

The Impact of Supply Chain Management as Mediator between Strategic Orientations and Supply Chain Performance

Yuhainis Bt Mohd Yusoff^{#1}, Hasbullah Bin Ashari^{*2}, Mohamed Najib Bin Salleh^{#3}

School of Technology Management and Logistic, University Utara Malaysia, Sintok, Kedah, Malaysia

¹are_niz77@yahoo.com

²hasbullah368@gmail.com

³najib@uum.edu.my

Abstract - Studies in supply chain have stated that strategic orientation can be employed to enhance supply chain performance (SCP). However, in the effort of enhancing SCP, there are still on-going issues such as, supply chain coordination, bullwhipped effect, information sharing and collaborative behaviours that need to be managed well. Therefore, in order to manage the issues, several authors have recommended supply chain management (SCM) to mediate the relationship between strategic orientation and SCP. SCM offers the opportunity to capture the synergy of intra and intercompany integration. The importance of SCM as a mediator can be considered as an important element to increase performance. Therefore, this conceptual paper proposes to study the importance of SCM as a mediator to SCP. It further explores the relationship of strategic alignment between two strategic orientations: market orientation (MO) and supply chain orientation (SCO). To investigate the strategic alignment relationship, this study proposes the complementary approach. The relationship and the complementary approach can be empirically tested for future research.

Keyword: *Strategic Orientation, Market Orientation, Supply Chain Orientation, Supply Chain management, Supply Chain Performance.*

1. Introduction

Several researchers agree that strategic orientation has an important part in achieving performance. This is in conjunction with some views that performance relies much on how manufacturers perceive and response to internal and external, downstream and upstream information [1], [2], [3]. Thus, this portrays the importance of organizing good strategic orientations within the organization so that companies are able to align their objectives and coordinate their activities to meet the (SCP) [1].

Improving SCP needs a good understanding and commitment among all of the supply chain members. This is challenging since a supply chain faces uncertainties from the market (customers and suppliers) [4]. The uncertainties then often lead to the distortion of the market information that will further lead to face a phenomenon termed as bullwhip effect [5]. The bullwhip effect will have adverse effects to the companies in the supply chain. Companies that experience bullwhip effect are likely to place higher order and this includes higher cost. This is due to unexpected purchase of raw materials, inadequate capacity planning and utilization, inefficient over time, and additional transportation costs.

The bullwhip effects are related to other issues in supply chain such as coordination and collaboration. This is because when the firms are in disjointed and saperated supply chain, they will not be able to optimize their performance. Therefore, firm needs a good SCM. A good SCM practices will encourage coordination, infomation flow and reduce the risk of bullwhipp effect [6].

SCM becomes increasingly apparent with market globalization. According to [7], SCM is the management of material and information flows both in and between facilities, such as vendor, manufacturer, assembly plants and distribution centre. Based on this definition, this study foresees that SCM is able to reach the external information and accommodate the entire supply chain with accurate information. This valuable information will then be useful to enhance supply chain performance.

In addition, to initiate SCM philosophy, managers need exact behavioural guidelines within the boundaries of the firm [1], [8]. In this study, as suggested by [8], Supply chain orientation (SCO) is

forseen to be important to SCM. Without SCO inside a firm, it is not possible to implement SCM philosophy within the supply chain.

Besides SCO, this study also proposed another strategic orientation which is market orientation (MO). Both of this orientations will be aligned in order to study the effect on SCP [8],[9], [10], [11],[12],and [13]. Understanding the effect of strategic alignment between MO and SCO to SCP and the effect of the strategic alignment to SCP via SCM could help minimizing the bullwhip phenomenon. The subsequent paragraphs elaborate further the concepts of MO, SCO and SCM.

2. Literature Review

SCP is commonly understood as part of “an improved SCM” or “an effective SCM”. [14] defines it as the “multiple measures of performance developed by the organization to gauge the ability of a supply chain to meet an organization’s long-term and short-term objectives”. Others address that SCP is “the affective management among suppliers, materials, and customer in a supply chain [15], [16], [17], [18]. The definitions even though are not exactly similar, it support each other. Hence, with reference to those definitions, this study views SCP as a measuring tool to ensure the process of delivering products is effective and efficient.

The benefits of effective SCP are seen not only in improved business performance, but also it shows a good understanding and cooperation among supply chain members [19]. This is important for a long term relationship. In addition, SCP also provides information on company progress, enhances motivation and communication. With that rich information, establishing SCP enables companies to diagnose problems and facilitates inter-understanding and integration among supply chain members [14], [18], [20], [21], [22], [23].

However, there are always difficulties in achieving performance. This study also finds that the difficulties in achieving SCP are also rooted from the internal practices. These internal SCP measure and evaluate the effectiveness and efficiency of a function in producing its outputs and services. The result from this will also reflect on cost, lead time, and reliability [24]. It can even reflect certain external performance such as response rate on customer orders [17], [24], [25]. It is aligned with [24] who found that the supports from the internal

factors will help companies running the supply chain effectively and smoothly.

Ref. [26] remarked the dimension for internal SCP such as customer relationship management, demand management, order fulfillment, customer service management, manufacturing flow management, supplier relationship management and procurement, product development, and commercialization. [24] added that activities involved with internal SCP include procurement (purchasing department), product design, production planning, process planning, process control and quality control (manufacturing and production department), sales planning and forecasting (marketing and sales department), communication and information sharing, and distribution, shipment and warehousing (distribution department), as well as cost control (financial department).

Thus, this study finds that difficulties in improving SCP is due to lack of internal practices in managing supply chain, quality and production problems, commitment of the employees, and weak collaboration in planning [27], [28], [10]. Therefore, this study sees the potential of experiencing positive outcome when companies manage to overcome these difficulties by establishing or embedding strategic orientation in their system. Strategic orientation improves SCP by establishing and embedding the behavioral values among the supply chain members. In addition, scholars suggested the method of “alignment” or complementary; which roots from the concept of “matching” and “aligning” [32], [33] into the system can improve the SCP results. Alignment requires the practitioners to find the best strategic combination that is suitable for the situation.

The two strategic orientation variables under analysis are MO and SCO. It is hypothesized that the two needs to be aligned and any missing one or lacking in one will yield detrimental effects to the supply chain. The inclusion of the two variables is important since they provide the medium and environment that influence the relationship. According to [41] which defines MO – as a set of company-wide implementing activities of the marketing concept so that market oriented firm, practices the three pillars of the marketing concept (customer focus, coordinated marketing and profit orientation) to satisfy customer. Researchers [34], [25], [26] agreed that MO provides a solid foundation for a sustainable competitive advantage for a company, which in turn will speed up the

company performance. This is also explained by [37] where a superior MO leads to a superior performance. Not only company performance, market-oriented companies will also experience efficient delivery, good inventory level, and efficient in demand planning [4].

However, as contended in the early part of this paper, MO itself is not sufficient [37]. [37] has discussed the needs for multiple orientations in order to be more competitive. As discussed in the introduction section, the uncertainty and bullwhip effect in turn results in poor control in the costing, on-time delivery, product quality, and customer satisfaction [12], [14].

This phenomenon supports this study that MO must be supported by SCO. MO is an external orientation that is needed to improve the market awareness, while SCO is an internal orientation that will improve supply chain relationship. SCO encourages companies to give special attention to the functional areas such as procurement, logistics, marketing, production, sale and distribution, which in return would also benefit the SCP [8].

Therefore, this study proposes the alignment/complementary between MO and SCO. Studies regarding strategic alignment especially on the complementary between MO and SCO is still lacking in the area of SCP [19], [8]. Different than [8] who view the relationship of SCO as a mediator between MO and SCM, this study contends that the two (MO and SCO) is better viewed as a synergy to each other. In the statistical term they are covariance. Therefore this study chooses covariance between MO and SCO, in which the strategic alignment as complementary is believed to lead to a superior performance [38]. The needs to study different approaches in analyzing multiple strategic orientations are also suggested by [37], [39].

However, although this study managed to predict the capabilities of MO and SCO, it is still opened for improvement. Based on the previous research, the distortion of the information as it moves upstream has always been the classic issues in supply chain. This shows that SCO and MO could not directly affect the SCP. There must be a medium to mediate the relationship between the alignment and SCP. In respond to that, this study believes that SCM is needed to mediate the information from MO and SCO throughout the supply chain. SCM improves SCP by establishing a good information sharing and cooperation. On top of that, SCM enables

companies or manufacturers to coordinate their decisions and activities to optimize their performance [3]. Scholars [1], [6] realize that SCM is not just a process but involves activities such as value creation, quality, and knowledge on the relationships within the supply chain. In addition, [29] also believe that SCM evolves into a body of knowledge focusing primarily on integration, customer satisfaction, and business results. Despite of many concepts in SCM, the similarity in SCM perspective has been clearly explained by [30] that each concept highlights on coordination and collaboration with suppliers and customers. However, there are still inconsistencies in how SCM is perceived especially between research and practice. Although there are many researches in SCM, there are always different streams of research regarding the way the SCM is perceived. Therefore a wider scope needs to be observed.

As a result, this study finds that it is important to affiliate SCM as a mediator to SCP, which is also supported by [8], [14]. Again, based on the definition by [7], SCM manages to handle the information flows both in and between vendors, manufacturers, assembly plants and distribution center. Also, SCM enables the integration of their operational activities with decisions and activities of their external business partners [3]. Therefore, the existence of SCM as the mediator between MO and SCO is crucially important for future research.

Additional investigation would be carried out to determine the direct effect of Fit to SCP. This is to study whether SCP is better when SCM mediates this relationship.

2.0 Theoretical Framework

Based on Figure 1, this study tries to investigate the relationship of the strategic alignment (interaction affect) between MO and SCO to SCP via SCM as the mediator. Besides the mediator affect, this study also investigates the direct effect of strategic alignment over SCP. In this case, researcher can identify and compare the effect of mediator to SCP.

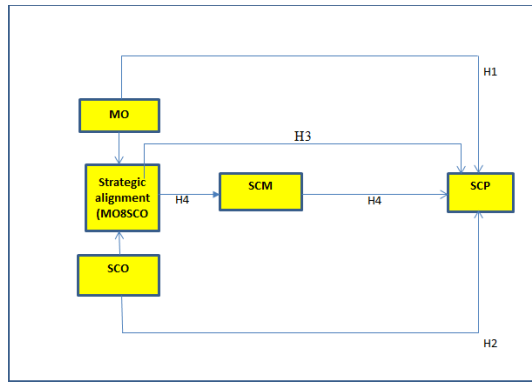


Figure 1. A Conceptual model on the interaction between strategic alignments (MO & SCO) and SCP via SCM.

2.1 Strategic Fit/fit as complementary

Following [37], there are three types of approaches to analyze multiple orientations. Based on previous study, this study chooses to fit the orientations as complementary. In this research, strategic fit will be analyzed as a higher order construct. PLS-SEM, the path coefficient for both MO-fit and SCO-fit can be used to determine whether both variables (MO & SCO) can be fit together as complementary.

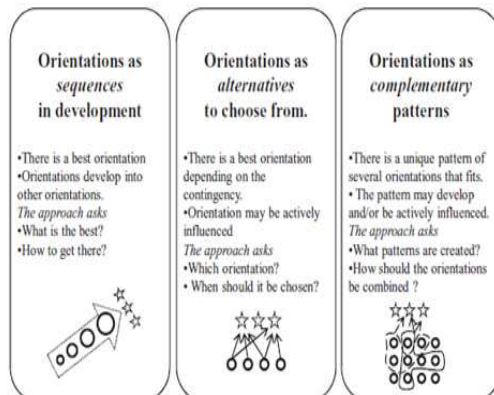


Figure 2. Three Approaches to analyze multiple strategic Orientation in Management literature (Source: Hakala, 2010)

3.0 Methodology

This section discusses the relationship between variables and how these variables relate to each other.

3.1.1 The relationship between MO and SCP

The significance of proposing a direct relationship between MO and SCP is justified by an understanding that when organizations communicate with customers and suppliers on issues such as material flow and quality, they can expect better operational performance in terms of speed and punctuality of deliveries. Additionally, Juttner et al. (2010) have shown that components of MO, customers and suppliers relationship influences SCP in terms of pipeline time, total costs, and lead time. Therefore, this study hypothesizes that there is a direct relationship between MO and SCP.

H1: There is a significant relationship between MO and SCP.

3.1.2 The relationship between SCO and SCP

Embedding SCO creates operational based behaviour that later will affect the efficiency and effectiveness of handling the company resources. The same views on SCO are also shared by [8], [13], [31]. Therefore, similar with MO, in order to gain company performance, this study proposes that manufacturers must first create a strong relationship between SCO and SCP. Although previous research admitted the importance of SCO to operational performance, the way SCO effects SCP is still merely discussed. Thus, this study proposes to further investigate the direct relationship between SCO and SCP.

H2: There is a significant relationship between SCO and SCP.

3.1.3 The relationship between strategic alignment (MO & SCO) and SCP

According to [13], the close relationship between customer and supplier relationship will facilitate an understanding on the changes on the business environment. This will lead to a better customer service and improved supplier relationship [12], [13], [14]. Relating to this study, this study finds that the alignment (MO & SCO) are able to leverage closer relationships between the parties in the chain to accelerate cash flow through time compression and shorter end-to-end pipeline time. This will lead to a better quality, flexibility of the product, time and could minimize the cost involved. Hence, this study proceeds by questioning the direct relationship of alignments between MO and SCO to SCP and how it affects time, cost quality and flexibility. Hence, this study also hypothesizes that there is a

significant relationship between the alignment (MO and SCO) and SCP.

H3: There is a significant relationship between the alignment (MO & SCO) and SCP.

3.1.4 The relationship between FIT and SCP via SCM

This study assumes that there is a positive relationship between fit and SCM. With the synergy effect of fit, the elements in SCM could generate cooperation among the supply chain members. This will result in an improved management on costing, material handling, timing and product flexibility [8], [18], [29]. However, there are still inadequate discussions on how strong fit between MO and SCO affects SCP when it is mediated by SCM. This includes how SCP performs with and without SCM in the relationship. Providing answers to this ensures that practitioners will experience better management strategies on their supply chain process and could also reduce the risk of stock-out and backorder, while increasing customer satisfaction. This is supported with the discussions by [8], [18], [29]. Thus this study hypothesizes:

H4: There is a significant relationship between alignment (MO & SCO) and SCP via SCM.

3.1.5 SCM as the Mediator

Based on the theoretical perspective, common explanation for mediation is to “explain” why a relationship between an exogenous and endogenous construct exists. According to [40], when including a mediator, the direct effect (MO – SCP and SCO – SCP) (refer to Figure 1) must be significant. Next, include the mediator variable in the PLS path model and assess the significance of the indirect effect. The result from variance accounted for (VAF) will determine how strong the mediator is.

4. Conclusion

The main objective of this paper is to develop a conceptual model that could help future researchers to empirically discover the question of the effect of SCM as the mediator and the effect of strategic alignment between MO and SCO to supply chain performance. The paper first establishes the basis of the model by reviewing the importance and fundamental in strategic orientation. This includes the contents of the strategy and its basic structure. Through (SEM), the model will then be established. The analytical framework could further help future

research to explore or to venture in depth into the subject matter. Hence, it is suggested that an empirical study is conducted to validate the good fit of the theoretical model.

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