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# The factors of SME cluster developments in a developing country: the case of Indonesian clusters

Mukhammad Kholid Mawardi

*University of Wollongong, [mkm008@uow.edu.au](mailto:mkm008@uow.edu.au)*

Ty Choi

*[tchoi@uow.edu.au](mailto:tchoi@uow.edu.au)*

Nelson Perera

*University of Wollongong, [nperera@uow.edu.au](mailto:nperera@uow.edu.au)*

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# The factors of SME cluster developments in a developing country: the case of Indonesian clusters

## **Abstract**

Since cluster development factors become a critical issue in the debate of the industrial cluster literature, several scholars have attempted to seek the variables that influence the cluster growth. This paper presents the case of the wood furniture cluster of Bukir- Indonesia to explain the development of SME clusters by identifying its influential factors. We utilize the model proposed by Parrilli (2009) that includes collective efficiency, social capital, and policy inducement variables to explore the driving factors of this cluster growth. Based on the qualitative approach, this case study found that collective efficiency and social capital affect the development of SME cluster being studied, while policy inducement provides limited contribution to the growth of this cluster. The availability of skilled labour, raw materials and the demand of domestic market supports the local external economy of this location while joint action among cluster actors in the form of sharing order and putting-out between SMEs and retailers adds to collective efficiency. Furthermore, social capital as a common value bound the unity among actors in a friendly competition. However, the inducement policy stimulating the development of this cluster has limited impact since there is no deliberative action seriously carried out by the municipal government of Pasuruan. The study recommends more deliberative program is designed to meet the needs of cluster actors to cope their obstacles.

## **Keywords**

cluster, country, sme, developing, factors, developments, case, indonesian, clusters

## **Disciplines**

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# **The Factors of SME Cluster Developments in a Developing Country: the case of Indonesian clusters**

*By Mukhammad Kholid Mawardi, Ty Choi and Nelson Perera <sup>1</sup>*

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*Since cluster development factors become a critical issue in the debate of the industrial cluster literature, several scholars have attempted to seek the variables that influence the cluster growth. This paper presents the case of the wood furniture cluster of Bukir-Indonesia to explain the development of SME clusters by identifying its influential factors. We utilize the model proposed by Parrilli (2009) that includes collective efficiency, social capital, and policy inducement variables to explore the driving factors of this cluster growth. Based on the qualitative approach, this case study found that collective efficiency and social capital affect the development of SME cluster being studied, while policy inducement provides limited contribution to the growth of this cluster. The availability of skilled labour, raw materials and the demand of domestic market supports the local external economy of this location while joint action among cluster actors in the form of sharing order and putting-out between SMEs and retailers adds to collective efficiency. Furthermore, social capital as a common value bound the unity among actors in a friendly competition. However, the inducement policy stimulating the development of this cluster has limited impact since there is no deliberative action seriously carried out by the municipal government of Pasuruan. The study recommends more deliberative program is designed to meet the needs of cluster actors to cope their obstacles.*

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<sup>1</sup> Mukhammad Kholid Mawardi is Lecturer at Business Administration Department of Brawijaya University, Indonesia,  
Ty Choi is Program Director at Sydney Business School, University of Wollongong, Australia  
Nelson Perera is Deputy Dean at Sydney Business School, University of Wollongong, Australia  
Address correspondence to: Mukhammad Kholid Mawardi, Business Administration Department of Brawijaya University, Indonesia, E-mail : [mk\\_mawardi@ub.ac.id](mailto:mk_mawardi@ub.ac.id)

## ***Background***

A Small and Medium Enterprise (SME) has been acknowledged as a significant actor on the Indonesia economy by providing job opportunity, contributing for non oil and gas export, and alleviating poverty. The data from The Indonesian Ministry of Cooperation and SMEs shows that the number of employment within Indonesian micro, small and medium scale firms was gradually increasing between 2005 and 2008. In 2005, SMEs employed 83,586,616 workforces and this number increased to 90,896,270 workers in 2008 (Kementrian Koperasi dan UKM, 2009). The data indicates SME's potential in employing more intensive workers than large firms' during that period. In Indonesia, almost 97 per cent of the Indonesian employment is on SME sectors while the rest is absorbed by large enterprises in private sectors (Kementrian Koperasi dan UKM, 2009; Kementrian Koperasi dan Usaha Kecil Menengah, 2009).

Although Indonesian government authorities have been prioritizing SMEs as a target of economy policy and industrial strategy for several decades (Hall, 2001; Berry et al., 2002; Sandee et al., 2002; Perry, 2005; Tambunan, 2008b), some government regulations tend to erode opportunities for SMEs to further develop. For example, inefficient bureaucracy, unfair tax, and poor public infrastructure are some of the regulations that significantly raise bottleneck for Indonesian SMEs that have been discriminated by government regulations opposed to large scale enterprises. Moreover, low access to formal financial institutions, lack of skilled human resources, and poor technological capabilities are known to be apparent constraints commonly faced by the Indonesian SMEs that hinder their development.

In addition, most of the Indonesian SMEs are located in a geographical dense location. One of the significant geographical amalgamations populated by SMEs is furniture clusters. Hence, the Indonesia government put the furniture cluster industry as an industry development priority. This industry involves enormous job opportunities (Kamar Dagang dan Industri, 2007). This industry also contributes significantly to the value of Indonesian export. The data compiled by The Indonesian Furniture and Handicraft Industry Association or *ASMINDO* indicates the increasing export value of Indonesian export value from 2,403 to 2,703 million USD from 2005 to 2010 (Kompas, 14 Maret 2011). Thus, the study on the development of this industry is significant for the development of Indonesian economy.

Probably because of these constraints, the majority of SMEs in Indonesia tend to be locate in a geographical dense location, which is seemly a formation of clusters (Weijland, 1999). Although Tambunan (2005) employed an eclectic framework consisting of collective efficiency, policy inducement, and social capital as the determinants for cluster performance in developing countries, there has been no evidence, particularly in Indonesia, suggesting varying degrees of their contribution to the cluster development. Therefore, this study is aimed to address the research problems of how important each attribute has been perceived by the cluster members especially at the initial formation stage of the clusters and subsequent entry by cluster members. It is expected that the study would provide the trajectory model of SME cluster in Indonesia and explain the impact of the driving factors. These factors will then further studied to conceptualise the development process of SME clusters in Indonesia and other developing countries.

This study adapt theoretical framework developed by Parrilli (2009) based on three pillars; economy, policy, and social factors in SME clusters development. Particularly, this study aims to verify the adaptability of this model in Indonesian context and seeks the theoretical grounds underlying this framework's applicability and suitability in cluster development of developing countries.

### ***The Geographical Agglomeration of the Small Firms***

SMEs have been characterized by the lack of organizational capabilities, the poor managerial skill, the limited resources and the low level of innovative capacity (Garengo et al., 2005; Garengo and Bernardi, 2007; Pansiri and Tentime, 2008). By locating in geographical dense location, these limitations can be diluted by SMEs to some extent. Aylward's (2004) argues that the SMEs may benefit from knowledge spill over which may occurs in cluster. Chamindale and Van (2008) asserted that SMEs may benefit from abundant natural resources and pooling of skilled labours. Finally, easy access to the market also drives SMEs being in this location (Bair and Gereffi, 2001). It is likely that cluster potential generates several advantages for SMEs to mitigate their limitations.

According to the cluster theory, cluster is defined as a geographical concentration of companies, suppliers, service providers, and associated institutions in a particular field that not only to compete but also to cooperate (Porter, 2000). Humphrey and Schmitz (1995) and Sonobe and Otsuka (2006) assert that cluster is a geographical concentration or localization of firms producing similar products or closely related products in a certain area. In both occasions, although the scope of cluster definitions recognizes contributory role of various firms within the boundary of cluster, they fail to recognize both level and factor of significance of those roles played by every cluster actors.

Two compelling theories attempt to elaborate these shortcomings by disseminating factors that may drive cluster performances. While one school emphasizes business environment, collective efficiency, and institutional support as factors of cluster performance (Porter, 1998a; Lundequist and Power, 2002; Newlands, 2003; McDonald et al., 2007a), other schools emphasise social variables affecting the development of cluster (Cooke and Wills, 1999; Nadvi, 1999b; Parrilli, 2007; Molina-Morales and Martinez-Fernández, 2010; Nam et al., 2010; Parra-Requena et al., 2010)

While wealth of research supports evidence of collective efficiency and institutional support such as policy inducement to be the key drivers of cluster development in developing countries, social variables have been neglected in many occasions. Interestingly, some studies have found that significance of social variables on the cluster/SME development in developing countries. For example, Nadvi (1999b) exhibits how social network and cultural values contribute to the success of Sialkot cluster in Pakistan. Nam et al (2010) also recognize the contribution of human and social capital on the internationalization of knitwear cluster in Southern Vietnam. Although not geographically focused, Cooke and Wills (1999) assert the importance of social capital to enhance the performance of clustered SMEs. Contrary to above theories, a recent study by Parrilli (2009) argues more dominant the role of social capital as the key driving factor of cluster growth more so than collective efficiency and policy inducement.

### ***Collective Efficiency***

The collective efficiency perspective has been used in some studies to capture beneficial effect of cluster for SME development in developing countries (Nadvi, 1999a;

Schimtz, 1999; Caniëls and Romijn, 2003). Schimtz (1999) defines collective efficiencies as competitive advantages derived from local external economies and joint actions provided by SME industrial district. If a local external economies or agglomeration economies are automatically gained by cluster participants due to their geographical location in industrial districts, the joint action should be deliberately acquired by cluster actors to raise more potential benefits (Nadvi, 1999a; Schimtz, 1999; Caniëls and Romijn, 2003; Parrilli, 2009).

Externalities exist where the utility functions of consumers or the production functions of producers are affected not only by their market activities but also by the activities of other economic agents (producers or consumers) (Stewart and Ghani, 1991). Papandreou (1994), cited in Schimtz (1999) asserts that external diseconomies are when social costs are higher than private costs. In contrast, if the social benefits are higher than private benefits, it is called external economies. Those two definitions of externalities lead to a conclusion that externalities are advantages enjoyed by cluster participants due to their dense geographical location and inter-related relationship in certain industrial district regions.

External economies can be classified onto real and pecuniary external economies. Stewart and Ghani (1991) asserts that the real externalities are the effects of the production function toward of a firm other firm's production function, while the pecuniary externalities affect the price (including input price and output price) set by other firms. Moreover, Caniëls and Romijn (2003) categorizes real external economies as a spill over effect, while pecuniary external economies as a cost reduction effect. Those two general types of external economies have already been recognized by Marshal (1920) cited in



Schimtz (1999), and have been echoed by several studies (Nadvi, 1999a; Giuliani et al., 2005; Parrilli, 2009), as a form of agglomeration effect.

Even though external economies presented by industrial districts raise the efficiency, accelerate the learning and upgrading, and enable SME to face external challenges, there is more opportunity to reach greater advantages through collective action with other actors in cluster (Nadvi, 1999a; Schimtz, 1999; Giuliani et al., 2005). Joint action could be in the form of horizontal and vertical collaborations. If the horizontal linkages connect the firm with the competitor individually or collectively, the vertical collaboration could link backwardly with supplier and forwardly connect with buyers (Giuliani et al., 2005).

Considering the forms of those inter-actors cooperation, Schimtz (1999) identifies some forms of horizontal bilateral (horizontal ties within individual firms), such as joint purchasing of input, joint production, joint marketing, order sharing, sharing equipment, exchanging information of market and know how, and also recognizes the existence of cooperative as a horizontal multilateral relationship. Parallel with those forms, Sandee and Roetveld (2001) identify the horizontal relationship occurring in a roof tile cluster in Karanggeneng-Central Java in the form of upgrading traditional technology. Furthermore, Caniëls and Romijn (2003) also recognize other forms of horizontal linkages, such as the existence of private-public project and vocational training initiatives in Bangalore cluster, India. Horizontal linkage is also often collectively constructed by some firms in the form of industrial and trade association, such as *Confartigianato* (craft and industry association) in Italy (Parrilli, 2009) or SIMA (Surgical Instrument Manufacturers Association) in Sialkot cluster in Pakistan (Nadvi, 1999a). Those collective co-operations

might play mutual role as a pressure group and also provider of supporting service for SME.

In addition to the horizontal relations, joint action could be in the form of vertical linkage that connects firms with suppliers or buyers in the same value chain. The sub-contract linkages between SME and large enterprises are common forms of vertical network used by SME to distribute the product or absorb new information about market (Nadvi, 1999a; Sato, 2000; Berry et al., 2002; Giuliani et al., 2005; Andadari, 2008; Nam et al., 2010). Moreover, the vertical linkage between SMEs and the supplier are able to reduce input cost and minimise uncertain risks. Therefore, horizontal and vertical linkages as forms of collective action could provide greater benefit for clustered SMEs, in addition to advantages provided by external economies.

### ***Social Capital***

Social capital refers to the common norm or value influencing the interaction between individual-social network (Putnam, 2000; Bowles and Gintis, 2002). Practically, social capital can be in the form of social interaction, trust, and shared vision (Molina-Morales and Martinez-Fernández, 2010). Social interaction is any contact or relations that an actor from one firm keeps with other actors from other firms in the community. Nadvi (1999b) indicates that social network often relies upon kinship, family, and localness. If kinship is primarily shaped on tribal lineage while family refers to lineage both immediate and extended family, localness is formed more socially. It can be obtained by being located within the local community and neighbourhood.

Moreover, trust refers to the degree to which an actor or a firm is considered to be fair and honest in the interchange of available resources (Morales and Martínez-Fernández, 2010). The significance of the trust in inter-firms connection is also recognized by Parrilli (2004; 2009). He asserts that trust contributes to the cluster growth, instead of self realisation. Parrilli (2004; 2009) argues, furthermore, that when trust and social cohesion are not open, the participations of external actors are not going to be smoothly absorbed by the local community, which may lead to higher transaction costs (e.g. contracts and employment). Higher transaction cost may limit the increasing number of firm in cluster (Parrilli, 2009).

Finally, shared vision refers to an attribute that people and firms may have that can facilitate and offer them certain benefits (Morales and Martínez-Fernández, 2010). The second dimension of social capital identified by Parrili (2009), self-realisation, can likely be put in this category, because self realisation is defined as the spirit to encourage entrepreneurship, innovation, firm creation, and spin off. It can also be shared within clustered SME. In turn, cluster may stimulate the emerging of new business (Porter, 1998). In other words, if the industrial district lacks of self-realisation value (as a one type of social capital), it may decrease the entrepreneurial orientation among cluster members and in turn it often discourages the emerging of new firms.

Social capital can be identified not only from its type, but also from its significant roles within cluster. It encourages the emergence of trust based on social-transactional relationship (Bowles and Gintis, 2002) and facilitates connection among the members of society (Putnam, 2000). In a more specific context, several cluster studies emphasise the contribution of social capital on the commercial performances (Cooke and

Wills, 1999; Cooke et al., 2005), on the innovation (Dakhli and Clercq, 2004; Cainelli et al., 2007; Molina-Morales and Martínez-Fernández, 2010; Parra-Requena et al., 2010), and on linkage with global buyers (Nadvi, 1999a; Nam et al., 2010).

Social capital also facilitates the firms to access global market. Nadvi (1999b) indicates that social capital plays a significant role in the developmental process of Sialkot cluster, Pakistan. Nam et al (2010) inserts the role of social capital in connecting the clustered firms to the global market.

### ***Policy Inducement***

Cluster policy is defined as a set of policy or measurement aiming to induce and support inter-linkage between cluster participants and to increase value added to their activity (Boekholt and Thuriaux, 1997; Fromhold-Eisebith and Eisebith, 2005). Cluster policy, moreover is designed to overcome market failures, provide public good and service, and boost the competitiveness of industrial cluster (McDonald et al., 2007b). The emergence of policy inducement in cluster development is underscored by Porter (1998b). He argues that the basic macro economy and general micro economy policy may not be sufficient to enhance the competitiveness of cluster, because it solely creates precondition and shapes the conducive environment for the initial development of SME cluster rather than inducing the dynamics and the growth of cluster. Therefore, the specific solutions and cluster-target policy, such as the provision of credit, the training of worker and entrepreneur, the provision of real service, and wage negotiation are needed to overcome the specific constraints faced by cluster (Altenburg and Stamber, 1999; Ceglie and Stancher, 2009; Tambunan, 2009).

Additionally, cluster policy as a manifestation of government intervention in industrial policy often plays dual significant roles. On the one hand, it stimulates the emerging SME industrial cluster while, on the other hand, cluster policy has to maintain the dynamic process of cluster (Parrilli and Sacchetti, 2008). At the initial stage, the regional or national authority should work together with private sectors and stimulate investors to take part in the industrial district by spending their capital (Porter, 1998b; Parrilli and Sacchetti, 2008). At the next stage of development, the public policy could evade the static governance in cluster, which tends to be controlled by large dominant enterprises, by promoting transfer of knowledge from larger firms to SMEs (Parrilli and Sacchetti, 2008), rather than allowing SMEs to suffer from unfair allocation of labour and technology (Oyelaran-Oyeyinka and Lal, 2006).

To obtain these dual functions, policy inducement of cluster should consider some criteria, such as partnership within cluster members (Porter, 1998b; Schmitz and Musyck, 1999; Bair and Gereffi, 2001; Aylward, 2004; Fromhold-Eisebith and Eisebith, 2005; Oyelaran-Oyeyinka and Lal, 2006), characteristics of cluster (Altenburg and Stamber, 1999; Parrilli, 2004; Fromhold-Eisebith and Eisebith, 2005), self help orientation (Schmitz and Musyck, 1999), and the existence of social capital (Porter, 1998b; Karaev et al., 2006; Chaminade and Vang, 2008).

### ***Methodology***

To gain answers to the research questions regarding how the SME clusters develop and how the certain driving factors (collective efficiency, social capital, and policy inducement) of cluster development affect the trajectory of these clusters, a case study method is applied. Yin (2009) asserts that case study suits whit type of research questions

of “how” and “why”. He further asserts that case study is used to investigate a contemporary phenomenon within real-life context, especially when the boundaries between phenomenon and context are not clearly evident. For this study, a contemporary phenomenon of the focus is the developmental process of SME cluster being studied, and the context is the driving factors (collective efficiency, social capital, and policy inducement) of the cluster development.

The phenomenon of this case study is the developmental process of Bukir furniture cluster while the context bounding of this phenomenon is the driving factors of cluster development. Hence, the cluster being studied is the case of this study (Miles and Huberman, 1994). This cluster is selected because it has similar characteristics to the cluster where Parrilli’s model was developed (Parrilli, 2009) and it provides a significant contribution to the Indonesian economy by creating enormous job opportunities and alleviating the poverty (Kamar Dagang dan Industri, 2007).

Owners or managers of firms in Bukir cluster, managers of cluster support institutions, and government officers that have authority for developing SME cluster were the respondents of this study. They were selected as participants in the study due to their knowledge and experience in managing firms within the cluster, their information on service available within the cluster, and their experience in cluster inducement policy (Porter, 1998a; Nadvi, 1999a; Parrilli, 2009).

To support the data collection, this study used several sources of evidence: documentation, interview, and direct observation (Miles and Huberman, 1994; Creswell, 2007) The secondary source of evidence is literatures on the existence of clusters being

studied, project reports investigating the implementation of cluster policy, and local news informing issues about cluster, each of which was analysed in the study. Moreover, as the Indonesian cluster policy has been decentralized from national into local level (Marijan, 2006), exploratory interview as the second source of evidences was carried out with government officers from the regional level. As a primary data, semi structured interviews were conducted with managers or owners of the SMEs and managers of the supporting institutions within the cluster. Finally, direct observation was conducted to observe interactions among cluster actors in obtaining collective efficiency and social capital benefits, and anticipating the government policy.

As the study used multiple sources of evidences for gaining a broader range of historical and behavioural aspects of cluster actors, triangulation and respondent validation were achieved to support the quality of the criteria. If the previous mechanism functioned to confirm the same fact of phenomenon (Yin, 2009), the latter procedure was to ensure the trustworthiness of the criterion credibility (Bryman and Bell, 2007). These procedures allowed the researcher to associate the facts generated from different sources of evidence (document, local news, and interview) and also provided the opportunity for the participants to check whether the researcher's interpretations from the interview correctly represented their idea.

### **The Wood Furniture Cluster Industry of Bukir: a Case from Indonesia**

Most Indonesian SME clusters root to the local economy and culture and tend to spontaneously grow without government intervention (Weijland, 1999; Marijan, 2005, 2006). They are mostly are located in a remote area but some are located in an urban area with sufficient supporting infrastructure (Weijland, 1999).

Bukir is a village located in Pasuruan, East Java-Indonesia that is recognized as the biggest furniture cluster in East Java. The common profession among the villagers is a carpenter or craftsman<sup>2</sup>. Marijan (2006) indicates that the wood furniture of Bukir started around the 1930s when some people from Bukir worked as a carpenter for Dutch businessmen and other in the city of Pasuruan. The wood furniture carpenters shortly recognised that being entrepreneurs in a wood furniture industry is more profitable than solely being a carpenter which has led them to start their own businesses.

Even though, there is no valid data about the growth of the wood furniture cluster industry of Bukir, the development of this cluster was confirmed by respondents. Interviews with respondents between March and April 2011 illustrates that the development of this cluster was fluctuating. The rapid growth of the Bukir cluster occurred during 1980 – 1990s. To illustrate this phenomenon, Agg, about 40 years old, a government officer from UPT Pasar Bukir<sup>3</sup> told the researcher that due to intensive trade transaction within Bukir cluster at that time, particularly on weekend when the peak season occurred, Gatot Subroto<sup>4</sup> street was closed by the authority for public access. Domestic buyers from other parts of Indonesia visited the cluster to make direct transaction with producers of furniture.

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<sup>2</sup> The data is obtained by researchers from urban village office (*kelurahan*) of Bukir, almost 1,789 inhabitants of Bukir worked as a carpenter in 2010.

<sup>3</sup> *UPT or Unit Pelaksana Teknis* is the technical service unit provided by The Cooperative, Industrial and Trade service of Pasuruan municipality to facilitate marketing of commodity within Bukir furniture cluster.

<sup>4</sup> Gatot Subroto Street is about 2 km main road of East Java province that connects cities within east part to the west part of East Java region. Most of SMEs within Bukir cluster are located nearby this street.



The rapid growth of Bukir cluster also drove the geographical expansion of the cluster. Initially, the label of Bukir was taken from the name of an urban-village (*kelurahan*) Gading Rejo sub-district where SMEs producing furniture are located. However, at the next stage, Bukir cluster included not only SMEs within Bukir urban village but it also covers all SMEs producing furniture located within Gading Rejo and the neighbouring areas. This geographical expansion was due to the increase of the people's interest in industry. They started the business by establishing workshops and showrooms. Most of these new entrepreneurs come from the other urban villages of Bukir in the sub-district of Purworejo and Bugul Kedul. (Marijan, 2006). The pull effect of the development of Bukir cluster also leads to the pooling labour from outside area of this cluster. A manager of SME, Sdt, about 28 years old, confirmed that several workers within Bukir cluster are hired by SME owners from out of Bukir area<sup>5</sup>. The effect generated by Bukir cluster justifies the positive feedback of industrial cluster in the form of stimulating a new business formation (Porter, 1998a)

To respond to the rapid growth of Bukir cluster, The Indonesian Industrial Department established The Technical Service Unit for Wood Industry Pasuruan (*UPT Kayu Pasuruan*) in 1984. This UPT aimed to support the SME clusters performance by providing service in production and marketing of wood furniture and training for furniture workers. Recently, The UPT is decentralized from the central government into the Industrial and Trade Service of East Java sub-national government.

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<sup>5</sup> Interview with Sdt in Pasuruan on 26 March 2011

The performance of Bukir cluster declined during 1997-1998 because of Indonesian economic crisis. This situation affected the consumer purchasing power and it impacted to the declining of the furniture demand nationally (Marijan, 2006). The economic crisis let most of SMEs located within Bukir cluster severe because they were domestic oriented. Some of them discontinued their operation and would reopen their business when the furniture market improved.

In 2006, Indonesia's economic outlook was more positive. Economic growth accelerated to 5.1 percent in 2004 and reached 5.6 percent in 2005. Growth was driven primarily by domestic consumption, which accounted for roughly three-quarters of Indonesia's gross domestic product. This situation stimulated the development of the furniture market. Consequently, the wooden furniture industry in Pasuruan started to grow.

**Table 1**  
**The performance of wood furniture industry in Pasuruan**  
**2006-2007**

Indicators	2006	2007
Number of establishment	2,295	2,314
Employment	20,516	20,644
Value of investment (IDR.000)	115,291,686	117,225,323
Value of production (IDR. 000)	565,232,282	569,00,951
Volume of export (kg)	3.594.402	4.549.652
Value of export (USD)	5,290,048	6,287,040

(Badan Penanaman Modal dan Pelayanan Terpadu Pasuruan, 2008)

Table 1 exhibits the performance of wooden furniture industry in Pasuruan. The number of wooden furniture production had grown from 2,295 to 2,314 units during 2006-2007. Moreover, the number of employment involved in this industry also increased from 20,516 to 20,644 workforces. The increasing trend also occurred in the value of investment and of production of wooden furniture industry.

The wood furniture cluster of Bukir is dominated by SMEs that commonly use limited number of workers (not more than ten workers) and limited financial sources. They use semi-modern equipment and process in producing furniture. In addition, workshop is usually located close to the house of the owner, so the business and manufacturing operations of the furniture unify with her/his daily life. A manager of SME, Sdt, about 28 years, shared his story about how his father introduced “furniture life” to him in since childhood. He obtained skills needed in furniture industry from “learning by doing” process. It continued until his adulthood, when his father preferred providing financial support for running the furniture business than sending him to university<sup>6</sup>. In other words, furniture industry has likely becomes of Bukir cluster inhabitant’s life. To identify the factors that contribute to the development of wood furniture cluster of Bukir, the next section is explaining how collective efficiency, social capital, and policy inducement impact on the development of this cluster.

*Firstly*, the collective efficiency can be seen from the existence of local external economy provided by cluster and joint actions among cluster members. By locating in Bukir cluster, SMEs may gain external economy in the form of sufficient infrastructures, such as road, electrical power and communication network, the availability of wood as a main raw material, market demand, and the abundant skilled labour. As explained earlier, the central business of Bukir cluster is located in Gatot Subroto street, the main road of East Java. Several SMEs are located in urban villages surrounding this central business.

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<sup>6</sup> Interview with Sdt in Pasuruan on 26 March 2011

Although, the distribution of teak wood (*Kayu jati*) or *Tectona Grandis*, the main raw material of furniture product, is strictly regulated by government through the state-owned enterprise in forestry or *Perhutani*<sup>7</sup>, the scarcity of teak wood is not a serious problem for furniture producers. They can buy non-forest teak wood or use other types of wood, such as mahogany and *gembili*. These two types of raw material are available in large number in Bukir cluster because the popularity of Bukir as wood furniture cluster motivates the wood suppliers from other cities within East Java region to distribute woods to this region.

The reputation of Bukir as a furniture cluster also drives the continuity demand for furniture commodities. Most of the retailers that buy product from SMEs within the cluster link to the intermediary agents out of the cluster. These agents distribute the furniture product to the domestic and foreign market. Regarding this phenomenon, Sdt, 28 years old, one of successful entrepreneurs in Bukir cluster argued that “ *I am already overwhelmed with domestic market so why I have to reach foreign market? Selling domestically or exporting my product does make a difference; the main thing is getting money from this*”. It is likely that the abundant domestic demand of furniture products satisfies the SMEs within Bukir cluster, so most of them merely focus on the domestic market. This fact also illustrates that the Bukir cluster is able to provide external economy for their members by providing sufficient raw materials and continuing demand.

In spite of these advantages, the development of Bukir cluster is affected by the pooling number of skilled workers in furniture industry. The workers employed in furniture

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<sup>7</sup> Due to intensively usage of teak wood through illegal or legal logging, it causes the deforestation. To copes this serious problem, the Indonesian government through the state-owned enterprises in forestry or *Perhutani* strictly regulates the distribution of *kayu jati*. Although, people are allowed to plant teak wood individually, they must obtain permit letter (*pass*) from *Perhutani* if they plan to sell it to the market Marijan, K. (2006), *Decentralization and cluster policy in Indonesia*, Airlangga University Press, Surabaya, Indonesia.

industry within Bukir cluster are not merely inhabitants of Bukir urban village, but they also come from other places out of cluster region. Interestingly, they have a specific skill related to the furniture industry based on where they are from. Sdt confirmed that carpenters that are employed by SME managers commonly own a certain skill in producing furniture product. Workers from similar places usually have the same skill, for instance: the skills for producing bed and cupboard belong to workers of *Randu Agung* and *Krapyak* while skills for producing chair and table are owned by *Randusari* and *Sebani* workers<sup>8</sup>.

Furthermore, transfer of knowledge also occurs within cluster members in Bukir. The style of crafting and types of product are spreading across the SMEs. *Jepara*<sup>9</sup> style is spreading easily among SME managers and workers within Bukir cluster since several *Jepara* products were distributed by retailer in this cluster.

Another type of collective efficiency gained by the Bukir SME cluster is joint action. This type of collective efficiency is obtained by clustered firms through deliberative action, such as vertical, horizontal, and bilateral partnerships. Vertical relationship among SMEs within cluster takes place in the form of sourcing wood as a raw material and putting-out mechanism. Most of the furniture producers buy wood from the traders that are located within Bukir cluster. Due to the strong relationship between buyers and traders of wood, transactions occur easily and the term of payment is negotiable among them. Consequently, sourcing raw material is not a problem for furniture producers. Moreover, vertical partnership within the Bukir cluster can be seen through the putting-out mechanism when retailers buy products from SMEs producing furniture.

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<sup>8</sup> Interview with Sdt in Pasuruan on 26 March 2011

<sup>9</sup> *Jepara* is the biggest furniture cluster in Indonesia, it is located in Central Java region.

If sourcing material and putting-out transaction takes place vertically among cluster members, the horizontal partnership occurs in the form of sharing order. Sharing order is also carried out by SMEs when they get the orders with different specification to the product specification they have made. For instance, SMEs focusing on cupboard and bed production will share the order of chairs and other types of products to their partners, and in return they will get bonus for this mechanism. It can be seen that joint action among cluster actors occurs informally and naturally rather than formal cooperation through trade association (Nadvi, 1999a) or strict contract between contractors and sub-contractors (Sato, 2000; Hayasi, 2002). However this mechanism is a common type of joint action within Indonesia clusters (Kuncoro, 2000; Sato, 2000; Berry et al., 2002; Hayasi, 2002). Berry and Levy (1999) cited in Berry et al (2002) asserts that partnership between SMEs within cluster and large enterprises may exploit local value for export commodity.

*Secondly*, Social capital is likely to affect the development of Bukir cluster. The social capital can be broken down into self realisation for continuing (family) business (Parrilli, 2009), social network (Nadvi, 1999b), and trust (Molina-Morales and Martinez-Fernández, 2010), and informal social capital (Miguel et al., 2005) . In Bukir context, a self realisation as a manifestation of social capital (Parrilli, 2009), occurs among entrepreneurs within the cluster to keep the existence of the cluster in the future. The furniture industry has become part of the daily live of Bukir people. Several successful entrepreneurs intend to pass down the legacy of the business to their family. The case of Sdt, a young SME manager, illustrates the strength of intentions for continuing family business owned by his father. Although his father has financial sources for sending him to

university, he preferred to support Sdt as a manager who would continue the family business<sup>10</sup> .

Trust is indicated by researcher which has significant influences on business transaction among Bukir cluster members. It can be seen in the mechanism when an SME manager does the business transaction with his partner in supply chain of furniture. The manager is able to obtain raw material (wood) from a supplier without direct payment because the supplier has known him well and thus trusts him. The price of wood can be fully paid by the SME manager when the product is finished and sold. Moreover, this similar mechanism takes place between a retailer and SME producing furniture. The retailer often provides down payment for the orders and will fully paid when the goods are sold. Sdt, 28 the manager of SME that operates in wood trade and furniture industry, indicates these mechanisms as a common payment method within Bukir cluster because the linkages among SMEs are trust based relation.

In addition, the significant role played by informal social capital within Bukir cluster can be seen from the family apprentice mechanism. An owner of furniture SME, Slmt, about 50 years, shared his work experience. Initially, he worked as a carpenter in the firm belonging to his brother. Having adequate skill for producing, enough experience in marketing furniture, and financial support from his brother, Slmt started running his business independently<sup>11</sup>. This fact echoes Wejland's (1999) study that indicates the role of informal networking to stimulate the emergence of new business formation.

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<sup>10</sup> . Sdt, 28 years was selected by his father to continue the family business that includes wood trade, furniture enterprises and transportation service. He has a younger sister (a medical student in a big private university in Surabaya) and a younger brother (a national soccer player). These two status are acknowledged by Indonesian people as a "wealthy status"

<sup>11</sup> Interview with Slmt in Pasuruan on 21 March 2011

*Lastly*, the policy inducement insignificantly affects the development of Bukir. The cluster development in Indonesia has been discussed at the national level during the last decade. The deputy of SME resources development at The Ministry of Cooperative and SME, I Wayan Dipta asserted that an SME may operate efficiently and access financial resources from bank and non bank organizations easily by locating itself within the cluster. The efficiency operations and strong financial support lead to the competitiveness of SME (Metronews.com Monday 8 November 2010). In conjunction with the earlier statement, The Vice Chief of The East Java Chamber of Commerce, Muhammad Rizal, acknowledged the strategic value of cluster to leverage the market capacity of SME. He further argued that financial support from Corporate Social Responsibility program of state owned enterprises may enforce the production capacity of SME (Citra, 2010). The economics observer, Irawan (2010 ) addes that cluster is able to create multiple effects in the long term by stimulating the emerging of new business formations. However, both of them regret the absence of clear implementation of cluster policy.

Regarding with this issue, Sutrisno (2009) asserts that the initiative of Indonesian Government to develop SME cluster was originated from the establishment of SMECDA (*Small Medium Enterprises and Cooperative Development*)<sup>12</sup>. This forum has three fundamental functions in developing SME cluster, to develop business operation, provide financial support and stimulate investment, and provide consultation. SMECDA also significantly contribute to the institutional and policy transition from The Directorate

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<sup>12</sup> SMECDA intensively coordinate the development of SME cluster through online communication at <http://www.smeccda.com>



General of Small Scale Industry under Department of Industry to The Directorate General of SME Development under The Ministry of Cooperative and SME.

This transition process thus leads to the emergence of programs for SME cluster development in Indonesia. Sutrisno (2009) identifies the two most successful programs: Business Development Service (BDS) and *Modal Awal Pendanaan* (MAP) or the initial capital programs within SME cluster. While BDS facilitates managerial and technical supervision, MAP provides financial support mainly from micro financial institutions. The Indonesian Statistics survey reveals the significant contribution of these programs to the increasing sales among 25 percent cluster SMEs participating in the program, and the stimulation of SMEs survival during the economy crisis (Sutrisno, 2009). These finding echo Rosyadi's (2005) study on the association between services provided by BDS and the performance of cluster SMEs in East Java region.

Since the implementation decentralization policy in Indonesia, the local government have greater authority to promote SME cluster than before. However, Pasuruan municipal government is likely to have limited direct policy to induce the development of Bukir cluster. For instance, The Cooperative, Industrial, and Trade service of Pasuruan Municipal government solely invite and support limited number of SMEs of Bukir to participate in wood furniture trade exhibition. Additionally, the application of the financial capital support program for SMEs within Bukir cluster was not successful because of the low level of repayment among SMEs.

Regarding these constrains of cluster policy implementation, Yns, 50 years old, officer from The Industrial Development Division of The Cooperative, Industrial, and

Trade service of Pasuruan Municipal, explained that although participating in furniture exhibition is a strategic step to promote furniture from Bukir cluster, his institution has no capacity to facilitate all SMEs within the cluster to participate in this event. Moreover, the local government are reluctant to provide financial support for SMEs within Bukir cluster with financial support because of their low repayment of this program. This is because most of the SMEs owners/managers view this credit as a grant from government, so they sense no obligation of repaying<sup>13</sup>.

The other type of government initiative to stimulate development of Bukir cluster is played by *UPT Kayu* by providing service and technical assistance for SMEs Bukir. This service assistance is supported by the equipment owned by *UPT Kayu*, such as spindle moulders, spindle planners, clean dryers, a wood-oven machines, and others equipment. However, most of the SMEs feel that this institution provides limited service for the member of because *UPT Kayu* sets for each service. Besides, service provided by *UPT Kayu* is also provided by SMEs, so it does not provide significant aid. This phenomenon illustrates the insignificant impact of policy inducement implementation on the development of Bukir cluster..

## ***Conclusion***

The study provides several findings that may be beneficial for development of SME cluster in developing countries. Most of Indonesian SME clusters, including Bukir cluster are rooted to the local economy and culture, and tend to spontaneously grow without government intervention (Weijland, 1999; Marijan, 2005, 2006). The case of Bukir cluster illustrates that the absence of direct policy inducement to stimulate the cluster growth does

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<sup>13</sup> Interview with Yns, in Pasuruan on 11 April 2011

not mean the cluster is unable to develop. The existence of collective efficiency and social capital within cluster is likely contributes to the development of Bukir cluster. Sufficient infrastructures, availability of raw material, abundant market demand, and skilled labour, and knowledge spillovers are the forms of collective efficiency that can be found within the cluster. In addition, social capital can be seen in Bukir cluster in the form of a self realisation, informal networking and transaction on the basis of trust.

This study also justifies the function of the wood furniture cluster of Bukir to stimulate new business formation that has already been justified by Porter (1998a). This function is indicated by the geographical expansion of the cluster to the villages around Bukir. However, the Bukir cluster has wider effect for both local economy of Pasuruan and national economy of Indonesia if it designed through deliberately action to meet the needs of SME actors. Porter (1998a) and Parrilli and Sacchetti (2008) suggest that the regional or national authority should work together with private sectors and stimulate investors to take part in the industrial district by spending their capital.

As the study identified the majority of SMEs within Bukir cluster are lack of financial sources, the central and local government may stimulate the business sector to participate in cluster development by spending their fund for corporate social responsibility. Moreover, central government through their authority should encourage the stated owned enterprises to actively involve in small sector development through financial, technical, and managerial assistance.

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