

The Effect of Cooperation and Innovation on Business Performance

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Abstract

The purposes of this research are to test the effect of cooperation on innovation improvement and the effect of innovation on the business performance of furniture SMEs cluster in Klender, East Jakarta. This observation was conducted in the area of the furniture cluster in Klender, East Jakarta. One-hundred fifty questionnaires were shared and collected from owners and managers of the SMEs. The data analysis used structural equation model (SEM) to test the hypotheses. There are four hypotheses in this research and all of the hypotheses were supported. This research provides evidence that the inter-firm cooperation, cooperation with research institution, and cooperation with government have a positive and significant impact on innovation, and the innovation has a positive and significant effect on business performance among the furniture SMEs cluster in Klender, East Jakarta. This research contributes to the existing literature by providing evidence that the SMEs cooperation with various parties can have a positive effect on innovation, since innovation is important to improve business performance.

Keywords: SMEs, cooperation, Innovation, business performance, furniture.

1. Introduction

Small and Medium Enterprises (SMEs) sectors have an important role in the development of the Indonesian economy. Indonesia had a difficult period during the monetary crisis in 1998. Furthermore, according to the Minister of Finance, Bambang Brodjonegoro, while opening the monetary bazaar event in the Dhanapala building, says that only the SMEs sectors still hold out from the monetary collapse (www.kemenkeu.go.id, 01/07/2015). SMEs have historically played an important role in the economy of Indonesia (Tambunan, 2011) and the contribution of SMEs to employment rate is more than 99 percent and to GDP by 54-59 percent and to contribution to export by 14-15 percent (Rahman, 2004; Purwanto and Wijaya, 2016). In one side, looking at the importance of these SMEs for the development of the Indonesian economy that spread over this country, one of them are the future sectors, and in another side Indonesia is meeting the Asian Economy Community (AEC), where the rivalry will increase, so the Coordinating Minister for the Economy, Darmin Nasution asks that the small and medium enterprises sectors are given extra attention during the Asian global market or they will be defeated by the same enterprises from countries in the same region (Afriyadi, 2015).

Hanna and Walsh (2002) suggested that in order to be able to survive, SMEs have to follow the development of the industry today by creating new product. This means that those SMEs should be more innovative in fulfilling the consumer's demand, and to be able to follow the existing trend. A method that can be applied in order to be survived is by cooperation. By having cooperation, the innovation creating will be more effective and the market ecosystem will be wider (Awaludin, 2015). According to Najib and Kiminami (2011), there are several kinds of cooperation that can be applied by SMEs, they are inter-firm cooperation, cooperation with the government, and cooperation with an education institute or university.

The Deputy for Commerce and Industry of Coordinating Minister for the Economy, Edy Putra Irawadi says that in facing the era of the Asian global market for developing the economy's growth, Indonesia needs a new commodity of exports that are bigger than imports; for example, the furniture industry. According to him, these clusters of the furniture industry are spread

over this country, which shows that these industries can be the backbone of the Indonesian economy (www.ekon.go.id). This fact moved us to choose one of furniture clusters Indonesia as the research subject, i.e. the furniture industry cluster in Klender, East Jakarta.

Why we choose furniture sector to be studied? Furniture trade is one of the important components in world trading for manufacturing products, and every year the volume of exports grew rapidly along with the growth of population and increasing per capita income world. If the value of world furniture trading recorded at around 41 billion US dollars in 1997, the value reached 80 billion US dollars in 2005 (Aisyah, 2011). And why it is the furniture industry cluster in Klender, East Jakarta? One of the biggest furniture industry clusters in Jakarta is furniture SMEs cluster in Klender, East Jakarta. This cluster is naturally formed since the era when the Dutch still colonised Indonesia, and this location has been the centre of the furniture industry (Yovani, 2001 in Aisyah, 2011). According to Aisyah (2011) the Klender furniture industry cluster is divided into three types of clusters, i.e., large industry, medium industry and small industry. And this cluster has absorbed thousands of workers from various regions in Indonesia, such as from Central Java province (Tegal and Jepara), West Java province (Bogor, Sumedang, Bandung, Cianjur), Banten province, DKI Jakarta and other regions. Dini Furniture is one of the furniture industries of the cluster, and its manager, Henny Nurfitri stated that this business in addition to targeting the domestic market, also targeting foreign markets, i.e. Europe, India and Arab markets (Siswanto, 2010).

Najib and Kiminami (2011) built the conceptual framework to investigate the effect of cooperation and innovation on business performance of five clusters of food processing industry (milk cluster, emping melinjo cracker cluster, empe cluster, rocessed fish cluster, tapioca flour cluster) in West Java. And we believe that inter-firm cooperation, cooperation with government and cooperation with research institution is also important to improve innovation and business performance of the furniture industry. Furthermore, based on the above background, the study tests the effect of cooperation and innovation on business performance of the furniture SMEs cluster in Klender, East Jakarta. The conceptual model that was to be tested in the study was adapted from Najib and Kiminami (2011).

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2. Literature Review

2.1. Industry Cluster

Anderson (1994; Najib and Kiminami, 2011) defined industry clusters “as a group of companies that rely on an active set of relationships among themselves for individual efficiency and competitiveness”. The cluster is a concept similar to sentra and in Indonesia, areas called sentras are comprised of usually more than 20 SMEs (Tambunan, 2005; Najib and Kiminami, 2011). Supratikno (2004; Aisyah, 2011) classified the industries cluster into four classification: (1) dormant cluster that dominated by informal sector and 90 percent cluster in Indonesia include this category; (2) Active cluster. This category begins able to improve their technology and improve product quality. But its products are still likely marketed in the country; (3) dynamic cluster. This category in addition to begin to improve the technology and quality, they were also able to start building a network in marketing their products abroad; and (4) modern or advanced cluster. The cluster has ability to apply high technology to improve their high quality products and in marketing their product, both in domestic and international market.

2.2. Cooperation and Innovation

According to Najib and Kiminami (2011), there are three forms of cooperation that can help SMEs to become more innovative, they are inter-firm cooperation, cooperation with the government, and cooperation with research institutions. Furthermore, in their research, Najib and Kiminami (2011) found evidence that inter-firm cooperation and cooperation with research institutions had a positive and significant effect on the innovation of SMEs, but cooperation with the government did not have a significant effect on the innovation of SMEs. Troilo (2014) found the role of collaborations on product innovation for Chinese micro, medium, and large enterprises. But Cetindamar and Ulusoy (2008) tested the relationship between partnerships and innovation on Turkish firms, and found that there was not a significant relationship on the hypothesis. Lim (2014) said that conventionally viewed as a regulator government has a role in industrial innovation. Kyung *et al.* (2016) found that R&D funding from the central government partially mediates the performance of university–industry cooperation and the cooperation with the government can improve innovation (Najib and Kiminami, 2011).

2.3. Innovation and business performance

Damanpour (1996), as well as Gopalakrisnan and Damanpour (1997) showed an important role of innovation in developing business performance. According to Najib and Kiminami (2011), all kinds of innovation, including product innovation, process innovation and marketing innovation, have a positive effect on business performance, such as selling, profitability and marketing. Furthermore, Najib and Kiminami (2011) proved that innovation has a positive and significant effect on business performance. Ellitan and Anatan (2009) found the effect of product innovation and process innovation on the outcome of the profit and revenue. Gronum *et al.* (2012) found the effect of process innovation on business and employee performance. Moreover, according to Gunday *et al.* (2011), process innovation will improve performance results, which can be measured by the market share of profitability.

Based on the above literature review, the hypotheses of this research are:

H₁: Inter-firm cooperation has a positive and significant effect on the innovation of SMEs.

H₂: Cooperation with the government has a positive and significant effect on the innovation of SMEs.

H₃: Cooperation with research institutions has a positive and significant effect on the innovation of SMEs.

H₄: Innovation has a positive and significant effect on the business performance of SMEs.

3. Method

3.1. Sample and data collection

This observation was conducted in the area of furniture clusters in Klender, East Jakarta. The types of data that were used in this research were primary data with the questionnaire being shared to respondents. A list of questions using the 5-point Likert scale technique. The study used non-probability sampling, in which the size of the sample is about 10 times the number of manifest variables (indicator) from the entire latent variables (Solimun, 2002). In this research, the number of the whole indicator were 15, so the number of samples that can be used in this research is $15 \times 10 = 150$. This research was conducted from January to July 2016.

3.2. Instrument of measurement

There are four variables in the study and each of the variables was measured by indicators as a measurements scale. The measurements scale of all variables in this study was adapted from Najib and Kiminami (2011). Three items of inter-firm cooperation variables include: Cooperation with customer, Cooperation with supplier, and Cooperation with other within cluster. Three items of cooperation with government variable include: cooperation with central government, local government, and state owned companies. Three items of cooperation with a research institution variable include: cooperation with universities, non-university, and business development service provider. Three items of Innovation variable include: product, production process, and marketing. Finally, three items of business performance variables include: sales volume, profitability, and market share.

3.3. Data analysis

The data were analysed by using Structural Equation Model (SEM). The analyses include outer and inner model evaluation. The outer model evaluation provides evidence of reliability and validity and inner model evaluation is appropriate to examine inner model estimates (Hair *et al.*, 2012). For the outer model evaluation, according to Hair *et al.* (2011, 2012), standardised outer loadings should be higher than 0.70, but if it is an exploratory research, 0.40 or higher is acceptable (Hulland, 1999, in Wong, 2013). According to Chin (1995), AVE value should be higher than 0.50 and according to Hair *et al.* (2012), composite reliability value of all constructs were > 0.70 .

4. Result and Discussion

Table I shows that all of the outer loadings are > 0.50 , and the AVE value of all variables are > 0.50 , and the composite reliability value of all variables are > 0.70 . So all indicators of the variables are valid and all variables are reliable.

Table II shows that all hypotheses are supported. The t-value of all hypotheses was significant as shown by the t-value > 1.96 . So the effect of inter-firm cooperation on innovation was significant, the effect of cooperation with research institution on innovation was significant, the effect of cooperation with government on innovation was significant, and the effect of innovation on business performance was significant.

The research proved that innovation include product, production process, and marketing is very important to increase business performance (i.e. sales volume, profitability, and market share). The fact it has been realized by M. Taufik Gani as Chairman of Association of Indonesia Furniture Industry and Craft (Asmindo). He said that the furniture and craft industry globally has been growing rapidly, so it takes a systematic arrangement of human resources, technology and capital, and marketing network, in order to employers can make product innovation. He also said that Indonesia exports of furniture and craft continues to increase and this industry could be mainstay of Indonesia exports and will continue to grow and will contribute about US \$ 5 billion of the exports (<http://www.kemenperin.go.id>). This

Table I. Reflective Outer Models

Items	Outer Loadings	Convergent Validity	Composite Reliability
Innovation		AVE = 0.78	0.91
Item 1	0.86		
Item 2	0.90		
Item 3	0.90		
Inter-firm Cooperation		AVE = 0.52	0.76
Item 1	0.73		
Item 2	0.52		
Item 3	0.87		
Cooperation with Research Institution		AVE = 0.52	0.76
Item 1	0.80		
Item 2	0.78		
Item 3	0.54		
Cooperation with Government		AVE = 0.57	0.79
Item 1	0.93		
Item 2	0.74		
Item 3	0.53		
Business Performance		AVE = 0.66	0.85
Item 1	0.81		
Item 2	0.84		
Item 3	0.79		

Table II. t-value and β -value

Hypotheses		t-value	β -value
Inter-firm Cooperation > Innovation	H1	19.28	0.73
Cooperation with Research Institution > Innovation	H2	2.49	0.13
Cooperation with Government > Innovation	H3	2.42	0.12
Innovation > Business Performance	H4	7.26	0.18

finding supports the finding of Saunila et al. (2014) that the relationship between innovation capability and firm performance. Then to increase their business performance, employers of furniture industry cluster in Klender must make product innovation.

The research also proved that inter-firm cooperation (i.e. cooperation with customer, cooperation with supplier, and cooperation with other within cluster) has significant effect on innovation. It supports the finding of Sánchez & Herrera (2010) that cooperation with customers has the greatest impact on the intensity of innovation activities of manufacturing and service sectors in Spain. Sánchez & Herrera (2010) also found that cooperation with customers and suppliers have significant impact on total intensity of innovation activities in the productive sector. Research finding of Aisyah (2011) showed that consumer of furniture cluster in Klender is individual, retailers, office affairs, wholesalers. So to build cooperation with these consumers is very important for the employers. In 2013, Chairman of Association of Indonesia Furniture Industry and Craft (Asmindo), Ambar Tjahyono stated that the furniture and craft industry players have to prepare as well as possible in face ASEAN Economic Community (AEC), either by strengthening its coopera-

tion with the entrepreneurs in the ASEAN countries, especially in the field of marketing (<http://agro.kemenperin.go.id>). He said, "The strengthening of cooperation in the form of marketing and investment with ASEAN businessmen will further strengthen business ties among ASEAN countries, amid the onslaught China" (<http://agro.kemenperin.go.id>).

The research also proved that cooperation with research institution has significant effect on innovation. As Sánchez & Herrera (2010) said that the development of innovations cannot be based exclusively upon the firm's internal resources, today. The firms are forced to collaborate with external agents to accede to complementary resources and innovation. They also found that cooperation with the universities will increase the acquisition of external technology. Gual and Blasco (2013) found the effects of cooperation on R&D investment on innovation and of innovation on firms' productivity levels in Spanish firms. Becker and Dietz (2004) found the positive impact of R&D cooperations on firms' innovation input and output in the German manufacturing industry

Recently Indonesia Furniture Industry and Craft Association (HIMKI) have focused to build a research and development center of furniture and crafts today. HIMKI is union of AMKRI and Asmindo. As Secretary General of the association, Hari Basuki stated, "It's obvious that raw materials into our advantage. Then, how the processing of this raw material, in the furniture and craft industry should based R & D in the future" (<http://www.himki.or.id>). He stated that Indonesia should have a R & D center to increase an added value for the furniture and craft industry of the country (<http://www.himki.or.id>). Cooperation with a research institution, both universities and non-university is also important to increase innovation performance of the industry.

And the research also proved that cooperation with government is needed to make innovation. This finding support finding of Yovani (2001) that role of government and inter-firm linkages are essential factors for productivity and innovation at the cluster. This finding also support Steinicke et al. (2012) that found the role of governance mechanisms in fostering innovativeness in horizontal service cooperations. Kim (2001) also proved the cooperation in collaborative technology innovation including the Government and private enterprises. Former Minister of Industry, Saleh Husin, ever encouraged furniture employers to increase innovation and creativity in the face of global competition. According to him, the government will continue to encourage crafts and furniture industries in Indonesia (<http://www.kemenperin.go.id>). Saleh Husin also said that employers furniture industry are required to improve the quality and design in order to meet the needs of consumers in the global market and win market competition. And the government asked for the furniture industry continues to innovate in order to follow global consumer taste furniture (<https://m.tempo.co>).

5. Conclusion

The study of the influence of inter-firm cooperation on the innovation of SMEs furniture cluster in Klender, East Jakarta shows as positive and significant. The cooperation among consumers, suppliers and similar business encourages SMEs cluster in Klender to improve their innovation. The effect of government cooperation on the innovation was found as positive and significant. The effect of other institution cooperation on the innovation of SMEs was positive and significant. So the SMEs can get the benefit of the cooperation with other institutions. The study also found that innovation was positive and significant on the business performance of SMEs. So to increase business performance, SMEs cluster in Klender must increase their innovation. And to increase the innovation, they can utilise opportunities of inter-firm cooperation, cooperation with research institutions and universities, and cooperation with government.

Q-as

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