1934) describes that the main factors of entrepreneurship is innovation. Efforts made by entrepreneurs in innovation are through product innovation, market innovation, business alliances and the implementation of quality management standards in the company. This study is a further research from previous study by focusing the role of entrepreneurs in the implementation of quality management standards within the company. The demands of the application of quality management, well known as Total Quality Management (TQM), especially in obtaining certification of quality standards for batik industry in Central Java province is becoming increasingly important in confronting the ASEAN Economic Community (AEC) by 2015. TQM needs to be aligned with the implementation of the strategy and the characteristics of the company due to the implementation of TQM are a process that consumes cost, time and resources, especially in the early implementation. Based on this background, the problem in this research is "What is the impact of the implementation of TQM and the characteristics of the company against economic efficiency in the batik industries in Central Java province?". The objective of this research is to build an application model of total quality management in accordance with the characteristics of the company to economic efficiency in batik industries in Central Java province. Central Java province is taken as the research area within 100 respondents from entrepreneurial batik industries in three regencies/cities as the centers of batik industries in Central Java province. The data are collected by direct interview approach to the management or owners of batik business. Further, the data are analyzed using analysis approach production cost efficiency frontier. The final results are: (1) the role of entrepreneurs in the implementation of TQM does not significantly increase production, but significantly increase revenue. (2) The application of TQM significantly increase revenues primarily in companies with medium and large-scale, export-oriented, and companies that use the strategy of focus and differentiation. (3) Economic price efficiency and batik entrepreneurs economic are significantly higher in entrepreneurial implement TQM, larger-scale, export-oriented and using focused and differentiation strategy, but technical efficiency is only affected by the scale and market share.

Keywords: *total quality management*, production cost, revenue benefit, characteristics and corporate strategy

1. INTRODUCTION

Production factors in economics are divided into four groups. They are labor, capital, resources, and entrepreneurship. Schumpeter (1934) describes the main factors of entrepreneurship is innovation. Economic globalization is a serious challenge for company management to maintain the organization, especially in maintaining the factors of production. Competition policy has become a claim that cannot be avoided in the globalization of international economy. Application of management philosophy in managing the economy can be conducted with the respect to efficiency in the management of production factors. Schumpeter (1934) describes innovation as the main factors of entrepreneurship. Several efforts of entrepreneurs in innovation are through product innovation, market innovation, business alliances and the implementation of quality management standards or quality management which often refers to Total Quality Management (TQM).

Integrated Quality Management, known as Total Quality Management (TQM) is a leading management philosophy that is used to improve the position and performance of the company (such as: Tummala and Tang, 1996; Prajogo and Sohal, 2006; Feizollahi et al., 2013). TQM is a tool of strategic, tactical and operational research in the field of quality management (Feizollahi et al., 2013). TQM approach is one of the most widely applied and well accepted approach to business excellence instead of Continuous Quality Improvement (CQI), Six Sigma, Just- in-Time (JIT), and Supply Chain Management (SCM). TQM implementation provides many benefits in supporting the competitiveness of enterprises. However, the application of TQM must be tailored to the company's management strategy, enterprise characteristics and environmental characteristics because the process associated with the expenses, time and resources to several studies (eg, Hoang et al., 2010; Choong, 2004; Haar and Spell 2008 ; Feizollahi et al., 2013; Prajogo and Sohal, 2006) has not been consistently integrated with the effective implementation of TQM for small companies, companies with local

market orientation, leadership-oriented strategy and the intensity of lower costs competition.

Batik as one commodity of cultural heritage of Indonesia has a potency to compete in global market. Indonesia holds the patent on Batik culture, but Indonesia is not the only country that produce batik. The Ministry of Industry (2013) states that there are 10 countries as the competitors of Indonesia in the productivity of producing batik. The business of small and medium-scale batik compete with imported batik in the local markets with a very low price. Some businesses are difficult to compete in the export market, while at the local market itself the intensity of competition is also high because of the imported products (Soesastro, 2004: 4). Relatively low labor costs and the availability of natural resources are two factors of comparative advantages, but these factors are not sustainable (Soesastro, 2004: 23). This results the demands of businesses to implement a quality management system in its business activities to exist and develop in a sustainability.

This study is the further research of previous study by focusing on the role of entrepreneurs in the implementation of quality management standards within the company. The demands of the application of quality management, well known as Total Quality Management (TQM), especially in obtaining certification of quality standards for batik industry in Central Java province is becoming increasingly important in confronting ASEAN Economic Community (AEC) by 2015.

Based on the background, the main research problem on this research is "What is the impact of the implementation of TQM and the characteristics of the company against economic efficiency in the batik industries in Central Java province?".

2. LITERATURE REVIEW

Quality Management Standard or Quality Management which is popular as Total Quality Management (TQM) is the program to improve performance on going basis (Continuous Performance Improvement) at each level of operations

and processes, in every function of the organization, using all human resources (HR) and available capital (Bou-Llugar et al., 2008: 22; Eriksson and Garvare, 2005; Gaspersz, 2001: 6). TQM is a term used to describe programs to improve quality and productivity. Laderrer and Rhe (1995) developed the economic model of TQM by using the assumption that the total quality management is a technological innovation that can provide a lower cost through several investments. The performance level perceived quality or attribute output level according to the technology chosen to produce a qualified product. However, production costs will rise in accordance with the quality. Investing in technology can reduce production costs at a constant quality level. The variable cost of production is a function of the output, quality and technology chosen. Variable production costs include all costs associated with the production, such as labor, materials, electricity, supply, supervision.

Although the technology is subject to the function of costs, but technology as fixed costs can improve efficiency by reducing product defects. Efficiency increases with scale of production.

Production function in the production activity is formulated as follows:

$$Q = AK^\alpha L^{1-\alpha} \quad \text{Where:}$$

$$A = \phi h^\gamma$$

$$h = f(E)h \dots\dots\dots(2.1)$$

Furthermore innovation activities (such as in the implementation of quality management), can be described as follows:

$$Q_R = \phi K_R^\beta + A_R Z \quad \text{Where:}$$

$$z = L_R h,$$

$$K_R = g(E)K_R, \dots\dots\dots(2.2)$$

Based on the production function, the benefits of innovation activity can be formulated as follows:

$$\pi_R = \theta K_R^\beta + A_R Z^g - w_R Z - \rho_R K_R \dots\dots\dots(2.3)$$

Where W_R is wage of labour capital per unit, and ρ_R is the average of acceptance of innovation resource. To maximize the benefits of innovation activity as a function of spending and demand $\frac{d\pi_R}{dK_R} = 0$ can be formulated as follows :

$$\rho_R = \beta\theta K_R^{\beta-1} \dots\dots\dots (2.4)$$

Thus, the profit from industry activity of batik production can be defined as follows:

$$\pi_p = AK_p^{1-\alpha} L_p^\alpha - w_p L_p - \rho_p K_p \dots\dots\dots (2.5)$$

Based on definition $\frac{K_p}{L_p} = k$ equation of 2.5 can be written:

$$\rho_p = (1 - \alpha)A k^{-\alpha} \dots\dots\dots (2.6)$$

If entrepreneurs want to raise new capital for innovation through such activities in the implementation of quality management, it can be written under the following conditions:

$$\int_t^{+\infty} \rho_R e^{-\gamma(x-t)} dx > \int_t^{+\infty} \rho_p e^{-\gamma(x-t)} dx \dots\dots\dots (2.7)$$

Where r is average of interest level. Left side substitution of equation (2.3) to equation (2.4) dan right side substitution of equation (2.5) to equation (2.6) and (2.7), can be observed as follows:

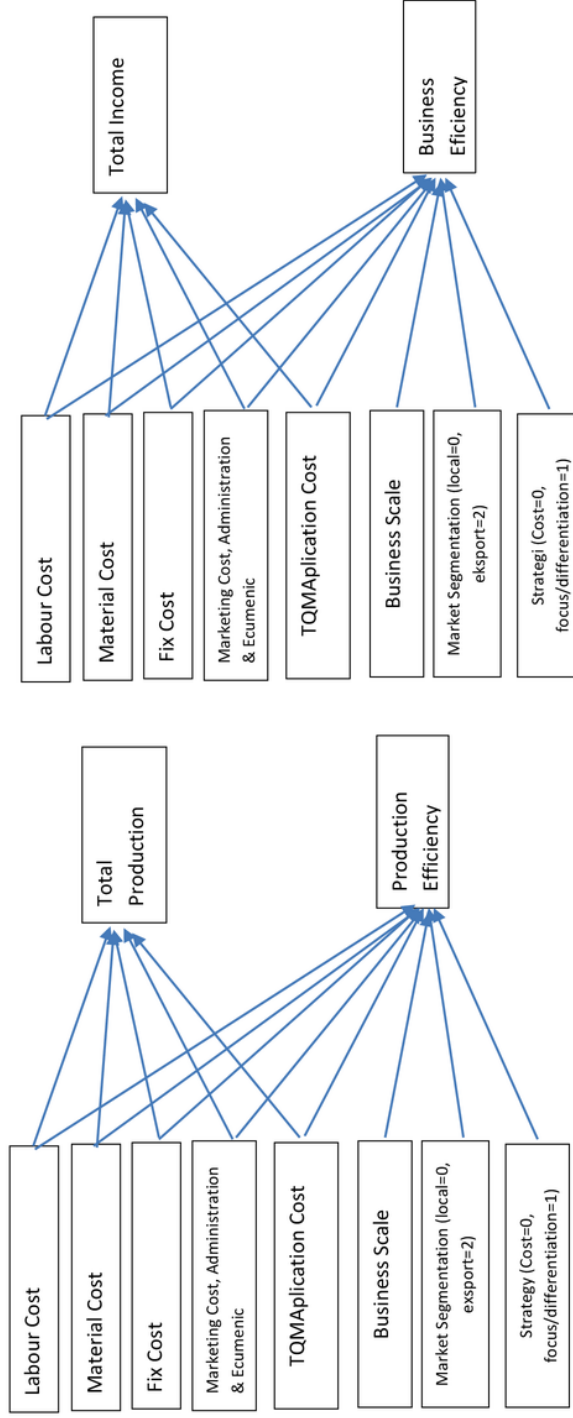
$$\frac{\beta\theta K_R^{\beta-1}}{r - (\beta-1)g(E)} > \frac{(1-\alpha)\theta k^{-\alpha} h^\gamma}{r - \gamma f(E)} \dots\dots\dots (2.8)$$

While the function of increased efficiency, the role entrepreneurship can be formulated as follows:

$$TE = \frac{d\pi r}{d\pi k} \dots\dots\dots (2.9)$$

Where, TE= technical efficiency, $d\pi r$ = profit efficiency, $d\pi k$ = sources which used to increase efficiency such as implementation of quality management.

2.1. Testing Economic Efficiency Model of Quality Management Application Based on the Company Characteristics of Industry in Central Java Batik



3. RESEARCH METHODOLOGY

This research is to analyze the role of entrepreneurs in quality management by incorporating characteristic factors of business (2015). The research study will be discussing a strategy on the competitiveness of companies batik.

In this study, the population involves all Batik industries in Central Java Province including 538 enterprises; 55 large industries, 221 medium scale industries, and 262 small-scale industries (Ministry, 2014). The sampling was taken through stratified sampling (Multi Stage Sampling). Based on the above criteria, sampling region gained 3 data: 1) Pekalongan regency as batik industrial center with the greatest batik enterprises in Central Java; 2) Solo regency as a palace batik center with the secondary largest number of business batik units in Central Java, 3) Lasem District of Rembang as coastal batik centers with highest growth number of business units in Central Java.

The analysis method in this research occupies descriptive statistical analysis and inferential statistical analysis. Descriptive statistical analysis provides illustration and explanation on the characteristics of the study area, the characteristics of batik business, as well as the potential and problems faced by batik entrepreneurs in micro-economic review. Meanwhile, the medium inferential statistical analysis is to draw conclusions in order to achieve intended results. The production function and revenue of batik industry can be illustrated in the following formulas derived from the function of Cob Douglas:

1) The function of production cost:

$$Q = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 X_3 + e \dots\dots\dots (1)$$

2) The function of revenue:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e \dots\dots\dots (2)$$

Where:

Q = The total of batik production (Rp)

Y = The revenue of batik industry (Rp)

X1 = The average of labour cost /Month (Rp)

X2 = The average of material cost and componental /Month (Rp)

X3 = The average of overhead cost/Month (Rp)

α, β = intercept, slope

e = external factors of the model.

The equation (1) and (2) in the natural algorithm function are illustrated as in the following:

$$\ln Q = \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \alpha_3 \ln X_3 + e \dots\dots\dots (3)$$

$$\ln Y = \beta_0 + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + e \dots\dots\dots (4)$$

Based on the equation (3) and (4), it results production inefficiency ($Q' - Q$) and revenue inefficiency ($Y' - Y$) that is the discrepancy between production and efficient revenue with production and actual revenue. Further, the role of entrepreneur toward production efficiency and batik industry revenue can be described in the following formula:

$$Q' - Q = \alpha_0 + \alpha_1 D_1 + \alpha_2 D_2 + \alpha_3 D_3 + \alpha_4 D_4 + \alpha_5 D_5 + e \dots\dots\dots (5)$$

$$Y' - Y = \beta_0 + \beta_1 D_1 + \beta_2 D_2 + \beta_3 D_3 + \beta_4 D_4 + \beta_5 D_5 + e \dots\dots\dots (6)$$

Where:

$Q' - Q$ = In-efficiency of production

$Y' - Y$ = In-efficiency of revenue

D_1 = TQM implementation (yes=1, no=0)

D_2 = Market segment (local=0, export=1)

D_3 = strategy type (0=cost overhead, 1= focus, differentiation)

α = constant

β = regression coefficient

e = external factor of the model.

4. RESEARCH RESULT

4.1. Analysis of Entrepreneur Role in the Implementation of TQM and characteristics of the Company to Production Efficiency and Revenue Efficiency

Return to scale is a situation where output increases in response to the proportional increase of all inputs. Refers to Cobb-Douglas function, the coefficients of each independent variable is the elasticity of the elastic dependent. The analysis variable changes exogenous variables on endogenous variables of production volume and revenue batik SMEs (Small Medium Enterprises) using the natural logarithm regression models. The test results are presented in Table 1.

TABLE 1: Summary of Production and Revenue Elasticity Testing Results

Parameter	Production Function		Revenue Funtion	
	B	P	B	ρ
1. Constantan	-11,066	0,000	3,111	0,000
2. Labour Cost ($\text{Ln}X_1$)	0,723	0,000	0,331	0,000
3. Material Cost ($\text{Ln}X_2$)	0,223	0,000	0,365	0,000
4. Overhead Cost ($\text{Ln}X_3$)	0,135	0,000	0,216	0,000
R^2	0,998		0,858	
<i>F calculate</i>	15518		200,275	
<i>Sig. F (p-value)</i>	0,000		0,000	

Source : processed from the data questionnaire (2015)

In terms of production function, Table 1 explained that elasticity of labor costs (X_1) is 0.723. It means that any changes with labor costs by 1% will contribute changes to the production of batik at 0.723% if other variables are constant. Elasticity of variable costs of raw materials (X_2) is 0.223. It means that any changes in raw material costs by 1% will contribute changes to the production of batik at 0.223% if other variables are constant. Elasticity variable fixed cost (X_3) is 0.135. It means that any increase in costs remained at 1% will contribute to the production of batik change of 0.35% if other variables are constant. The variable of production costs with the highest elasticity of the volume of batik production is labor costs followed by the cost of material and fixed costs. The total cost of production has elasticity of $(X_1 + X_2 + X_3) = 0.723 + 0.223 + 0.135 = 1.081$ for volume production.

In terms of the revenue function, elasticity of labor costs (X_1) is 0.331. It means that any changes with labor costs by 1% will contribute changes to income (gross) from the sale of batik at 0.331% if other variables are constant. Elasticity of variable costs of raw materials (X_2) is 0,365. It means that any change in raw material costs by 1% will contribute changes to income (gross) of batik sales at 0.365% if other variables are constant. Elasticity variable fixed cost (X_3) is 0.216. It means that any increase in costs remained at 1% will contribute changes to income (gross) from the sale of batik at 0.216% if other variables are constant. The variable of production costs with the highest elasticity to income (gross) from the sale of batik is material labor costs, followed by labor costs and fixed costs. The total cost of production has elasticity of $(X_1 + X_2 + X_3) = 0.331 + 0.365 + 0.216 = 0.912$ on income.

Based on Table 1, it can be seen that return to scale of batik SMEs through the summation of each independent variable.

$$\begin{aligned}
 \text{Return to scale} &= \beta_1 + \beta_2 + \beta_3 \\
 &= 0,723 + 0,223 + 0,135 \\
 &= 1,081
 \end{aligned}$$

Values return to scale in batik SMEs is 1.081. Returns to scale is derived from the addition of elasticity coefficients for each independent variable in this study. This shows that the batik SMEs (Small Medium Enterprises) are at Increasing Return to Scale (IRS). It means that the proportion of additional factors of production will result in the additional production that has a greater proportion.

4.2. Analysis of TQM Application and company characteristics to Production Efficiency and Revenue Efficiency

This stage (Table 2) is analysis of the role of entrepreneurs in the application of quality management (D1) and the characteristics of the company in terms of market share (D2) and competitive strategy (D3) treated with regression with point deviation in the production function and the effect on income. The positive influence demonstrates entrepreneurial role supporting efficiency. Table 2 shows a negative influence of entrepreneur role in lowering the efficiency. On the efficiency of production, test results obtained by the correlation coefficient (R) positive (0.235). However the low correlation coefficient (0.235 < 0.3) indicates a weak relationship. The coefficient of determination (R²) obtained 0.026 or 2.6%.

TABLE 2: Summary of Regression Testing Results of Entrepreneurial Role Effect in Implementation of Quality Management and Company Characteristics to Production and Revenue Efficiency

Parameter	Production Function		Revenue Function	
	B	P	B	ρ
1. Constantan	0.011	0.769	-2,101 x 10 ⁶	0.000
2. TQM Application (D ₁)	- 0.163	0.056	1,972 x 10 ⁶	0.035
3. Market Segment (D ₂)	- 0.022	0.851	6,469 x 10 ⁶	0.000
4. Strategy Orientation (D ₃)	0.089	0.229	2,062 x 10 ⁶	0.012
<i>R</i>	0,235		0,743	
<i>R</i> ²	0,026		0,537	
<i>F</i> calculation	1,869		39,350	
<i>Sig. F (p-value)</i>	0,140		0,000	

Source : processed from the data questionnaire (2015)

Table 2 reflects the exogenous application of quality management (D1), market share (D2) and competitive strategy (D3). They explain the variation of the change that is an increase or decrease in endogenous variables (deviations optimal point) production by 2.6%. The rest as 97.4% is influenced by other variables that are not involved in this research model. Testing simultaneous equations with the *goodness of fit* (F-test) obtained F count (F-test) of 1.869 (p-value = 0.140 > 0.5). It shows that the model does not fit with the data. Thus, it cannot be analyzed further (Table 2).

In terms of revenue efficiency, test results are obtained from the correlation coefficient (R) positive (0.743). It suggests the orientation of the unidirectional relationship. It means that if an exogenous variable application of quality management (D1), market share (D2) and competitive strategy (D3) increases, the sales value of batik (Y) will also be increased above the industry average. The coefficient of determination (R²) is equal to 0.537 or 53.7%. It reflects that the exogenous application of quality management (D1), market share (D2) and competitive strategy (D3) is able to explain whether the variation of the change is an increase or decrease of the endogenous variables (deviations optimal point) sales at 53.7%. While the rest by 48.3% is influenced by other variables that are not involved in this research model. Testing simultaneous equations with the goodness of fit (F-test) obtained F count (F-test) of 39.350 (p-value = 0.000). It shows that the model fits the data.

In terms of revenue efficiency (Table 2), variable entrepreneurial role in the application of quality management (D1) has a positive effect on operating revenues of batik (Y) (p-value = 0.035 < 5%). The regression coefficient (β) = 1.972 x 10⁶ shows unidirectional relationship. It means that entrepreneurs that carry out the implementation of quality management has higher efficiency batik business income (Y) above USD 1,972 million compared to the industry average entrepreneurs that do not carry out the implementation of quality management.

The variable of market share (export / local) (D2) has a positive effect on operating revenues of batik (Y) (p-value = 0,000 < 5%). The regression coefficient (β) = 6.469 x 10⁶ shows the relationship unidirectional. It means that export market oriented entrepreneurs have business batik income (Y) more than Rp 6.469 million above the industry average compared to entrepreneurs who orient to local market.

Variable orientation of competitive strategy (D3) has a positive effect on operating revenues of batik (Y) (p-value = 0,000 < 5%). The regression coefficient (β) = 2.062 x 10⁶ shows unidirectional relationship. It means that entrepreneurs focusing on differentiation

strategy or an income (Y) IDR 2,062 millions have higher income than the entrepreneurs who have a cost leadership strategy (Table 2).

Batik SME revenue efficiency by the application of quality management and enterprise characteristics are presented in Table 3. The average efficiency of companies that apply quality management, market-oriented and export-oriented differentiation focus strategy is higher than the average efficiency of companies that do not implement quality management, market-oriented local and low cost leadership strategies orientation. The average production cost efficiency companies implementing quality management is IDR 3.273 million or 10.33% above the efficiency frontier (the industry average). The average production cost efficiency company has a market share of exports at USD 8.121 million or 25.63% above the efficiency frontier. The average production cost efficiency-oriented enterprises or differentiation focus strategy is IDR 4.695 million or 14.82% above the efficiency frontier.

TABLE 3: Revenue efficiency of SMEs Batik based on Application of Quality Management and the Company Characteristics

	Inefficiency (million/IDR)	Average	Efficiency-Inefficiency Average (%)
A. Quality Management			
No.	-1.762		-5.56
Yes	3.273		10.33
B. Market Goal			
Lokal	-1.322		-4.17
Export	8.121		25.63
C. Strategy Orientation			
Managerial Cost	-1.483		-4.68
Focus, Differentiation	4.695		14.82

Source : processed from the data questionnaire (2015)

The average efficiency of the production costs of companies that do not implement quality management is USD 1,762 million, or 5.56% below the efficiency frontier (the industry average). The average production cost efficiency company with a market share of exports is USD -1.322 million, or 4.17% below the efficiency frontier. The average production cost efficiency-oriented enterprises or differentiation focus strategy is Rp 4.695 million, or 4.68% below the efficiency frontier (Table 3).

The study found that ³² the role of entrepreneurs in the implementation of quality management, market share (export / local) and the orientation of competitive strategy does not give positive and significant effects on the production of batik (Y). However, the role of ⁸

entrepreneurs in the implementation of quality management and business characteristics in terms of market share (export/local) and the orientation of competitive strategy brings significant effect on operating revenues of batik (Y). This research has found that the role of entrepreneurs in the implementation of quality management and business characteristics in terms of market share (export/local) and the orientation of competitive strategy has no significant effect on production efficiency. However, it brings significant effect on the efficiency of revenue. The results of this study found that the effect of the implementation of quality management is on both operating revenues.

These findings are in line with the previous research (such as: Tummala and Tang, 1996; Prajogo and Sohal, 2006; Feizollahi et al., 2013) by considering quality management as a leading management philosophy that enhances the position and performance of the company. Facing the Asean Economic Community in 2015, it is a requirement to provide support for all products to perform quality management. Quality improves model of performance management through TQM applied in developed countries including the United States, Japan, Britain and other European countries. Nevertheless, in the free-market era, quality practices are also required on small and medium businesses in developing countries (Temtime, 2003; Hoang et al., 2010; Das et al., 2008; Khanna et al, 2010; Satish and Srinivasan, 2010; Al - Swidi and Mahmood, 2012).

The results also show that TQM is a quality management system that can be implemented by small and medium enterprises. It can increase production and revenues as well as SMEs Batik. Yet, the results of this study found that entrepreneurs who own batik and batik SNI (Indonesian National Standard) label are still below 10%. Batik artisans who have SNI and Batik label are still in a small number due to the low awareness to take care of standardization (64%) and the high cost of maintenance constraints (76%).

The findings of this study is in line with the opinion of Talib et al. (2010) and Ahmadi et al. (2012) that TQM is difficult to apply in SMEs due to the relatively high cost of certification, implementation, and maintenance of the certificate. It shows that the government needs to provide facilities for the manufacturing process as well as the extension of the trademark certificate Batik Indonesia. By so doing, it will help the batik entrepreneurs to compete with foreign products. According to Harvie (2004), problems in MSEs is due to the efficiency of economies of scale, a relatively high cost in accessing and utilizing information technology, accessing infrastructure, limitations in reaching quality standards, lack of skills and knowledge in dealing with customers both in the domestic or export markets.

The results of this study also complement the results of the previous ones that the implementation of TQM does not only need to fit like scale enterprises (Hoang et al., 2010; Hendricks and Singhal, 2000; Gagnon and Toulouse, 1996; Germain, 1996), the type of industry (Hoang et al., 2010), commitment and empowerment (Gonzalez and Jimenez, 2013), organizational culture (Ahmadi et al., 2012; Cheng et al., 2007; Ojo, 2013), ownership (Hoang et al., 2010; Ahire et al., 1996; Swamidass and Kotha, 1998), capital (Hendricks and Singhal, 2000), but also the purpose of market and competitive strategy. The results of this study found that the strategy of focus and differentiation are more appropriate for the implementation of TQM that supports previous research (Prajogo and Sohal, 2006; Leonard and McAdam, 2003). The higher the quality will be in line with the increase in prices.

Batik SMEs that focus on the implementation of quality management for competitive strategy, the implementation of quality management are often constrained by economies of scale problems that small businesses have. Therefore, the model of alliances (horizontal and vertical) can be considered to deliver the potential benefits of economies of scale efficiency in the adoption of quality management. In the model of horizontal alliances, business groups can work together for quality planning (such as by building a brand, control design and environmental impact), quality testing (bring staff for testing quality standards batik or quality management consultants together will lead to lower costs). In the model of vertical alliances, company leaders focus on quality control and management, health insurance open to domestic and international markets. While, SMEs focus on meeting the product quality and timely delivery.

5. CONCLUSION

5.1. Conclusion

Based on the results of research on batik SMEs, it can be concluded that the role of entrepreneurs in the implementation of quality management do not significantly increase production, but it significantly increases revenue. The application of quality management significantly increases revenue especially in export-oriented company and using the focus and differentiation strategies. Batik entrepreneur revenue efficiency was significantly higher in the entrepreneurial implementing quality management, a larger-scale, export-oriented and focused strategy and differentiation. However, the role of entrepreneurship in implementing quality management, export market orientation and differentiation focus strategy has no significant effect on production efficiency.

5.2. Suggestion

Based on the results and discussion, the author can give suggestion as follows. (1) Batik business operators are required for the adoption of quality management. It is not only needed for export-oriented company, but also in the era of free markets as in Asean Economic Community in 2015. Foreign batik products can be a threat in the local markets. (2) The Government may provide convenience to the process of obtaining certification and quality certification and brand extension Batik Indonesia because it will help batik entrepreneurs to compete in both local and global markets. (3) Economies of scale make SMEs inefficient for the adoption of quality management, so it becomes an obstacle to be competitive in a long term. SMEs must overcome obstacles economies of scale efficiency with cooperative / business group in both clusters and business networks, building vertical alliances within the related business group, or employ agents both through acquisition and contract-based resources. (4) Local government can provide incentives and guidance system to foster the development of new businesses for the implementation of quality management, especially in a short term. (5) The Association respectively strives acknowledgement from the government to assist Central Java batik artisans especially for services trade in Central Java. It also continues to encourage the artisans to consider SNI batik or well known as the Trade Mark (TM). (6) The Association of batik artisans encourage members about the importance of quality standards in the form of batik and batik SNI label. By having quality standard, the entrepreneurs are confidence to export their products.

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