

THE IMPACT OF SUPPLY CHAIN MANAGEMENT PRACTICES ON ORGANIZATIONAL PERFORMANCES WITH SPECIAL REFERENCE TO THE HOTEL INDUSTRY IN SRI LANKA

A.G.N.K. Fernando¹ and C.P. Danthararyana²

¹ Department of Management Sciences, Uva Wellassa University, Badulla, Sri Lanka

² Department of Management Studies, University College of Matara, Sri Lanka

ABSTRACT

Effective Supply Chain Management (SCM) has become an important tool of improving Organizational Performance (OP) and gaining competitive advantage. This study conceptualizes and develops five SCM dimensions; strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing, and postponement and identify the impact of those practices on organizational performance. Data were collected from 50 hotels and structured questionnaire has used to collect data from respondents. Karl Pearson Correlation coefficient and multiple regression analysis was performed to identify the relationship and impact of SCM practices on organizational performances. The results indicate that SCM practices have discernible impact on organizational performance and increased organizational performance provides a firmly increased capital for the implementation of different SCM practices. In addition, the study identified financial performances as the most significant dimension affected by the SCM practices in the Hotel Industry of Sri Lanka than market performance. Hence, this research offers a supportive tool for SCM executives to evaluate the exhaustiveness of their current SCM procedures

Keywords: Supply Chain Management; Competitive Advantage; Organizational Performance; Financial Performance

Introduction

Competition and globalization along with the technological advancements create challenges related with the manufacturing and service industry. Initially, manufacturing organizations have achieved high productivity through lean production by minimizing the waste. However, organizations realized improving efficiency is not the only way to gain competitive advantages, however it should have competitive supply chain. With the understanding and practical application of supply chain management (SCM) practices has become an important aspect to sustain in international market and for improve profitability of the business.

SCM improves the performance of individual business by integrating customers with suppliers, producers and distributors. Procurement, logistics and channel coordination related activities should be managed through SCM.

Many of the SCM researches focus on the upstream linkages of supplies and buyer or downstream linkages between supplier and producer of the supply chain. Past researcher, Tan et al. (1998) investigates the relationship between suppliers, customer and organizational performance; Fröhlich and Westbrook, (2001) explores the impact of supplier-customer integrative impact on organizational performance. However, there are lack of researches related to the SCM practices in to the hotel industry.

Therefore, the main objective of this study is to empirically identify the impact of SCM practices on organizational performance, most significant SCM practice impact on organizational performances and most significant organizational performance dimension influence by the SCM practices with the special reference to hospitality industry.

Literature Review

SCM practices

SCM practices in an organization are the activities which can be undertaken to promote supply chain management effectively. Tan et al. (1998) identified six aspects of SCM: supply chain integration, geographical proximity, information sharing, customer service management, supply chain characteristics and JIT capability. According to the literature, it has selected five dimensions to measure SCM practice; strategic supplier partnership (upstream), customer relationship (downstream), level and quality of information sharing, (information flow through a supply chain) and postponement (internal supply chain process).

Strategic supplier partnership: It is maintaining long-term relationship among the organization and its suppliers. Through strategic supplier partnership, organizations can perform well with key suppliers of the company (Balsmeier and Voisin, 1996). Suppliers are helping organizations to select best option among more successful choices (Tan et al, 2002). According to the Noble (1997), supplier partnership will eliminate time waste and effort and become an important aspect in supply chain.

Customer relationship: It comprises the practices of making long-term positive relationships with customers, customer complaints handling, and satisfying customers (Claycomb et al, 1999). Noble (1997) and Tan et al. (1998) recognized that customer relationship management (CRM) as an important element of SCM practices. According to the Magretta (1996), relationships with customers are giving more sustainable advantages for the companies especially in hotel industry such as differentiate products and services from competitors, enhance the value and protects customer loyalty. High customized and personalized service leads to the survival of companies in long run (Wines, 1996).

Level of information sharing: Both aspects of information sharing (Qualitative and quantitative) are important in SCM practices (Monczka et al., 1998). Quantitative aspect or level of information sharing is the extent to which prioritized and important information is shared to organization's supply chain (Monczka et al., 1998). Novack (1995) considered that information will be gained competitive advantage over the competitors. According to the past literature, Stein and Sweat (1998), recognized that, effective information sharing empowers supply chain partners to work as single entity while understand the needs and desires of customer and respond them accordingly.

Quality of information sharing; It consists of accuracy of information, credibility and timeliness of information (Monczka et al., 1998). Holmberg (2000) highlighted that quality of information impacts on SCM practices based on content of shared information, when it shares, with whom it shares and how it is shared. Feldmann (2003) identified that opportunistic behavior of supply chain partners and informational differences through the supply chain can affect the information quality. There is a tendency that organizations are distorting the information which can be potentially reached by its competitors, suppliers and customers (Mason-Jones & Towill, 1997). Quality of information is one of the critical component of SCM practices and organizations are required to consider the information as a strategic asset of the company and ensure the effective flow of information with minimum delays. (Feldmann, 2003)

Postponement; It can be defined as moving one or more supply chain activities to a much later point in the supply chain in the organization and it can be done by deciding how many steps and what are the steps need to be postponed (Naylor, 1999). According to the Waller et al., (2000) it enables organization to meet customer desires by providing different products and services than competitors, responding to customer demand and reducing supply chain cost. For that it is required to match market demand with types of products and postponement can be applied on innovative products, high valued products, high specialized products which are in wide range, products which are having uncertain demand, products with low delivery frequency and systems which are having small economies of scale (Pagh & Cooper, 1998)

Organizational Performance

Organizational performance is measuring the level of achieving organizational objectives by the company (Daft, 1995). It mentions how organization achieves its market and financial goals Yamin et al.,1999). By applying SCM practices organizations can achieve financial, market performances and competitive advantages such as improving efficiency and effectiveness, product quality, productivity and reducing costs (Zhu and Cote, 2004). Therefore, these efficiencies directly affect economic performances of

the firm to grab new market opportunities, increase profit margin, market share and sales volume (Zhu and Cote, 2004).

A number of past studies used both aspects of financial and market to measure organizational performance, including Return on Investment (ROI), profit margin, the growth of ROI, sales and market share, profit margin on sales and overall competitive position (Stock, 2000). Same elements are using in this study to measure the organizational performance.

Market performance

Organizations can achieve competitive advantage over the rivals through effective SCM practices by differentiating it from competitors while operating at lower cost and achieving greater profit. In SCM, short-term objectives are to reduce inventory and cycle time and to increase efficiency and long-term ultimate objectives are to increase market share and final profits (Tan et al., 1998).

Financial performance

Effective SCM practices can have high impact on a organizations' financial performance. SCM ultimately lead to enhance the organizational performance. It supports organizations to compare and evaluate organizations' behavior (Holmberg, 2000) Financial performance can be defined as reduction of cost, increase of market shares and profit, growth and profit increase (Zhu and Sarkis et al., 2004)

Conceptual Framework

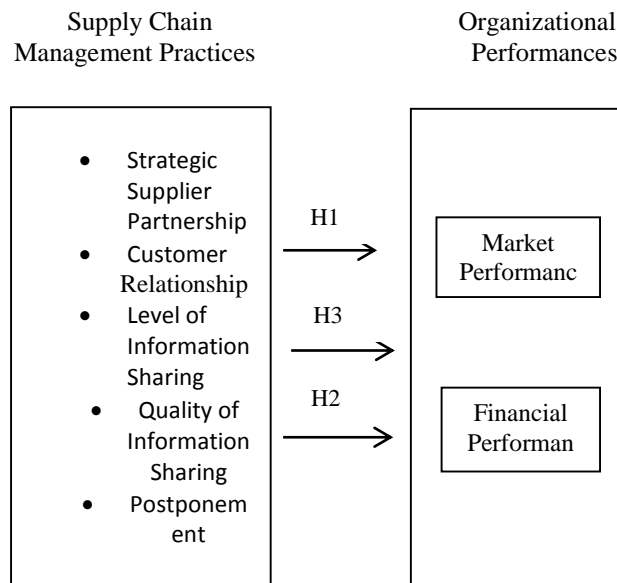


Figure 1 – Conceptual Framework

Research Hypothesis

H1: There is a positive impact of SCM Practices on Market Performances

H2: There is a positive impact of SCM Practices on Financial Performances

H3: There is a positive impact of SCM Practices on Organizational Performances

Methodology

The sample of the study was taken as representative of three and above star category hotels in Sri Lanka. The respondents of the study consisted of 50 hotels in Sri Lanka and the sample was selected by using convenience sampling method. Data collection was directed by a survey questionnaire including 5 point Likert scale statements. Reliability test was performed in order to measure the reliability involved in the research constructs.

Based on the Cronbach's alpha value the reliability of the measurements was in accepted level as 0.85 in all dimensions of the questionnaire. Hence, the reliability of the measurements was achieved. Moreover, Karl Pearson Correlation analysis utilized to identify the relationships between variables and Multiple Regression Analysis was performed to identify the impact of SCM Practices on Organizational Performances.

Findings of the Study

In order to analyze the relationship between independent and the dependent variable the study used Person Correlation analysis. Thus, the Hypothesis, Research questions and research objectives were analyzed and the following output was obtained through the analysis of questionnaire.

Table 1: Correlation Matrix

	Organizational Performances	P value
Strategic Supplier Partnerships	0.632	0.0000
Customer Relationship	0.590	0.0000
Level of Information Sharing	0.731	0.0000
Quality of Information Sharing	0.444	0.0000
Postponement	0.393	0.0000

Source: SPSS Output on Analyzed Data

According to the correlation analysis probability of association between the dimensions of the SCM Practices and Organizational Performances is 0.0000. This is less than 1%. Therefore, the result is highly significant. Null hypothesis is rejected and the alternative hypotheses are accepted. Hence there are strong positive relationship between Strategic Supplier Partnership, Level of Information Sharing and Customer Relationship dimensions as well as weak positive relationship between Quality of Information Sharing and Postponement with Organizational Performances variable at 0.05 significant levels.

Multiple regression analysis was conducted in order to identify the impact of the SCM Practices on Organizational Performances. As per the assumptions of the regression analysis, residuals are randomly scattered without having any probable pattern. Hence, variance of residual is constant, regression result is free from heteroscedasticity problem. The Durbin Watson test statistics value is 1.808. The value is in between 1.5 and 2.5 therefore, residuals are independent and the regression model is extremely valid. Based on the Collinearity diagnostic all VIF values are less than 10 as well as the tolerance values are more than 0.1. Therefore no multi-collinearity issue in the regression results. According to the normal Q-Q plot all residuals are distributed close to the linear line. Therefore residuals are normally distributed.

Table 2: Coefficient Table

Model	Unstandardized Coefficients		Sig.
	B	Std. Error	
(Constant)	0.703	0.243	0.004
Strategic Supplier Partnership	0.485	0.034	0.000
Customer Relationship	0.290	0.034	0.000
Level of Information Sharing	0.437	0.024	0.000
Quality of Information Sharing	0.389	0.059	0.000
Postponement	0.174	0.090	0.000

Source: SPSS Output on Analyzed Data

Based on the regression analysis results shown in the above table the regression equation can be derived as follows;

$$OP = 0.703 + 0.485 SSP + 0.290 CR + 0.437 LIS + 0.389 QIS + 0.174P$$

Where; OP-Organizational Performances, SSP- Strategic Supplier Partnership, CR- Customer Relationship, LIS- Level of Information Sharing, QIS- Quality of Information Sharing and P- Postponement. All the coefficient values are positive values and the significant value is less than 0.05. Hence, there is a significant positive impact between SCM Practices and Organizational Performances in the Hotel Industry of Sri Lanka. Moreover, the highest coefficient value is recorded by the Strategic Supplier Partnership dimension and therefore it implies the highest significant impact on Organizational Performances among all dimensions.

Table 3: ANOVA Table

Model	DF	Mean Square	F value	P value
Regression	4	3.260	69.485	0.000
Residual	45	0.047		
Total	49			

Source: SPSS Output on Analyzed Data

Whereas the p value is 0.0000 ($p < 0.05$) H_0 is rejected and H_1 is accepted Therefore the regression model is significant and overall model can be applied for the statistical predictions.

Table 4- Model Summary Table

Figure	Value
R	0.802
R Square	0.642
Adjusted R Square	0.633
Std Error of the Estimate	0.21660

Source: SPSS Output on Analyzed Data

Coefficient of determination (R^2) value is 0.642. Hence 64.2% of the variation of Organizational Performances is explained by the model. Moreover, the explained proportion is higher than 50% and the model is a good fit model and it can be used for the future predictions.

As per the final objective of the study, to identify the most significant organizational performance dimension influence by the SCM Practices researcher used two multiple regression analysis separately by considering market performances and financial performances as dependent variables. As per the analyzed data all five dimensions of the SCM Practices variables were significant at 0.05 level and the models also were significant. In order to identify the most significant dimension in the Organizational Performances the study used R square values of the two models and the values are summarized as follows;

Table 5 : Summary of R square values

Model	R Square Value
Model 01 – Market Performances	0.543
Model 02 – Financial Performances	0.602

According to the above data highest R square value is recorded by the model 02 as 60%. Therefore, the most significant dimension affected by the SCM Practices is Financial Performance of the organizations.

Conclusion

This study provides empirical explanation of the five significant dimensions of SCM Practices and its impact on the organizational performances of the Hotel Industry in Sri Lanka. The findings of the study concluded that SCM Practices have significant impact on Organizational Performances. On the other hand, increased Organizational Performances provides a firmly increased capital for the implementation of different SCM Practices. In addition, the study identified Financial Performances as the most significant dimension affected by the SCM practices in the Hotel Industry of Sri Lanka. Thus, a company with a strong financial capacity can afford to deliver a lesser price which gives its competitors a cost benefit. Higher organizations may have greater rates of SCM practices because they generally have more complicated supply chain networks that require more efficient supply chain management. While some organizations realize the significance of applying SCM, they often do not understand precisely what to do because of a lack of comprehension of what constitutes a detailed set of SCM procedures. Hence, this research offers a supportive tool for SCM executives to evaluate the exhaustiveness of their current SCM procedures.

References

- Balsmeier PW, Voisin W. Supply chain management: a time based strategy. *Industrial Management* 1996; 38(5):24–7.
- Claycomb C, Droge C, Germain R. The effect of justin-time with customers on organizational design and performance. *International Journal of Logistics Management* 1999;10(1):37–58
- Daft, R.L., (1995). *Organization Theory and Design*. (5th. Ed.). New York: West Publishing Company.
- Feldmann M, Müller S. An incentive scheme for true information providing in supply chains. *OMEGA* 2003;31(2):63–73.
- Frohlich MT, Westbrook R. Arcs of integration: an international study of supply chain strategies. *Journal of Operations Management* 2001;19(2):185–200.
- Holmberg S. A systems perspective on supply chain measurements. *International Journal of Physical Distribution and Logistics Management* 2000;30(10):847–68
- Magretta J. The power of virtual integration: an interview with Dell computers' Michael Dell. *Harvard Business Review* 1998;76(2):72–84.
- Mason-Jones R, Towill DR. Information enrichment: designing the supply chain for competitive advantage. *Supply Chain Management* 1997;2(4):137–48.
- Monczka RM, Petersen KJ, Handfield RB, Ragatz GL. Success factors in strategic supplier alliances: the buying company perspective. *Decision Science* 1998;29(3): 5553–77.
- Naylor JB, Naim MM, Berry D. Legality: integrating the lean and agile manufacturing paradigms in the total supply chain. *International Journal of Production Economics* 1999;62(1,2):107–18
- Noble D. Purchasing and supplier management as a future competitive edge. *Logistics Focus* 1997;5(5):23–7.
- Novack RA, Langley Jr CJ, Rinehart LM. *Creating logistics value: themes for the future*. Oak Brook, IL: Council of Logistics Management; 1995.

- Pagh JD, Cooper MC. Supply chain postponement and speculation strategies: how to choose the right strategy. *Journal of Logistics Management* 1998;19(2):13–33.
- Stein T, Sweat J. Killer supply chains. *InformationWeek* 1998;708(9):36–46.
- Stock GN, Greis NP, Kasarda JD. Enterprise logistics and supply chain structure: the role of fit. *Journal of Operations Management* 2000;18(5):531–47.
- Tan KC, Kannan VR, Handfield RB. Supply chain management: supplier performance and firm performance. *International Journal of Purchasing and Materials Management* 1998;34(3):2–9.
- Tan KC, Lyman SB, Wisner JD. Supply chain management: a strategic perspective. *International Journal of Operations and Production Management* 2002;22(6):614–31.
- Waller MA, Dabholkar PA, Gentry JJ. Postponement, product customization, and market-oriented supply chain management. *Journal of Business Logistics* 2000;21(2): 133–59.
- Wines L. High order strategy for manufacturing. *The Journal of Business Strategy* 1996;17(4):32–3.
- Yamin S, Gunasekruan A, Mavondo FT. Relationship between generic strategy, competitive advantage and firm performance: an empirical analysis. *Technovation* 1999;19(8):507–18.
- Zhu, Q.; Cote, R.P., (2004). Integrating green supply chain management into an embryonic eco-industrial development: a case study of the Guitang Group, *J. Clean. Prod.*, 12,10251035.
- Zhu, Q.; Sarkis, J., (2004). Relationships between operational practices and performance among early adopters of green supply chain management practices in Chinese manufacturing enterprises, *J. Oper. Manage.* 22, 265-289