

Conference Paper

Evaluation of SME Supply Chain Using Methods Supply Chain Operation Reference (SCOR) (Case Study on *Borondong* Industry SMEs)

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Abstract

The important role of SMEs in the national economy, the development of the current era, namely industry 4.0, requires businesses to continue to be able to innovate, especially in technology and operations including the supply chain SMEs, so it needs encouragement from various groups including academics how to make conceptual material into policy or decisions for actors and stakeholders. The perpetrator of the SME *Borondong* Industry is one that must be supported because it is a traditional cultural heritage which is also a superior product in West Java so that it is expected to improve the economy. Along with the growing awareness of SMEs on technology, because it is facing the millennial era, it is an opportunity for researchers to provide conceptual treats so that they can be useful for the actors of *Borondong* Industry SMEs. There are a number of problems that have been borne by this bourgeois SMEs, one of which is the absence of a concept that describes the condition of the supply chain of the SME industry. The aim of this study focuses on issues regarding the *Borondong* SME supply chain, exploring the areas that need to be improved and assessing how the supply chain performs. The research method used is descriptive with the approach of the Supply Chain Operation Reference (SCOR). The findings are a general description of the supply chain in the *Borondong* Industry SMEs.

Keywords: Supply Chain, SMEs, SCOR

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1. Introduction

The economy in the world today continues to develop, which is inseparable from the involvement of technology. However, the development of the economy can also be supported by several factors and support from various parties such as government, business people or other stakeholders. One that supports the economy is business people, both large and medium or small scale business people such as SMEs. Small and medium enterprises (SMEs) are a contributing part that can be said to be quite large for the national economy. SMEs for developing countries, especially in Indonesia, usually

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directly have an influence on the domestic economy and society. Today, it is expected that SMEs will become one of the solutions to problems in the national economy. "The literature describing firms has developed successful knowledge management (KM) projects is extensive, in contrast with the scarce attention that has been paid to small and medium enterprises (SMEs) regarding this issue" (Zapata Cantú, Rialp Criado, & Rialp Criado, 2009).

Java Island has the highest potential in Indonesia. The number of IMK businesses/companies makes it necessary to pay attention to this field. According to BPS (2017) KBLI distribution of the food industry can be shown as follows:

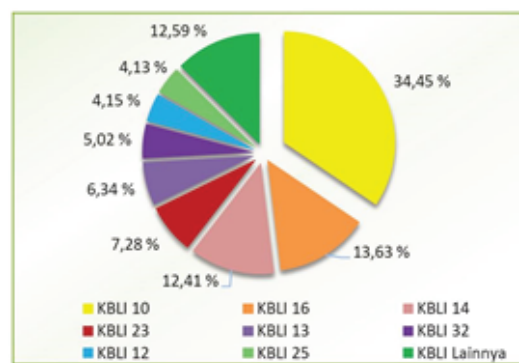


Figure 1: Sebaran KBLI (Source: BPS 2017).

According to the data in the figure, it can be seen that KBLI 10 which is the food industry group has a very high portion of 34, 45 %. This provides guidance to all stakeholders that the food industry SMEs have a very high role. The role of the food industry SMEs certainly needs encouragement from all stakeholders both from the government, society, and academics to create effective integration for national economic growth.

The dumpling industry is one of the food industries that has become a local cultural tradition, one of which is characterized by the habits of some local residents when they hold a party or celebration, so this food must be available in little or a lot Then visitors outside the district when coming to Majalaya or Ibun usually bring these souvenirs. However, with the potential of superior products, the interview results stated that there was a decrease in the number of bourgeois craftsmen, namely that there had been 25 bourgeois craftsmen recorded until 2010 to 13 craftsmen and at this time only 7 craftsmen were active. This is due to the increasing time, so competition occurs even higher, not only competing with similar products but also with other substitute products with higher technological improvements. These SMEs need improvements that can bring their business to be more competitive, one of which must be improved in this case is supply chain regulation.

Based on the data and issues that have been presented, this study aims to focus on examining issues regarding the supply chain of *Borondong* SMEs, exploring fields that need to be improved and assessing the impact of technology on improving their performance and whether they are able to apply chain management supply in terms of efficiency and effectiveness.

As the growth of the SMEs' awareness of continuous improvement, because it is facing the millennial era, it is an opportunity for researchers to provide conceptual treats so that they can be useful for the actors of *Borondong* Industry SMEs. With supply chain problems that are not yet clearly illustrated and also do not know how the performance of the supply chain industry in the *borondong* industry, the main objective in this study is the first *Borondong* industry supply chain mapping and secondly look at the performance of the *borondong* industry supply chain. This research is expected to improve the supply chain so that it can be more effective and efficient.

2. Literature Review

2.1. Supply Chain Management

According to (Heizer, Render, & Munson, 2017) states that: "Supply chain management is the coordination of all supply chain activities involved in enhancing customer value." The global network of organizations and activities involved in designing, transforming, consuming and disposing of goods and services (Swink, Melnyk, Cooper, & Hartley, 2017)

According to (Hamid, Muhammad Iqbal, & ST Suratno, 2011) stated that: " Supply Chain Management was introduced in the 1990s as a new concept motivated by an awareness of the importance of the role of all parties in creating products that are cheap, quality and fast". Then it can be concluded from these opinions, SCM is a chain or plot that illustrates the relationship of integration from upstream to downstream between suppliers, production parties, and distribution channels in order to build the value of goods and services to reach consumers.

2.2. Performance and Supply Chain Operational Reference Model

According to Fahmi (2013: 2) Performance is the result obtained by an organization both the organization is profit oriented and non-profit oriented which is produced over a period of time. According to Mulyadi (2007: 337) Performance is the success

of personnel, teams, or organizational units in realizing the strategic goals that have been applied previously with the expected behavior.

So with these two meanings, it can be concluded that performance is an outcome or success of an organization in realizing its strategic goals by measuring both profit-oriented and or non-profit. One measurement of supply chain performance is by Supply Chain Operational Reference Model (SCOR).

Supply chain operational reference models (SCOR) are a model for assessing, charting, and describing supply chain processes and their performance (Swink et al., 2017). One way to measure supply chain performance is to use the SCOR method. This method was introduced by the Supply Chain Council (SCC) as a model of supply chain performance measurement across industries (Hasibuan et al., 2018).

TABLE 1: Monitoring system of work indicators (Source: Hasibuan et al., 2018).

Monitoring System	Work Indicators
< 40	Poor
40 – 50	Marginal
50 – 70	Average
70 – 90	Good
> 90	Exelent

2.3. SMEs

SMEs can be distinguished from large firms by their constrained resources and different managerial capabilities and practices (Cohen & Kaimenakis, 2007). According to (Undang-Undang, No 20 Tahun 2008) the SME classification can be categorized as follows:

TABLE 2: SMEs Criteria

No	Type	Criteria	
		Asset	Revenue
1	Micro	Max. 50 Juta	Max. 300 Juta
2	Small	> 50 Juta - 500 Juta	> 300 Juta - 2,5 Milyar
3	Middle	> 500 Juta - 10 Milyar	> 2,5 Milyar - 50 Milyar

Source: 2019 edited data (Undang-Undang, No 20. 2008)

Borondong industry in the position of number 2 which is small with assets till criteria > 50 million - 500 million with a turnover of > 300 Million - 2, 5 billion.

3. Research Method

The research method used is problem-solving. Data collection by means of literature and field studies in the form of interviews, direct observation, and questionnaires. The first step is the supply chain mapping, this will be discussed with the object of research. The second stage calculates supply chain performance using the supply chain operations model.

4. Result

4.1. Mapping Borondong Industry SME Supply Chain

This product is one of the superior products and traditional characteristics. *Borondong* is produced in Mekarwangi Village, Ibum District, Bandung Regency. *Borondong* is a food product that has a fairly simple raw material. The raw materials needed to make dumplings are sticky rice, brown sugar, granulated sugar, *pandan* leaves, coconut, vanilla, wood fuel, gas fuel, plastic packaging, staples, and other packing materials. *Borondong* production is carried out in a continuous manner so that it needs a good arrangement to be more effective and efficient and the product can reach consumers in a timely, precise quality and satisfied consumers. After the interview with the head of the craftsmen community, in this study, we will try to map how the mapping of supply chains in the plywood industry from upstream to downstream is as follows.

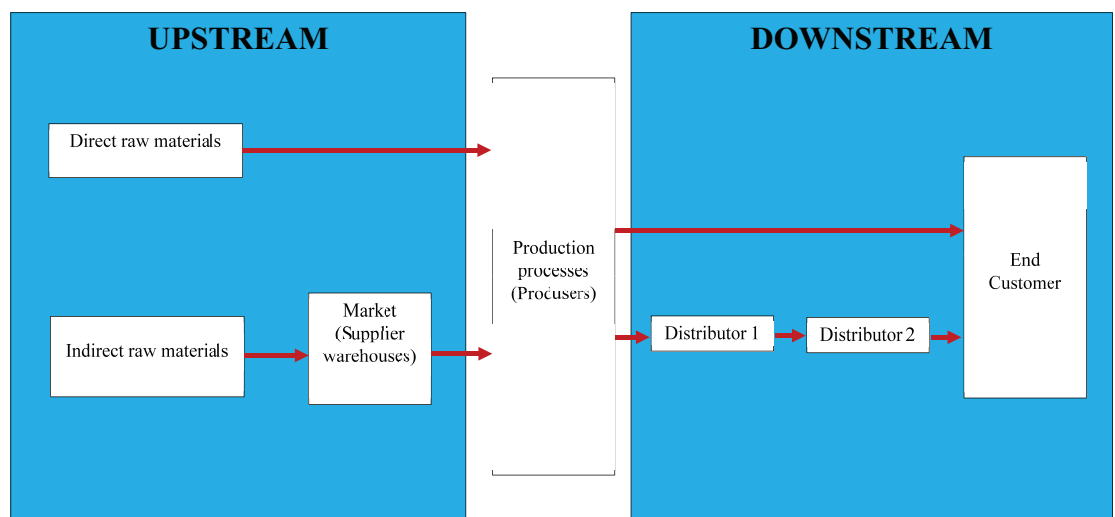


Figure 2: Supply Chain Mapping.

Figure 2 shows how the supply chain of petty industrial SMEs. The upstream box shows the procurement of raw materials which are divided into two parts, namely

1) Direct raw materials: raw materials that can be ordered or imported directly from the producers of the raw materials themselves. 2) The raw materials indirectly: the ordering of raw materials passing through an additional party/warehouse/ market to get *borondong* manufacturers. In indirect raw materials, it becomes interesting to discuss because often the actual raw materials can be ordered directly, there is always a shortage and forcing the producer of *borondong* to buy these raw materials with additional parties. This makes additional costs and time for the droves producer, even though the production is carried out in a continuous manner

Figure 2 also shows the downstream box. This downstream box explains the finished product from the producer to the final consumer. Downstream has two lines, namely: 1) A path that directly sells to the end customer. 2) Pathways that have distributor assistance. The distributor's assistance route is carried out because of the limited market owned by entrepreneurs. This second pathway has weaknesses and strengths, and the boost in other help distributors increase sales capacity, but with the track becoming weaker producers in determining the price that makes the price of the manufacturers are not too favourable.

4.2. SCOR For Borondong Industry

Supply Chain Operational Reference Model for the plywood industry is explained in the following table 2:

Table 3 describes the Supply Chain Operational Reference Model for the *borondong* industry. The table shows the score of the target and actual comparison with the derived KPI from the SCOR model. The results are contained in monitoring which is an interpretation of supply chain performance, shows a more vulnerable score on the Average and there are also those that are Marginal. This means that supply chain performance needs some improvement.

5. Conclusion

5.1. Mapping Borondong Industry SME Supply Chain

The upstream zone is divided into 2 categories of raw materials, namely direct raw materials and indirect raw materials. The raw materials indirectly have an edge when a stock shortage or lack of good industrial supplies *borondong* the craftsman could obtain certain raw materials by going to the market or to the additional warehouse

TABLE 3: SCOR Industry

Process Core Level 1	Dimension 2	Key Performance Indicator Level 3	Actual	Target	Score	Monitoring
Plan	Reability	Meeting with suppliers	1	2	0,5	Average
	Responsiveness	Percentage of raw material needs with production target	45	100	0,45	Marginal
	Asset	Cash to cash cycle time	60	100	0,6	Average
Source	Reability	Fulfillment of raw materials	60	100	0,6	Average
	Responsiveness	Lead time of raw materials	60	100	0,6	Average
	Agility	Supplier availability	70	100	0,7	Average
Make	Reability	Achieving production targets	45	100	0,45	Marginal
	Responsiveness	Time of manufacture of products to achieve production targets	45	100	0,45	Marginal
	Asset	Type of mold	40	100	0,4	Marginal
Delivery	Reability	Level of fulfillment of finished product	70	100	0,7	Average
	Responsiveness	Timely delivery of products	95	100	0,95	Excellent
Return	Reability	The level of customer complaints	90	100	0,9	Excellent

owned suppliers. But it causes additional costs and additional time. Direct materials can be further optimized by means of a good inventory done considering the production process continuity. In the downstream zone the relationship between producers, distributors and end customers. 1) The path that direct sales to the end customer. 2) Pathways that have distributor assistance. The distributor’s assistance route is carried out because of the limited market owned by entrepreneurs. This second pathway has weaknesses and strengths, and the boost in others help distributors increase sales capacity, but with the track becoming weaker producers in determining the price that makes the price of the manufacturers are not too favourable.

5.2. SCOR For Borondong Industry SME

The results of the study showed that there were more susceptible scores on the average and some were marginal. This means that supply chain performance needs some improvement. This good industrial performance is not accompanied by additional time

and costs as well as the treatment of the supply chain flow itself because it is found that there are inventory arrangements that have not been optimal. Some improvements can be made to this industry by encouraging the technological side that is now growing rapidly.

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