

## Research Article

### Supply Chain Management Practices Impact on the Healthcare Perceived Organizational Performance in Malaysia

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**Abstract:** The structure of the current study is based on to the prior studies on supply chain management practices and perceived organizational performance. The objective of the current study is to create a conceptual framework to investigating the link between supply chain management practices and healthcare's perceived organizational performance that indicates the mediating impact of alliance integrated network in Malaysia. Dimensions of supply chain management practices such as demand management, information and technology management capacity and resource management, customer relationship management, supplier relationship management are determined to have a positive and significant relationship with perceived organizational performance. Furthermore, alliance network have the mediation impact on the direct relationship. The proposed research framework applies to a Malaysian health care industry which has limited studies.

**Keywords:** Alliance network, health care, perceived organizational performance, supply chain management practices

## INTRODUCTION

Healthcare is one of the industries with high potential to contribute further towards Malaysia economy. Therefore, it is significant to search into the determinants that will develop a health care perceived organizational performance. Furthermore, Supply Chain Management Practices (SCMP) have been shown as the important determinant to develop health care perceived organizational performance. Sukati *et al.* (2011) indicate that SCMP have been shown to Supply Chain (SC) responsiveness which will enlarge SC competitive advantage and thus lead to perceived organizational performance. Baltacioglu *et al.* (2007) assert that the effective SCMP will decrease boost revenues, costs, increase customer satisfaction and also develop service delivery.

To achieve corporate strategic objectives, mission and values, organization need to improve on its perceived organizational performance (Cho *et al.*, 2012). Perceived organizational performance usually involves tasks that establish organizational goals, track progress to achieve goals and make adjustments to hit those goals. It is an integral part of managing an organization. The possibility of proactively surfacing the performance gaps will mitigate risk that may impact the achievement of the defined goals. Past literatures

tend to focus on perceived organizational performance extensively in manufacturing industry. The measures of perceived organizational performance usually include financial performance, product sales performance and shareholder return. Business firms may use profits, sales, market share, productivity, debt ratios and stock prices as the measurements (Cho *et al.*, 2012). There are other measures focus on product quality, competitive position and customer service (Lin *et al.*, 2005). The measures used in the healthcare industry must truly capture the relevance and the essence of the health care perceived organizational performance (Cho *et al.*, 2012). According to Mays *et al.* (2009), the studies on healthcare organization between 1990 and 2007 focus generally on the aspects of financing, staffing and service delivery.

The primary objective of this study is to formulate a conceptual framework to focus on supply chain management practices impact on the health care perceived organizational performance in Malaysia. Such a framework could help us better comprehend supply chain management practices and its impact on perceived organizational performance. The supply chain management practices literature is used to identify constructs of particular relevance to perceived organizational performance. Following the materials and methods, this study is focus on conclusion.

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## MATERIALS AND METHODS

**Perceived organizational performance:** (POP) refers to how well an organization meets its financial goals and market criteria Koh *et al.* (2007). In general, POP can be measured from both financial and non-financial criteria (Demirbag *et al.*, 2006). The measures of non-financial criteria are innovation performance and market share (Demirbag *et al.*, 2006), quality improvement, innovativeness and resource planning. POP is also being studied from the SCM perspective POP which includes increased sales, organization-wide coordination and Supply Chain Integration (SCI) (Koh *et al.*, 2007). Operational and organizational performance dimensions may also include innovation and R&D performance (Singh and Smith, 2004).

There are various studies have tested the relationship between SCM and POP (Wong and Wong, 2011). The relevant items adapted to measure POP include higher sales, higher accuracy in costing and improved coordination between departments, improved coordination with suppliers and improved coordination with customers (Koh *et al.*, 2007). Wong and Wong (2011) indicate that some other measures that are related to organizational financial performance may include growth of sales, market share, return on investment, growth of return on investment, profit margin on sales and growth of market share to measure POP. Petrovic *et al.* (2007) use measures such as lead time, sales level, product return, inventory turnover, cost reduction and meeting customers' requirements to measure the operational performance.

Our interest for this study is an aggregate assessment of POP that is relevant to healthcare sector. Acharyulu and Shekhar (2012) highlighted that the primary service measures of hospital are established upon cost, quality of healthcare delivery, safety, promptness, efficient and effective diagnosis and treatment, internal customer satisfaction, reduced procedure times, technology and innovation, Total Quality Management methodology implementation, speed of recovery, patient relationship management, patient satisfaction, supplier relationship management, ability to provide efficient service. The measures are finally streamlined to key performance outcome measures such as reliability, responsiveness, assets, cost, revenue, customer satisfaction, sustainability and safety (Acharyulu and Shekhar, 2012). This study will adopt the measures from Acharyulu and Shekhar (2012) which are reliability, responsiveness, assets, cost, revenue, customer satisfaction, sustainability and safety. It is important to look into the SCM aspects and recognize areas in which they may develop healthcare organizations.

**Supply chain management practices:** Koh *et al.* (2007) indicate that SCMP include a set of activities undertaken in an organization to develop supply chain

management effective. The short-term goals of SCM are to increase productivity, decrease inventory and lead time. Koh *et al.* (2007) documented that the long-term goals of SCM are to enlarge SCI and market share. SCMP can be explained in different ways. Donlon (1996) highlighted that SCMP involve-cycle-time compression, supplier partnership, outsourcing and continuous process flow and information technology sharing. SCMP defined as the activities set that firms undertake to develop effective management of the SC. In parallel, Otto and Kotzab (2003) indicate that SCMP termed as a special form of a strategic partnership a mid suppliers and retailers. SCMP viewed in terms of reducing duplication impacts through concentrating upon core competencies and utilizing inter-organizational standards for example activity-based costing or electronic data interchange and eliminating unnecessary inventory level through postponing customizations towards the SC end (Alvarado and Kotzab, 2001). SCMP categorized from the following aspects: just-in-time supply, close partnership with suppliers, strategic planning SC benchmarking, e-procurement, close partnership with customers, holding safety stock and sub-contracting, few suppliers, outsourcing and many suppliers (Koh *et al.*, 2007). There are seven theoretical processes identified of SCs which include capacity and skills management, supplier relationship management, information flow, customer relationship management, demand management, service delivery management and cash flow (Ellram *et al.*, 2007). Chong *et al.* (2010) assert that SCMP are categorized into customer relationship management, demand management, capacity and resource management, SC finance, supplier relationship management, information and technology management, service performance and order process management.

However, literature review asserted that the previous studies shortcoming on SCM relates to their concentrated upon general forms of SCM that are applicable across various sorts of organizations. Boonitt and Pongpanarat (2011) indicate that to address this limitation, the particular requirement of organizations urges future researchers to concentrate upon the particular form of SCM which is SCMP. This warrants for further research into the industry's SCMP by focusing on healthcare in Malaysia. In this regard, this study concludes the SCMP that are suitable for health care, namely demand management, information and technology management, supplier relationship management, customer relationship management, resource and capacity management to be included in the research framework.

**Alliance integrated network:** The healthcare service enterprise is a combination of various product and services such as pharmaceuticals, laundry cleaning, catering, medical devices, home-care products, medical

waste and general waste management, vehicle fleet management and housekeeping. There are various parties involve in a healthcare service enterprise. Thrasher *et al.* (2010), reported strategic alliances in healthcare as clusters of firms that make decisions and integrate efforts to provide a service. The alliance network formation is a beginning point of integration and realization of the significant benefits. The benefits can be achieved by integration to improve cooperation and collaboration, to promote medical services quality, to reduce costs and, in general, to obtain competitive advantage and performance improvement. Therefore, alliance network integration is defined as alliance network capability that is created from the synergistic information technology impact where there is seamless access to timely information through the network members and process or decision making integration that allows for collaborative decision-making within the members. Chong *et al.* (2009) included IT collaboration tools and supplier relationships in their study as a dimension on SCMP. Alvarado and Kotzab (2001) recommended the use of inter-organizational systems such as electronic data interchange in SCM. Lee *et al.* (2011) proposed companies to explore information technologies such as Radio-Frequency Identification (RFID) for transportation tracking and shared databases and Electronic Data Interchange (EDI) for order placement and invoicing. Zhang *et al.* (2011) revealed that SCM and performance has a direct relationship as well as indirect relationship via Information and Communication Technology (ICT). In this study, alliance integrated network plays a vital role to intervene the relationship between SCMP and POP.

**Alliance integrated network as a mediator:**

Tukamuhabwa *et al.* (2011) found market orientation components such as supplier and customer relationship affect SC performance. The SC collaboration as a mediator improved the SC partners' operational performance. Boon-itt and Wong (2011) clarified that SCI involves the functional departments collaboration, customers and suppliers to coordinate information flow and processes so that the SC can obtain on-time delivery. They provided practical guidance to logistics and SC managers in terms of the SCI effectiveness in impacting customer delivery performance.

However, this study was conducted in Malaysia to focus on supply chain management practices impact on the health care perceived organizational performance (Fig. 1).

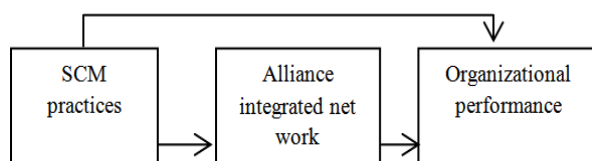


Fig. 1: Research framework

**RESULTS AND DISCUSSION**

Donlon (1996) identified SCM practices such as continuous process flow, outsourcing, cycle-time compression, IT sharing and strategic supplier partnership. Tan *et al.* (1998) studied three practices which were quality, purchasing and customer relationship management. SCM practices in electronic terms data postponement and interchange strategy (Alvarado and Kotzab, 2001). Six SCM practices namely postponement strategy, information flow, strategic supplier partnership, customer relationship management, internal operation practices and information quality (Li *et al.*, 2006). Seven service SCM practices namely capacity and resource management, information and technology management, customer relationship management, demand management, service performance management, supplier relationship management and order process management (Baltacioglu *et al.*, 2007). The most number of SCM practices which includes cycle-time compression, outsourcing, information technology sharing, continuous process flow, just-in-time supply, customer partnership, few suppliers, strategic supply chain benchmarking, e-procurement, holding safety stock and sub-contracting and many suppliers (Koh *et al.* 2007). Seven theoretical processes of service supply chains which include capacity and skills management, information flow, customer relationship management, demand management, service delivery management, supplier relationship management and cash flow (Ellram *et al.*, 2007). Chong *et al.* (2010) categorized service SCM practices into information flow, training, information and technology management, strategic supplier partnership, customer relationship management and internal operation practices.

Sundram *et al.* (2011) studied practices such as postponement strategy, information flow, strategic supplier partnership, customer relationship management, agreed vision and goal, information quality and risk and award sharing. Cho *et al.* (2012) looked into eight service SCM practices namely capacity and resource management, information and technology management, customer relationship management, demand management, service supply chain finance, service performance management, supplier relationship management and order process management. Boon-itt and Pongpanarat (2011) adapted the seven service SCM practices from Ellram *et al.* (2007) which are customer relationship management, demand management, capacity and resource management, supplier relationship management, information and technology management, service performance management, order process management.

Table 1: Meta-analysis of service SCM practices

SCM practices	Donlon (1996)	Tan <i>et al.</i> (1998)	Alvarado and Kotzab (2001)	Li <i>et al.</i> (2005)	Baltacioglu <i>et al.</i> (2007)	Koh <i>et al.</i> (2007)	Ellram <i>et al.</i> (2007)	Chong <i>et al.</i> (2010)	Sundram <i>et al.</i> (2011)	Cho <i>et al.</i> (2012)	Boon-itt, and Wong	Total occurrence
Outsourcing	1					1						2
Cycle-time compression	1					1						2
Continuous process flow	1					1						2
IT and management	1			1	1	1	1	1	1	1	1	9
Quality		1										1
Purchasing		1										1
E-data interchange			1									1
Postponement strategy			1	1					1			3
Just-in-time supply						1						1
Strategic planning						1						1
SC benchmarking						1						1
Few suppliers						1						1
Holding safety stock and sub-contracting						1						1
E-procurement						1						1
Many suppliers						1						1
Capacity and resource management					1		1			1	1	4
Demand management					1		1			1	1	4
Customer relationship management		1		1	1	1	1	1	1	1	1	9
Supplier relationship management	1			1	1	1	1	1	1	1	1	9
Service delivery management							1					1
Cash flow							1					1
Service performance management					1					1	1	3
Service supply chain finance										1		1
Order process management					1					1	1	3
Training								1				1
Internal operation/lean practices				1				1				2
Information quality				1					1			2
Agreed vision and goal									1			1
Risk and award sharing									1			1

According to the detailed analysis, there are five main SCM practices dimensions widely acknowledged by the researchers and also suitable to be applied in healthcare industry. These five service SCM practices are customer relationship management, information and technology management, demand management, supplier relationship management and capacity and resource management (Table 1).

### CONCLUSION

In Malaysia, the healthcare represents a key component of the fast-growing industry due to the rising demand of medical. Thus, it is important for healthcare to find way to improve its perceived organizational performance in order to deliver a quality service to the patients. From the theoretical perspective, the Resource-Based View Theory is used to examine the impact of organizational resources and capabilities that leads to overall perceived organizational performance. Literature review has presented the

critical role of SCM in influencing the healthcare perceived organizational performance. Hence, a conceptual model has been postulated linking a comprehensive SCMP as possible determinants for healthcare perceived organizational performance. Additionally, since the alliance network integration which is created from the synergistic effect of information technology may intervenes the link between supply chain management practices and perceived organizational performance, this variable has been posited as a mediator.

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