

## Competitiveness and Policy Development of SME Clusters, Empirical Evidence in Indonesia

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### Abstract

The purpose of this study is to analyze SME clusters competitiveness based on 9 factors. Those 9 factors of competitiveness are raw materials, labor, product prices, markets, technology, investment, management, and economic and socio-cultural base. The development of SMEs is a part of long-term economic development to attain a balanced economic structure. Nevertheless, the gaps of resource potential, infrastructure and market lead to disproportional dispersion of location as well as industrial lethargy. Regional economic development is defined as a process where the Academic, Business, Community and Government (ABCG) manage the existing resources and establish an interrelationship among them to run the economy at regional level. There are seven clusters of SMEs in Sragen regency including featured products of the region. This study investigated the competitiveness of three clusters of SMEs, namely batik cluster, convection cluster and furniture cluster based on the Criteria of Regional Superior Products (*PUD*). The expected objectives of this study were to determine the contribution of batik fashion, convection and furniture clusters to GRDP, poverty, and development of cluster area/location as well as to provide inputs for the prevailing policy related to the improvement of competitiveness of SMEs clusters. The inputs include the recommendation for the local government to prioritize the policy for the development of batik cluster competitiveness particularly on labor, raw material, management and pricing. In convection cluster, the priority of development policy should be preoccupied on technology, market, investment and economic base. Meanwhile, the socio-cultural aspects must be prioritized for the development of furniture cluster competitiveness. Data was analyzed by using Analytic Hierarchy Process (AHP) and Topsis Analysis.

**Keywords:** Economic potential, Competitiveness, SMEs cluster.

## Introduction

The development of SMEs in Indonesia frequently encounters various obstacles and issues leading to their low competitiveness to imported products. The major issues include limited infrastructure and access, license and bureaucracy-related problems, and high rate levies. Those problems undeniably obstruct the development of SMEs. Despite their ability to survive amid the global crisis, yet they have to face very complicated constraints. The problems might not directly affected by the global crisis, however, SMEs have to deal with protracted domestic problems such as wage, employment, levies, corruption and other related setbacks.

To illustrate the competitiveness level of SMEs, there are several factors that should be recognized including the educational background of owners and workers of SMEs, the skills and entrepreneurship level, the access to financial resources, the access to business development agencies, external factors such as licensing and transaction costs, and others. While the parameters for competitiveness of SMEs are very diverse, the identification should involve three characteristics of potential, process, and performance (Tambunan, 2008).

Kuah (2002) explains that SME should operate their business in clusters since they have limited resources. Lamprinopoulou and Tregear (2011) suggest that SME should build business network to overcome their limitation of resources. SME cluster is a form of business network. Karaev *et al.*, (2007) found that business network in SME cluster could be the source of competitiveness for this business organization. Lamprinopoulou and Tregear (2011) propose that in a cluster SME could make a specialization of their competence and then contributes to their network. There are two implications of this processes, First, SME could develop their core business and competence. Second, in the same time, SME could differentiate their product for different market with low cost strategy, since they could share investments with other member of the clusters. In Indonesia, formation of SME cluster is an important policy for many local governments (Tambunan, 2008). Local governments in Indonesia interested in creating centre of economic growth in certain area. SME cluster considered as an appropriate policy to achieve high local economic growth (Tambunan, 2003).

This study analyzes the competitiveness of SMEs clusters, namely Batik cluster, Convection cluster, and Furniture ciluster in Sragen regency. We conduct assessment of competitiveness factors in SME to develop industrial policy for the cluster. This research aimed to determine the priority of policy regarding with the development of SMEs clusters. We propose model of Analytical Hierarchy Process (AHP) in this study to determine priorities in SME cluster development. Our AHP model based on Korpela *et al.*, (2003) priorities model.

## Literature review

### The SMEs Clusters

The key characteristics of clusters or industrial districts according to Schmitz and Musyck (1993) are: (1) dominated by small industry engaged in the same sector

(special interest) or related sectors; (2) Collaboration between relevant businesses in terms of equipment, information, skilled labor, and so forth; (3) The firms compete with each other based on the quality of the product instead of reducing the production cost including wages; (4) Employers and workers have a long history in that location. It facilitates mutual trust in the relationship between small businesses, between workers, and skilled labor; (5) Entrepreneurs are well organized and actively participate in independent organizations; (6) Active involvement of local and regional governments in supporting the development of local or regional industrial clusters (Schmidtz and Nadvi, 1999).

Clustering is also defined as the process of business units and related actors to establish their business in the same location within a particular geographical area, which subsequently collaborate in certain functional circumstance, by realizing the linkages and cooperation to augment the ability of collective competitiveness in a business network (Kuah, 2002). Moreover, Porter (1990) also put emphasis on the concept of value chain in order to produce a particular product. The close distance between the business groups can then be interpreted as an assessment of optimal added value due to the agglomeration. The impact of competition in clusters leads to elevated productivity based on innovation, expansion and retrofitting within the cluster itself (Porter, 1998).

### **Community Economic Development Strategy**

Strategy is a set of activities used to formulate, implement, and evaluate managerial decisions in attaining company goals (Ghezzi, 2013; Hunger & Wheelen, 2004). Strategy is closely associated with the concept of planning and decision making, furthermore, the strategy will develop into management strategy. The strategy management process consists of several stages, including environmental observation, strategy formulation, strategy implementation and strategy evaluation (Soltanizadeh *et al.*, 2016; Hunger & Wheelen, 2004). The stage of environmental observation is carried out to identify the events, developments and changes in the environment that affect the condition of the organization (Jermias, 2008; Hill & Jones, 2010). The stage of strategy formulation is where decision in the selection of alternative strategies to be used by the organization occurs. The preferred strategy is the result of observation of the organizational environment (Raymond and Bergeron, 2008; Jermias, 2008). The subsequent stage is the implementation of the strategy, which is the strategy that has been formulated or designed.

Strategy implementation is a process where the management realizes the strategy and policies through the development of programs, budgets and procedures (Farell, 2000; Ghezzi, 2013). The final stage is the evaluation and control by comparing the results and the expected results to provide the necessary feedback for the management to evaluate and perform corrective action when required (Hunger and Wheelen, 2004; Hill and Jones, 2010).

### **Superior Products**

Regional Superior Product—*Produk Unggulan Daerah (PUD)*— is a product in the

form of goods or services produced by cooperatives, micro, small and medium-sized enterprises that have potential for further development by utilizing all resources owned by a respective region both natural resources, human resources and local wisdom, as well as prospective for providing income for the community and the local government that is expected to become an economic power for the region and the local community as a potential product that has the competitiveness, selling power, and driving force and capacity towards the global market (Moitra, 2006).

Determination of Regional Superior Product involves several criteria including: Employment absorption; Contribution to the economy; Regional economic base sector; Renewable; Socio-culture; Market availability; Raw material; Investment; Production facilities and infrastructure; Technology; Business management; and Price. By considering the supremacy and authorities of the provincial and district/municipal government, most criteria can be used to determine the regional superior product, except for criteria of a to f that must be fulfilled. Criteria of PUD based on *Permendagri* No. 9 of 2014 are:

1. Labor absorption, regional superior product is produced by employing skilled labor in respective production area therefore it provides employment and revenue for the local community.
2. Contribution to the economy, regional superior product has economic value to provide benefits to consumers, has a linkage both forward and backward, provide multiple economic effects as well as economic benefits for stakeholders and regions that produce this superior product at the same time.
3. Regional economic base sector, regional superior product is categorized into the base sector group in GRDP and evidenced to provide the largest contribution in the regional economy.
4. Renewable, regional superior product is non-mining product and generated from renewable and environmentally friendly materials. Mining products cannot be included as the superior product even though it generates a substantial economic contribution to the region.
5. Socio-cultural elements must be included in the creation, production, and development of regional superior product by utilizing local community talents and institutions that are established and improved based on local wisdom derived from the respective characteristics and cultural heritage as well as socio-cultural conditions.
6. Market availability is the ability of regional superior products to be absorbed in local, regional and national markets and the potential to enter the global market.
7. The availability of raw material is guaranteed with the acquisition of competitive price, sustainability and environmentally friendly.
8. Investment is the availability and sufficiency of funds for running the business including investment and working capital requirements.
9. Production facilities and infrastructure are the convenience for entrepreneurs to obtain production facilities and infrastructure in terms of competitive price level and accessibility.
10. Relevant, efficient and non-imitable qualities of applied technology.
11. Business management is the capacity to manage a business professionally by

utilizing talent and community institutions.

12. Price is the ability to generate added value and to gain profit.

## **Research methods**

### **Research Design**

This study is a quantitative study. Quantitative approach applied in this study was survey method. In a survey study, information is collected from respondents by using a questionnaire. Sugiyono (2009) suggested survey method as a study where samples are taken from one population and a questionnaire is used as a primary data collection tool. Survey is recommended to take a snap shot of a phenomenon in business (Cooper and Schindler, 2014).

### **Population and Sample**

Based on the existing population, stratified sampling and purposive sampling were applied as sampling methods. The first method is preoccupied on the strata (level) within the population. In prior to the analysis, data was classified into certain levels (entrepreneurs who have mastered the initial to the final process and who have network marketing). The second method is sampling based on particular criteria, here, stakeholders who are the actors in three clusters (SMEs) in Sragen regency.

### **Data Collection Methods**

The methods to collect data in the stage of Survey and Analysis of Batik, Convection, and Furniture Clusters Economic Potential in Sragen regency included:

1. Survey. This method was used to collect data through a structured questionnaire.
2. In-depth Interview. This method was conducted to underline the survey results by performing interviews to key respondents.
3. Document Study. It was intended to reaffirm survey findings that are comparable with existing data.

### **Data Analysis Tools**

Analysis tools utilized in the Survey and Analysis of Batik, Convection and Furniture Cluster Economic Potential in Sragen regency were:

1. AHP analysis to develop strategy of SMEs development of batik, convection and furniture cluster in Sragen regency.
2. Topsis analysis to evaluate policy ratified and carried out by Sragen Regency Government to promote the SMEs development of batik, convection and furniture cluster.

## **Analysis and discussion**

### **Priority of Cluster Development Policy**

The AHP analysis was carried out, the result shows the priority of SMEs clusters development policy in Sragen regency covers nine policies in accordance with the

priority of their significance. This model originally developed by Korpela *et al.*, (2003) to assess priorities of policy. The priority of policy in pertaining with the development of SMEs clusters, namely furniture cluster, batik cluster and convection cluster, is done by the combination between observation of descriptive data and the results of interview participated by the actors of SMEs clusters and policy maker at Regional Work Units (SKPD) level of Sragen regency.

The AHP model of this study was developed based on value chain concept of business processes in an industry. There are nine factors assessed from the policy priority model in the AHP model, including: raw materials, labor, product prices, markets, technology, investment, management, and economic and socio-cultural base. Those factors were then subjected to interviews and questionnaires involving relevant actors and policy makers. Table 4 demonstrates the results of AHP analysis of the value chain factors in SMEs clusters.

**Table 4. Priority Factors**

No	Priority Factor	Weight
1	Market	0.224
2	Price	0.179
3	Management	0.142
4	Economic Base	0.115
5	Labor	0.91
6	Investment	0.78
7	Raw material	0.68
8	Technology	0.62
9	Socio-culture	0.41

Source: Data Processing (2017).

The results of AHP analysis from Table 4 demonstrate the weight of each factor that became the guideline to determine the priority of cluster development policy of furniture, batik and convection cluster in Sragen regency. The results of AHP analysis show that the inconsistency level of the factors is 0.09.

**Table 5. Priority Factors of SMEs Clusters**

No	Priority Factors	Labor	Raw material	Technology	Management	Price	Market	Investment	Socio-culture	Base
1	Furniture	0.634	0.413	0.200	0.491	0.493	0.169	0.297	0.263	0.157
2	Convection	0.174	0.260	0.400	0.311	0.196	0.443	0.540	0.190	0.594
3	Batik	0.192	0.327	0.400	0.196	0.311	0.387	0.163	0.547	0.249

Source: Data Processing (2017).

### Priority of Policy for Each SMEs Cluster

#### 1. Furniture Cluster

Based on the results of AHP analysis, furniture cluster is excellent in terms of labor,

raw materials, management and price (Table 4.16). The number of labors in the furniture cluster of Sragen regency is mostly 1 to 5 workers or approximately 72% of the entire business actors in the furniture cluster. Despite the number is relatively small, each worker has distinctive skills and expertise based on tacit knowledge (work and business experience). It is certainly an advantage, although the absence of certified education and training became the drawback to build quality standards of products in furniture cluster.

**Table 6. Priority of Policy on Furniture Cluster in Sragen Regency**

No.	Priority factor	Weight
1.	Labor	0.634
2.	Raw material	0.413
3.	Management	0.493
4.	Price	0.493

Source: Data processing (2017).

The model of business management based on modern management in furniture cluster has been carried out at a moderate level because the involved actors have initiated interaction with exporters who require certain quality standardization to be fulfilled. The actors in furniture cluster have been able to access financial support from banks since the cluster has performed appropriate financial management.

The establishment of product prices is affected by the price of raw materials. Meanwhile, the determination of raw materials requires the understanding of the certification of raw materials and procedures. The price of products yielded by SMEs clusters that become suppliers for exporters can compete because of the weakening of Rupiah against US Dollar. However, this condition is temporary hence it is urgent to construct price competitiveness based on production cost efficiency.

## 2. Convection Cluster

Based on AHP analysis by sub-modeling the value chain of convection cluster, the priorities of policy as the excellence of convection cluster consist of technology, market, investment and economic base. Technology becomes the center of excellence due to the implementation of modern machines and product designs that continue to develop in line with the market demands.

Investment is not a constraint since this cluster is a large scale industry with better access to financial institutions. Convection clusters have been able to meet the requirements of filing funds on the banks. In addition, the role of partner companies in providing loan in the form of raw material can be an alternative for this cluster.

**Table 7. Priority of Policy on Convection Cluster in Sragen Regency**

No.	Priority factor	Weight
1.	Technology	0.443
2.	Market	0.443
3.	Investment	0.540
4.	Economy base	0.594

Source: Data processing (2017).

### 3. Batik Cluster

The major advantage of batik cluster is derived from the socio-cultural aspect that serves as a source of marketing communication. Proper branding based on socio-cultural approach can be an added value for the development of this cluster.

**Table 8. The Priority of Policy on Batik Cluster**

No.	Priority factor	Weight
1.	Socio-culture	0.547

Source: Data processing (2017).

#### Prioritized Clusters in Regional Economic Development

Based on data analysis, there are several combinations between nine criteria and three priority alternatives of SMEs cluster development in Sragen regency. *First*, the value of criteria for the development of furniture clusters, namely skilled labor (0.634), availability and condition of the raw materials (0.413), technology implementation (0.200), appropriate management (0.491), price (4.493), market (0.169), investment (0.297), socio-cultural aspect or exclusivity (0.263) and basic sector or economic contribution (0.157).

*Second*, the value of the criteria for the convection cluster development, namely skilled labor (0.174), availability and conditions of raw materials (0.260), technology implementation (0.400), appropriate management (0.311), price (0.196), market (0.443) investment availability (0.540), socio-cultural aspect or exclusivity (0.190) and basic sector or economic contribution (0,594). *Third*, the value of the criteria for the batik cluster development includes skilled labor (0.192), availability and condition of raw materials (0.327), technology implementation (0.400), appropriate management (0.196), price (0.387), market (0.387), investment availability (0.163), socio-cultural aspect or exclusivity (0.547) and basic sector or economic contribution (0.249).

**Table 9. Criteria and Alternative for SMEs Development in Sragen Regency**

	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX
	1.	2.	3.	4.	5.	6.	7.	8.	9.
	Labor	Raw material	Tech-nology	Mane-gement	Price	Mar-ket	Invest-ment	Socio-culture	Base sector
1. Furni-ture	0.634	0.413	0.200	0.491	0.493	0.169	0.297	0.263	0.157
2. Convec-tion	0.174	0.260	0.400	0.311	0.196	0.443	0.540	0.190	0.594
3. Batik	0.192	0.327	0.400	0.196	0.387	0.387	0.163	0.547	0.249

Source: Data processing (2017).

Based on the results of Topsis analysis on nine criteria of SMEs development and three alternative clusters (furniture, convection and batik), it can be explicated that convection obtains the highest value. In other words, in Sragen regency, the convection business occupies the best ranking based on the nine criteria, namely raw materials, labor, product price, market, technology, investment, management, economic and socio-cultural base. Furthermore, furniture cluster and batik cluster obtain the second and the third rank, respectively.

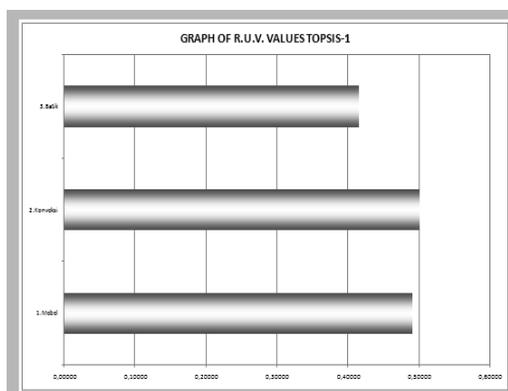
**Table 10. SMEs Clusters Ranking based on their Condition**

Ranking	Alternative	R.U.V
1	Convection	0.50070
2	Furniture	0.49065
3	Batik	0.41577

Source: Data processing (2017).

The convection cluster in Sragen regency is currently ranked as the best among the clusters analyzed in this study, followed by furniture and batik cluster. Based on the ranking, the cluster development can be commenced from the cluster with the lowest condition, namely batik cluster, that must get priority to be developed, followed by furniture and convection cluster.

Recently, the excellence of batik cluster is merely gained from the socio-cultural aspect. Batik is a typical product of Sragen regency hence this aspect can be a potential source of marketing communication for the development of this cluster.



Source: Data processing (2017).

**Figure 1. SMEs Cluster Ranking based on Condition in Sragen Regency**

### Conclusions and Recommendations

1. Evaluation of policy in pertaining with the development of batik cluster, convection cluster, and furniture cluster in Sragen regency is the policy in market development, pricing policy, implementation of management, emphasis on economic impacts, enrichment of skilled labor, access of investment, availability and price stability of raw material, and product branding based on socio-cultural aspects.
2. Priorities of policy on batik, furniture, and convection cluster development in Sragen regency are as follows:
  - a) Furniture cluster has several policy priorities that must be developed, including labor, raw materials, management and price.
  - b) Convection cluster has several policy priorities that must be improved, including technology, market, investment and economic base.

c) Batik cluster has policy priority that must be developed, i.e. socio-cultural aspect.

### Recommendations

Policy makers in Sragen should implement several policies in order to promote SMEs cluster in Sragen regency, including:

1. Market development by initiating marketing network through exhibitions and utilizing as well as building outlets for SMEs products. Collaboration with provincial and central government to facilitate exhibition and to initiate export opportunities.
2. Organization of training on business planning, financial management, quality standards formulation, market analysis and competitive analysis for SMEs entrepreneurs.
3. Preparation of regulations for investment access and stimulus for SMEs clusters that have the capacity to provide employment and for export.
4. Collaboration with financial institutions to provide assistance in the preparation of financial reports, risk analysis and business prospectus as a credit requirement for SMEs without any collateral.
5. Organization of periodic cultural events associated with branding of SMEs cluster products.

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