Supply Chain Quality Management (SCQM) Practice and its Impact on Company Operational Performance Achievement

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Abstract

The crucial thing is that SCQM can improve quality performance, which led to the support of the company's competitive level. Thus, the company hopes that implementing the same quality procedures through the entire supply chain, in the same way, will improve the quality performance of suppliers.

The purpose of this study is to explain the effect of implementing SCQM, which includes (customer focus, quality leadership, supplier focus, supply chain integration, and IT-enable organization) on the achievement of the company's operational performance. The total sample in this study was 255 operational managers from 420 oil palm companies in West Kalimantan and used the purposive sampling method as a sampling technique.

The results of this study reveal that the practice of supply chain quality management has a significant influence on the achievement of an organization's operational performance.

Keywords: *Supply Chain, Quality Management, Operational Performance*

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1. Introduction

The term of supply chain quality management (SCQM) is a signal of a system-based and holistic approach to improving work performance, it not only captures internal processes but also upstream and downstream processes and the dynamics that occur in the supply chain (Foster, 2008). The crucial thing is that SCQM can improve quality performance, which led to the support of the company's competitive level. Thus, the company hopes that implementing the same quality procedures through the entire supply chain, in the same way, will improve the quality performance of suppliers. In this regard, in achieving high performance

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in SCQM, companies need to integrate all members of their supply chain into a broad spectrum of their company's operations (Sila, I., Ebrahimpor, M., & Birkholz, C., 2006).

Several studies define the integration between quality management and supply chain management as a concept of supply chain quality management (SCQM). It is formal coordination and integration of business processes that involve all partner organizations in the supply chain network to measure, analyze, and continuously improve products, services and procedures in order to create value and achieve customer satisfaction in the market (Robinson & Malhotra, 2005).

Saraph, J, V., Benson, G, P., & Schroeder, R, G., (1989) explained that SCQM is an efficient way to improve a company's operational performance. SCQM practices such as the involvement of all functional departments in product reviews, the availability of quality data, and the emphasis on quality control will fulfill product quality certification requirements.

Research conducted by Samson & Terziovski (1999) illustrated that 2 of the 4 SCQM practices adopted in this study, namely, leadership and customer focus have a very important influence on performance measures, which then become the essential influence of an organization's operational performance measures. Besides, it turns out that the company's efforts to continuously improve company performance through organizational performance indicators must begin with leadership and top management commitment, which will then support the practice of supply chain integration, customer focus, and supplier focus. Eventually, it can improve quality performance that encourages organizational performance improvement, one of which is through operational performance indicators (Quang, H, T., Sampaio, P., Carvalho, M, S., Fernandes, A, C., An, D, T, B., & Vilhence, E., 2016).

Fening, F, A., Pesakovic, G., & Amaria, P., (2008) revealed that the element between quality performance and operational results is an element that examines company performance and improvement, which includes customer satisfaction, financial and market performance, human resource results, supplier and partner performance, and operational performance. Furthermore, the practice of quality management in the supply chain or better known as supply chain quality management (SCQM) such as customer focus, leadership, and supplier management, plays a critical role. This critical role is the establishment of a quality-based culture that can improve operational performance, customer satisfaction, financial performance, etc. through quality performance, even if the relationship does not occur directly (Kaynak & Hartley, 2008).

Eventually, SCQM is an important area that needs to be further investigated in order to understand the emphasis on SC management that will change the way to approach, research, and teach the tools and philosophy of QM. This practice will undoubtedly be beneficial as a reference for the improvement process in the SC environment as the best way and choice both in the practitioner sector and as a foundation of learning in the academic field.

The purpose of this study is to explain the effect of implementing SCQM, which includes (customer focus, quality leadership, supplier focus, supply chain integration, and IT-enable organization) on the achievement of the company's operational performance.

2. Literature Review

2.1 Customers Focus

Customer focus is customer involvement in the design of products or services that can be achieved by using customer satisfaction surveys. Also, it focuses on achieving higher customer satisfaction (Ahire, S, L., Golhar, D, Y., & Waller, M, A., (1996).

2.2 Quality Leadership

Quality leadership is the acceptance of responsibility by top management related to quality evaluation, and participation in quality improvement by top management (Saraph, J, V., Benson, G, P., & Schroeder, R, G., 1989).

2.3 Suppliers Focus

Suppliers focus is the emphasis on suppliers to meet customer needs (Soares, A., Soltani, E., & Liao, Y, Y., 2017), as well as Kaynak & Hartley (2008), disclosed that suppliers directly handle the product or service design and process management. It will be more critical if, in SC, the company can focus on suppliers as the primary goal to meet customer needs. The focus on suppliers is also a key predictor of SCQM's success (Sun & Ni, 2012).

2.4 Supply Chain Integration

Integration is seen as a unidimensional construct that focuses on data integration across functional departments and sharing information with customers and suppliers, which is a dynamic capability (Feng, M., Yu, W., Chavez, R., Mangan, J., & Zhang, X., 2017).

2.5 IT-Enable Organization

This dimension considers communication and information sharing through the use of IT as a prerequisite for optimizing the quality performance of multi-echelon supply chain networks. If IT can be managed and maintained appropriately, operational efficiency and competitive advantage for all members of the supply chain network can be used (Xu, 2011). On the other hand, IT enables an integration of information, which refers to the sharing of key information along the supply chain network. One of the main objectives of information integration is to

achieve the real-time transmission and information processing needed for supply chain decision making (Prajogo & Olhager 2012).

3. Hypothesis Development

Research conducted by Samson & Terziovski (1999) illustrated that 2 of the 4 SCQM practices adopted in this study, namely, leadership and customer focus have a very important influence on performance measures, which then become the most important influence of an organization's operational performance measures. Complementing these findings, it turns out that the company's efforts to continuously improve company performance through organizational performance indicators must begin with leadership and top management commitment, which will then support the practice of supply chain integration, customer focus, and supplier focus. Subsequently, it improves a quality performance that encourages improved organizational performance, one of them through operational performance indicators (Quang, H, T., Sampaio, P., Carvalho, M, S., Fernandes, A, C., An, D, T, B., & Vilhence, E., 2016).

Furthermore, QM practices in SC or better known as SCQM, such as customer focus, leadership, and supplier management, play a very important role, namely the formation of quality-based culture. It can improve operational performance, customer satisfaction, financial performance, etc. through the quality of performance even if the relationship does not occur directly (Kaynak & Hartley, 2008). Moreover, as explained by Fening, F, A., Pesakovic, G., & Amaria, P., (2008), that operational results are elements that review company performance and improvement, which include customer satisfaction, financial and market performance, human resource results, supplier and partner performance as well as operational performance or quality performance.

Also, the process of providing information through the use of IT can optimize the quality performance of multi-echelon supply chain networks. If IT is managed and maintained appropriately, operational efficiency and competitive advantage for all members of the supply chain network can be obtained (Xu, 2011).

From some of the explanation above, the four SCQM practices adopted in this study influence the achievement of an organization's operational performance; then, it can be described that:

H1: Customers Focus Affects the Achievement of Operational Performance of an Organization

H2: Quality Leadership Affects the Achievement of Operational Performance of an Organization

H3: Suppliers Focus Influences the Achievement of Operational Performance of an Organization H4: Supply Chain Integration Influences the Achievement of Operational Performance of an Organization

H5: IT-Enable Organization Affects the Achievement of Operational Performance of an Organization

Based on these studies, a research model was developed, such as Figure 1 below.

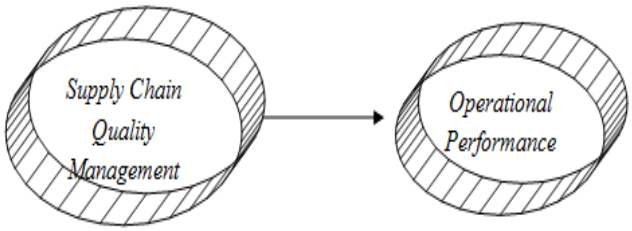

Figure 1. Research model on the effects of the practice of supply chain quality management (SCQM) on the company's operational performance achievement

4. Method

The technique used in this study was started by identifying research gaps from previous research, followed by compiling problem statements, research objectives, developing hypotheses, and research models. In this study, there are independent variables, namely SCQM practices, which include customer focus, quality leadership, supplier focus, supply chain integration, and IT-enable organization. Meanwhile, operational performance is the dependent variable.

5. Research Samples

The population in this study were all operational managers of oil palm companies in West Kalimantan, which consisted of 420 companies. The research sample used in this study was 255 operational managers from 255 oil palm companies with purposive sampling as the sampling techniques.

5.1 Data Collection Techniques

The type of the data is primary data obtained from questionnaires. Questionnaire distribution was done by providing answer choices which will be filled by respondents. The respondents who filled out the questionnaire were selected according to criteria determined by the author, using a purposive sampling method, namely at least having work experience with a span of 1-5 years.

5.2 Variable Operational Definitions and Measurements

Customer's focus is the emphasis on the customer. The measurement uses a 7 point Likert scale. The indicators used in customer focus are building and retaining customers, increasing customer's capability, determining customer's expectations, complaints evaluation, feedback, measurement, and customer satisfaction evaluation. Quality leadership is the acceptance of responsibility by top management, quality evaluation, and quality improvement participation by top management. The measurement uses a 7-point Likert scale. Indicators used in quality leadership are related to top management capability, top management participation, top management commitment, and articulation of vision & mission.

Suppliers focus is the emphasis on suppliers to meet customer needs. The measurement used is a 7-point Likert scale. Indicators on suppliers focus include supplier quality audits, supplier performance information, feedback, joint supplier participation on quality issues, and formal programs to evaluate & recognize suppliers. Supply chain integration is data integration in all functional departments and sharing information with customers and suppliers. The measurement which was used is a 7-point Likert scale. Meanwhile, the indicators are increased integration, level of trust, the involvement of supply chain members, participation, finding new ways of the integration process, increasing supplier capabilities.

IT-enable organization is communication and information sharing through the use of IT in the supply chain. The measurement used is a 7-point Likert scale. The indicators used include compatible IT systems, IT-based coordination, improvement of IT platforms in supply chain networks, and IT-based transactions. Operational performance is the company's ability to reduce management costs, order time, lead time, and the effectiveness of raw materials and distribution capacity. The measurement which was used is a 7-point Likert scale. Indicators used include lead time reduction, increase productivity, decrease scrap, increase goods shipped on time.

5.3 Data Analysis Technique

The analysis used in testing hypotheses and research models is a linear regression with the help of the SPSS program. It will test the validity of each indicator, test the reliability & normality of the data, and test the hypothesis.

6. Research Result

6.1 Validity and Reliability

Table 1. Validity and Reliability Test Results

Variable	Indicator	*Loading Factor*	*Cronbach's Alpha (a)*
Customers Focus	CF1	0.877	0.924
	CF2	0.877	
	CF3	0.876	
	CF4	0.769	
	CF5	0.836	
	CF6	0.808	
Quality Leadership	QL2	0.903	0.907
	QL3	0.871	
	QL4	0.862	
Suppliers Focus	SF1	0.873	0.935
	SF2	0.898	
	SF3	0.900	
	SF6	0.860	
Supply Chain Interation	SCI1	0.734	0.904
	SCI2	0.886	
	SCI3	0.898	
	SCI4	0.857	
	SCI5	0.763	
	SCI6	0.812	
IT-Enable Organization	ITEO1	0.901	0.914
	ITEO2	0.918	
	ITEO3	0.913	
	ITEO4	0.848	
Operational Performance	OP1	0.705	0.721
	OP3	0.763	
	OP4	0.776	

The loading factor and *Cronbach's alpha* (*a*) on the table is the result of the validity test, where the value of the loading factor of the whole indicator is greater than 0.13 (r-table), so it can be said that the entire indicator is declared valid. Furthermore, reliability testing is performed by using the Cronbach alpha (a) statistical test, in which from the reliability analysis process, it is found that all constructs of variables give a value of > 0.70. Thus, the conclusion is that the measurement tools in this study can be said to be reliable.

6.2 Regression Analysis

Table 2. Research Result of Supply Chain Quality Management & Operational Performance

The Structure of Relationship			Beta	t	Sig
Customers Focus	→	Operational Performance	0.796	5.413	0.000
Quality Leadership	→	Operational Performance	0.267	3.610	0.000
Suppliers Focus	→	Operational Performance	0.247	2.310	0.023
Supplly Chain Integration	→	Operational Performance	0.295	4.209	0.024
IT-Enable Organization	→	Operational Performance	0.255	2.302	0.000

From the table above, it can be identified that there are no significant problems that occur in the dimensions of supply chain quality management such as customer focus, quality leadership, supplier focus, supply chain integration, and IT-enable organization. The absence of a problem because the significance is at the specified standards <0.05.

7. Discussion and Conclusion

Supply chain quality management (SCQM) is an interesting issue in the field of operational management, where the process of integration between quality management in the supply chain network will have an impact both on the downstream and upstream sides of an organization. Finally, supply chain quality management (SCQM) managed to provide a significant influence on the achievement of the operational performance of an organization. It reflects in every dimension in SCQM, such as an IT-enable organization, which makes easiness for an organization to get information that is following the company needs. The results of this study have similarities with investigations conducted by Quang, H, T., Sampaio, P., Carvalho, M, S., Fernandes, A, C., An, D, T, B., & Vilhence, E., (2016) and Prajogo & Olhager (2012). Furthermore, other dimensions, such as suppliers focus, can provide easiness for companies to meet consumer needs, reduce the level of defective products that enter the company, conformity to production needs. The results of this study have similarities with studies conducted by Kaynak & Hartley (2008), and Soares, A., Soltani, E., & Liao, Y, Y., (2017).

Customers focus also becomes an essential dimension in SCQM in order to achieve an organization's operational performance. Here, an organization can find out the basic functions of quality that exist in consumers and then enter the new qualities needed and desired by these consumers. The results of this study are in line with the review of Flynn, B, B., Hou, B., & Zhao, X., (2010); Tan, K, C., (2002); Sun & Ni (2012); and Dow, D., Samson, D., & Ford, S., (1999). Likewise, integration in the supply chain network, by integrating every supply chain network owned by the company, will facilitate the company to have a variety of knowledge

both from the upstream supply chain and from the downstream side of the supply chain. So, it can help companies to be able to provide products with a variety of capabilities that are superior, fast, and precise. The results of this study have similarities with research conducted by Sun & Ni (2012); Flynn, B, B., Hou, B., & Zhao, X., (2010); Frohlich & Westbrook (2001).

Another thing that influences is how the SCQM quality leadership dimension can play a role in the success of an operational performance, where top management must be able to provide further support in handling quality in the supply chain network. Top management will oversee the processes that occur both from the downstream side to the upstream side of the supply chain, and ensure everything goes well so that it can further provide efficiency and effectiveness of operational performance. This study is in line with Azar, A., Kahnali, R, A., & Taghavi, A., (2009), who found that leadership is an important dimension in SCQM. It is similar to research conducted by Powel (1995); Ahire & O'Shaughnessy (1998).

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