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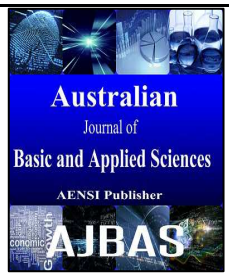

Supply Chain Strategies and Retail Supply Chain Efficiency

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ABSTRACT

Background: Supply chain strategies play a vital role towards achieving the goals of organizations in competitive markets. Most of the studies related to supply chain management are in the big manufacturing industries. There are some studies on supply chain strategies in those fields but there is hardly any study conducted in retailing about the role of strategies towards the operational performance of retail chain stores. **Objective:** The aim of present study is to explore the influence of supply chain strategies towards retail supply chain efficiency. **Results:** Out of three strategies, lean strategy was found to be most significant followed by agile and hybrid strategies to influence the efficiency of retail supply chain. **Conclusion:** So retail managers striving for better supply chain performance should apply these strategies in a way so that they can create a competitive advantage over others by increasing the overall supply chain performance.

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INTRODUCTION

Currently organizations are thinking supply chain strategies as a way of increasing their performance and achieving long term goals. This supply chain strategy helps the supply chain process in the movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption. For this reason, firms adopt these strategies to manage the integration of all the supply chain activities through better supply chain relationships to achieve a competitive advantage for the supply chain (Hines, 2004). As retail supply chain is somewhat different in the sense that they are mostly dependent on suppliers for their finished products, supply chain strategies here act as a catalyst for success. For this reason, the strategic view of managing supply chains has assumed utmost importance, especially since such a complex environment has effectively shifted the attention of competition from a firm versus- firm paradigm to a supply chain-versus-supply chain paradigm (Li *et al*., 2006; Tan *et al*., 2002). Managers can effectively manage their retail outlets if they are apt in choosing the right supply chain strategy. As the retail chain stores deal with the fast moving consumer goods, supply chain strategy for them requires a system that focuses on integration of business processes throughout the value chain with the aim of providing maximum value to the end-customers (Wisner, 2003; Green *et al*., 2008). While developing strategy for retail supply chain, the retailers must first consider the nature of demand for the products they are selling. Then the organizations can fix their objectives with the market situation and design a supply chain strategy that best matches with preferences of customers and organizational goals. Though supply chain strategies are considered as the building blocks of success, very few empirical studies done as to their impact on retail supply chain performance. The few studies done in this area divulged inconsistent findings regarding the impact of supply chain strategy on supply chain performance and firm benefits. In particular, while some studies (Lee, 2002; Christopher and Towill, 2001; Qi *et al*., 2009) show positive associations between supply chain strategy and supply chain responsiveness, others (Narasimhan *et al*., 2008) show that supply chain strategies do not directly bring benefits for the firms, but that they need bridging or mediating factors to do so (Hsu *et al*., 2011). However, literatures regarding the supply chain strategies and retail supply chain efficiency are scarce. From that ground the present research initiative has been taken to minimize the literature gap by exploring the impact of supply chain strategies on retail supply chain efficiency.

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2. Literature Review:

The supply chain strategy of the retailers refers to the strategic goals and objectives of their supply chain. The process of supply chain strategy starts with the business value proposition to customers, based on core competencies and identified market winners and shows how the supply chain can contribute to achieving business goals (Tang & Gattorna, 2003). Naylor *et al* (1999), Towill and Christopher (2002) suggest three types of supply chain strategies which are agile supply chain, lean supply chain and hybrid supply chain that affect supply chain performance. Supply chain strategies may be designed to be more efficient or to be more responsive (Hines, 2004), also the combination of both. Different types of supply chain strategies are discussed below.

2.1 Agile Strategy:

Agile supply chain strategy aims at being responsive to customer needs as well as being flexible (Jacobs & Chase, 2008; Lee, 2002). This agile supply chains are most appropriate for products having uncertain demand (Ayers, 2004; Seuring, 2003; Towill & Christopher, 2002). It is apt in time compression, quick response and eliminating the barriers to quick response (Christopher, 2003). Fisher (1997) was one of the first scholars who considered agility in the supply chain management context. Subsequently researchers gave importance on supply chain agility as a business wide capability, enabling the firm to respond to changing market environments (Braunscheidel and Suresh 2009, Lee 2004, Swafford *et al.* 2006). As such, agility is characterized by flexibility and speed/responsiveness, and spans organizational structures, processes, information systems and mindsets (Christopher and Towill 2001, Shaw *et al.* 2005). For this reason, the scope of supply chain agility extends beyond a single firm and includes association with major customers and suppliers (Braunscheidel and Suresh 2009). Swafford *et al.* (2006) and Braunscheidel and Suresh (2009) tried to investigate the relationship between flexibility and supply chain agility; and to examine the link between integration and supply chain agility. They stressed on research in supply chain agility, and noted the limited amount of empirical evidence relating to its study.

To be truly agile, a supply chain must possess a number of distinguishing characteristics. Firstly, the agile supply chain is market sensitive. By market sensitive we mean that the supply chain is capable of reading and responding to real demand. Most organizations are forecast-driven rather than demand-driven. Agile strategy makes decision on the basis of data on actual customer requirements; not forecasting based upon past sales or shipments and converts these forecasts into inventory. The use of modern IT helps gather data on demand directly from the sales points and it enables the organization to hear the voice of the market and to respond directly to it (Christopher, 1998). Electronic Data Interchange (EDI) and now the Internet have enabled partners in the supply chain to act upon the same data, i.e. real demand, rather than be dependent upon the distorted and noisy picture that emerges when orders are transmitted from one step to another in an extended chain (Hewitt, 1999). Shared information between supply chain partners can only be fully leveraged through process integration. By process integration is meant collaborative working between buyers and suppliers, joint product development, common systems and shared information. This form of co-operation in the supply chain is becoming ever more prevalent as companies focus on managing their core competencies and outsource all other activities. There is a growing recognition that individual businesses no longer compete as stand-alone entities but rather as supply chains. We are now entering the era of "network competition" where the prizes will go to those organizations which can better structure, co-ordinate and manage the relationships with their partners in a network committed to better, closer and more agile relationships with their final customers. It can be argued that in today's challenging global markets, the route to sustainable advantage lies in being able to leverage the respective strengths and competencies of network partners to achieve greater supply chain performance (Christopher, 1998). And agile strategy is a major catalyst of supply chain performance. Thus it is hypothesized that; **H1**: Agile strategy positively and significantly influences the retail supply chain efficiency.

2.2 Lean Strategy:

Lean strategy focuses on the elimination of waste with a bias towards "pulling" goods through the system based on demand. In retailing, lean strategy is employed to diminish costs and wastages. This strategy requires the retailers to anticipate the market demand and assemble the products so that customers get the maximum value at reasonable costs. It is through this holistic, enterprise-wide approach to lean implementation that the theory extends beyond functional strategy to a broader supply chain strategy employed by the company. A lean supply chain works to reduce cost and waste (Vitasek, Manrodt & Abbott, 2005) by eliminating non-value-added activities, pursuing scale economies and deploying optimization techniques to get the best capacity utilization in production and distribution (Jacobs & Chase, 2008; Lee, 2002). The objective of this strategy is to achieve the most efficient methods of production and delivery of products by reducing waste in the value creation process. As retail managers can discern the demand in advance, they can plan and assort the necessary products in efficient batches to customer orders. So there is relatively less waste and inventory – at least inbound in the supply chain. The strategy is however prone to

excessive inventories of finished product outbound. Usually in manufacturing firms, bulk auto products are manufactured by using this strategy. "Lean thinking" can help organizations in the reduction of waste in its various forms. This strategy focuses on the elimination of those activities that consume resources but create no significant value in the eyes of customers (Womack and Jones 1996). The aims of a lean strategy are to do every operation using less of each resources- people, space, stock, equipment, time, and so on that best match with retail supply chain. It systematizes the efficient flow of materials to reduce waste, give the shortest lead time, minimum stocks and minimum total cost.

Townsend (1970) says that all organizations are at least 50% waste- waste people, waste effort, waste space and waste time. In retailing this wastages are most likely to occur in the following areas of the supply chain. Quality of products- That is so poor that it can't satisfy customers. Improper warehouse management - having warehouse capacity that is currently unnecessary. Poor process- having unnecessary, too complicated or time-consuming operations. Waiting- for finished products or materials to arrive and assemble, for equipment to be repaired, and so on. Inventory- holding too much inventory, increasing complexity and raising costs. A lean strategy looks for ways of eliminating these wastes. So the retailers can increase supply chain efficiency by eliminating operations that ad no value, simplifying movements, reducing unnecessary inventory, using higher technology, looking for economies of scale, locating outlets near to customers and removing unnecessary links from the supply chain (Perry, 1996). As the main focus of lean strategy is to make supply chain efficient, it can be hypothesized in this study that;

H2: Lean strategy is positively and significantly correlated with retail supply chain efficiency.

2.3 Hybrid Strategy:

Organizations sometimes use a hybrid strategy where both lean and agile supply chains are utilized (Towill & Christopher, 2002). Hybrid or leagile supply chains thus use a combination of lean and agile approaches within a supply chain strategy (Mason-Jones *et al*., 2000) and exploit the benefits of both lean and agile supply chains (Towill & Christopher, 2002). The combined use of lean and agile method in hybrid strategy can take one of several approaches: For high volume and stable demand products, make to stock (lean strategy) is applicable and make to order (agile strategy) calls for flexible production capacity to meet unusual demand or unexpected requirements; use of postponement strategies, where "platform" products are made to forecast, and then final assembly and configuration done upon final customer order. Supply chains utilize this hybrid solution by holding strategic inventory in some generic or unfinished form at the de-coupling point with final configuration made quickly once actual demand is known. Hybrid strategy aims at building an agile response upon a lean platform by seeking to follow lean principles up to the de-coupling point and agile practices after that point. Organizations wishing to increase performance through cost-efficient practices should operate at a location that offers low cost and develop strategies in line with the lean supply chain (Gunasekaran, 2008). On the other hand, organizations that want to be competitive through innovation should use strategies more closely to the agile supply chain (Gunasekaran, 2008). This is empirically supported by a study done by Gunasekaran, Lai and Cheng (2008) that state the nature of supply chain strategy, aimed at an efficient cost is a lean supply chain. Furthermore, Groote (1994), Fisher (1997), Randall and Ulrich (2001) indicated in their study that generally profit in the supply chain investments will only be available if there are alignment between supply chain strategy with form of process or product requests. Therefore, it is evident that final customers' needs for functional products with a predictable market demand should be met with efficient (or lean) supply chains and the needs for innovative products should be met with responsive (or agile) supply chains (Bruce, Daly & Towers, 2004; Fisher, 1997; Seuring, 2003; Swafford, Ghosh & Murthy, 2005). However the present study tries to test whether this hybrid strategy can influence the retail supply chain responsiveness or not. Based on the findings of the mentioned studies that hybrid strategy has impact on supply chain performance, it can be hypothesized that; **H3:** Hybrid strategy positively and significantly influences retail supply chain efficiency.

3. Methodology:

The present aims at investigating the impact of supply chain strategies on the retail supply chain efficiency. There are three independent variables and one dependent variable in the study. The items for the independent variables namely lean and agile supply chain strategy have been adopted from previous studies (S, Tarafder, 2013; Huang *et al*., 2002) and items for supply chain responsiveness(dependent variable) were adopted from the studies by Li (2004); Bayraktar *et al*., (2010); S. Tarafder,(2013). Items for the hybrid strategy and supply chain efficiency were developed from existing literatures. Each item represents the content of definition for the respective constructs. For the content validity of the items, a pilot study was conducted by four academicians and ten senior supply chain mangers of retail chain stores to make comments on the clarity and appropriateness of the measures developed for the study. After getting their feedback, the items were adjusted and used for pilot study and it revealed good reliability and validity of the items. The items were measured with 5 point Likert scale with response options ranging from

strongly agree (5) to strongly disagree (1). Data were collected from 115 managers of some selected retrial chain stores in Bangladesh. Among the total respondents, 107 were the outlet managers and the remaining 8 were the senior supply chain managers of different retail chain stores. The survey was conducted in 2014. Mostly the outlets managers were surveyed because they are closely linked to the overall operations of the respective stores. Collected data were analyzed using partial least squares (PLS) with the support of the software Smart PLS 2.0 M3 (Ringle *et al*., 2005). Structural equation modeling is a second-generation multivariate statistical analysis that has been gaining attention in the areas of both environmental management (Murillo-Luna *et al*., 2011; Pereira-Moliner *et al*., 2012) and operations management (Peng and Lai, 2012). PLS was used in this study as it is the most appropriate method of data analysis for small sample size (Qureshi & Compeau, 2009). Collected data were keyed in SPSS and converted to comma dilated for PLS analysis. The findings of measurement model (outer model) were used for the reliability and validity test of data. The hypotheses of the conceptual model were tested with the findings of structural model (inner model).

4. Findings:

4.1 Reliability and Validity Test:

The present study evaluated the measurement model by assessing the convergent and discriminant validity following the criteria suggested by Chin (1998). Cronbach alpha values were used to test the reliability of data. Table 4.1, shows that all the Cronbach alpha values are above 0.7 which represents a good internal consistency of data (Nunally, 1978).

Table 4.1: Reliability and Validity Test results.

Constructs	items	Factor loadings	Cronbach alpha	Composite Reliability	Average Variance Extracted
Agile Strategy	AS1	.797	.821	.874	.582
	AS2	.745			
	AS3	.793			
	AS4	.761			
	AS5	.707			
Lean Strategy	LS1	.828	.806	.865	. 563
	LS2	.685			
	LS3	.669			
	LS4	.882			
	LS5	.601			
Hybrid Strategy	HS1	.688	.705	.817	.528
	HS2	.788			
	HS3	.766			
	HS4	.658			
Efficiency	EF1	.616	.803	.859	.506
	EF2	.749			
	EF3	.686			
	EF4	.775			
	EF5	.771			
	EF6	.758			
	EF7	.667			

The loadings of each questionnaire item on its respective measure were computed for evaluating convergent validity. The acceptable value for each item is 0.6 (Barki & Hartwick, 1994). One item from hybrid strategy was deleted due to its low factor loadings. Table 4.1 shows that all the loadings are above 0.6 which is acceptable enough for convergent validity (Hair *et al*., 2010). In addition to that the composite reliability for all the constructs is more than 0.70 which is above the acceptable level. Then the average variance extracted (AVE) for each construct is above 0.50 which also meets the criteria for convergent validity. So the measurement model exhibits high convergent validity since all factor loadings are above 0.6, all AVEs are above 0.5, and all composite reliabilities (CRs) are above 0.7. Table 4.2 shows the discriminant validity of the constructs taken in the present study. Discriminant validity is tested through average variance extracted (AVE) suggested by Fornell & Larker (1981).

Table 4.2: Latent variables correlations.

	AS	HS	LS	EF
AS	0.763			
HS	0.639	0.727		
LS	0.196	0.044	0.750	
EF	0.603	0.470	0.507	0.711

A measure showing discriminant validity should be composed of items with high loadings on their appropriate constructs (convergent) but with low loadings on other constructs (Gefen *et al*., 2000). The

measurement model also demonstrates good discriminant validity since the square root of the AVE for each construct was higher than its correlation with other factors.

4.2 Hypotheses testing based on PLS structural model results:

The structural path model was used to test the hypotheses of the present study. Model showed the R^2 value of 0.538 which indicates moderately strong relationship between the exogenous and endogenous variables. So three types of supply chain strategies considered in this study are responsible for the 53% variation in the retail supply chain efficiency. The statistical significance of the structure coefficients was explored in a bootstrapping analysis similar to the procedure used in evaluating the indicator weights of the measurement model. In the structural model agile strategy was found to be positively and significantly correlated with retail supply chain efficiency. So hypothesis one gets strong support from the empirical data. Fig. 1 shows that lean supply chain strategy is highly coincided with better supply chain efficiency for retail stores. The corresponding positive path coefficient of 0.414 exceeds the value of 0.1, which the literature proposes as the lower limit for practically meaningful paths (Weiber and Mühlhaus, 2010). The t-value for this variable is 3.702 which is significant at 1% level of significance. Therefore, H2: lean strategy is positively and significantly correlated with retail supply chain efficiency, is accepted. Again the positive coefficient of 0.196 for the path with adopting hybrid strategy to enhance retail supply chain performance is in line with H3. The t-value for hybrid strategy demonstrates that this strategy is statistically significant in influencing the retail supply chain efficiency. Table 4.3 demonstrates the hypotheses testing results in details.

Table 4.3: Structural model output.

	Standardized coefficients	R square	T Statistics	P value
AS > SE	0.397	0.539	3.352	.000
LS > SE	0.414		3.709	.000
HS > SE	0.196		1.969	.025

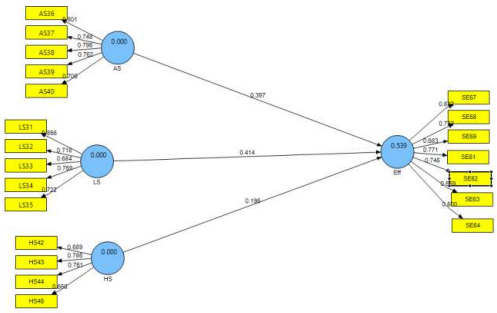

Fig. 1: Path model.

5.1 Discussion:

The present study tried to explore to what extent supply chain strategies can influence the retail supply chain efficiency. To survive in highly competitive market, retailers must think about the efficiency of their supply chain. They should eliminate the non-value adding activities to make the supply chain efficient. This study reveals some astounding findings as to the role of supply chain strategies in enhancing retail supply chain efficiency. The results showed that strategies can influence the retail supply chain efficiency to a greater extent. All tree supply chain strategies were found to be the significant contributors to the retail supply chain efficiency. Lean strategy is the most important for retailers to increase the efficiency of their supply chain. It is in line with the notion of lean strategy that seeks to maximize the operational performance by increasing efficiency. As the lean supply chain strategy mostly focuses on better performance by waste minimization and rationale use of resources, retail chain stores can make their supply chain efficient by adopting this strategy. The findings revealed that agile strategy is also an important factor for the retailers to increase their supply chain performance. So the retailers should also concentrate on this strategy for improved supply chain performance. The present study suggests that retail supply chain managers should work with agility to add value for the entire supply chain. However, hybrid strategy, the combination of lean and agile strategies, was also found to be a pivotal factor that might increase retail supply chain efficiency. As the retail chain stores mostly sell fast moving consumer goods, they can employ hybrid strategies for those products that need decoupling points. Therefore the present study divulged the significance of supply chain strategies in enhancing retail supply chain efficiency. Out of three strategies, lean strategy was found to be most significant followed by agile and hybrid strategies to influence the efficiency of retail chain stores. So retail managers striving for better supply chain performance should apply these strategies in a way so that they can create a competitive advantage over

others by increasing the overall supply chain performance.

6. Conclusion:

Researchers around the world are very much concerned about the supply chain practices and performances of manufacturing firms but the empirical research literatures are very scarce in retail supply chain. Moreover the supply chain strategies are hardly addressed in research as the predictors of retail supply chain efficiency. For this reason the findings of this study are important for the retailers in the sense that they can at least know which supply chain strategy is most appropriate for achieving their goals. Though the findings of this research have some implications for the retail chain stores, it is not without any criticisms. One limitation of this study is that the data were collected from the capital city of Bangladesh and the outlets situated outside Dhaka have been excluded. So the findings might not represent the picture of whole industry. Another limitation is that this study only considered supply chain strategies as the predictors of retail supply chain efficiency but there are some other factors that might help companies to make their supply chain efficient. Further studies can be conducted to explore other issues that might play a vital role in enhancing retail supply chain efficiency.

References

Ayers, J.B., 2006. Handbook of supply chain management. *Boca Raton, Fl: Auerbach*. Barki, H. and Hartwick, J. "Measuring User Participation, User Involvement, and User Attitude," MIS Quarterly, 18(1):, 59-82.

Bayraktar, E., A. Gunasekaran, S.L. Koh, E. Tatoglu, M. Demirbag and S. Zaim, 2010. "An efficiency comparison of supply chain management and information systems practices: a study of Turkish and Bulgarian small and medium-sized enterprises in food products and beverages", International Journal of Production Research, 48(2): 425-451.

Braunscheidel, M.J. and N.C. Suresh, 2009. "The Organizational Antecedents of a Firm's Supply Chain Agility for Risk Mitigation and Response", Journal of Operations Management, 27(2): 119-140.

Bruce, M., L. Daly, N. Towers, 2004. Lean or agile: A solution for supply chain management in the textiles and clothing industry? *International Journal of Operations and Production Management*, 24(2): 151–170.

Christopher, M., 1998. *Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Services* (2nd ed.). Pitman, London

Christopher, M., D. Towill, 2001. An integrated model for the design of agile supply chains. *International Journal of Physical Distribution and Logistics Management*, 31(4): 235–246.

Christopher, M., 2003. Creating agile supply chains, in J.L. Gattorna (ed.). *Gower handbook of supply chain management*. Burlington, V.T: Gower., 283–295.

Chin, W.W., 1998. The partial least squares approach for structural equation modeling. in G. A. Marcoulides (Ed.), Modern methods for business research (pp. 295–236). London: Lawrence Erlbaum Associates

Fisher, M.L., 1997. What Is the Right Supply Chain for Your Product? *Harvard Business Review*, 75(2): 105-116.

Fornell, C., F.L. Bookstein, 1982. Two structural equation models: Lisrel and PLS applied to consumer exit-voice theory. Journal of Marketing Research, 19(4): 440–452.

Gefen, D., D.W. Straub and M.C. Boudreau, 2000. "Structural Equation Modeling and Regression: Guidelines for Research Practice," Communications of the Association for Information Systems, (4-7): 1-70.

Gunasekaran, A., C. Patel and E. Tirtiroglu, 2001. "Performance Measures and Metrics in a Supply Chain Environment", *International Journal of Operations and Production Management*, 21(1/2): 71-87.

Hair, J.F., W.C. Black, B.J. Babin, R.E. Anderson, 2010. Multivariate Data Analysis. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.

Hewitt, F., 1999. Information Technology mediated Business Process Management: Lesson from the Supply Chain. International Journal of Technology Management, 17(1/2): 37-53.

Hines, T., 2004. Supply chain strategies: Customer-driven and customer-focused. Boston: Elsevier.

Hsu, C.C., K.C. Tan, T. Laosirihongthong and G.K. Leong, 2011. "Entrepreneurial SCM competence and performance of manufacturing SMEs", International Journal of Production Research, 49(22): 6629-6649.

Jacobs, F. R., R.B. Chase, 2008. Operations and supply management: the core. Boston: McGraw Hill.

Lee, H., 2002. "Aligning supply chain strategies with products uncertainties", California Management review reprint series, 44-3. Spring, University of California.

Lee, H., 2004. "The triple-A supply chain", Harvard Business Review, 82(10): 102-112.

Li, S., B. Ragu-Nathan, T.S. Ragu-Nathan and S. Rao, Subba, 2006. "The Impact of Supply Chain Management: Practices on Competitive Advantage and Organizational Performance", *Omega*, 34(2): 107-124.

Mason-Jones, R., B. Naylor, D.R. Towill, 2000. Lean, agile or leagile? Matching your supply chain to the marketplace. International Journal of Production Research, 38(17): 4061-70.

Murillo-Luna J.L., C. Garces-Ayerbe, P. Rivera-Torres, 2008. Why do Patterns of Environmental Response Differ? A Stakeholders' Pressure

Approach. Strategic Management Journal, 29(11): 1225–1240.

Narasimhan, R., Kim, S.W. and K.C. Tan, 2008. "An empirical investigation of supply chain strategy typologies and relationships to performance", International Journal of Production Research, 46(18): 1-29.

Naylor, B.J., M.M. Naim, D. Berry, 1999. Leagility: Integrating the lean & agile manufacturing paradigms in the total supply chain. *International Journal of Production Economics*, 62(1-2): 107-118.

Nunnally, J.C., 1978. Psychometric theory (2nd ed.). New York, NY: McGraw-Hill.Peng, D.X., Schroeder, R.G., Shah, R., 2008. Linking routines to operations capabilities: a new perspective. Journal of Operations Management, 26(6): 730–748.

Perry, M., 1996. "Talk at the Marketing Council", London.

Pereira-Moliner, J., E. Claver-Cortés, J.F. Molina-Azorín, J.J. Tarí, 2012. Quality management, environmental management and firm performance: direct and mediating effects in the hotel industry. Journal of Cleaner Production, 37: 82-92.

Qi, Y., K.K. Boyer and X. Zhao, 2009. "Supply chain strategy, product characteristics, and performance impact: evidence from Chinese manufacturers", Decision Sciences, 40(4): 667-695.

Qureshi, I., D. Compeau, 2009. Assessing between-group differences in information systems research: a comparison of covariance- and component-based sem. MIS Quarterly, 33(1): 197–214.

Randall, Taylor and Ulrich, Karl, 2001. Product Variety, Supply Chain Structure, and Firm Performance: Analysis of the U.S. Bicycle Industry. *Management Science*, **47**(12): 1588–1604.

Ringle, C., S. Wende, A. Will, 2005. SmartPLS 2.0 (Beta). Hamburg,www.smartpls.de).

Sadler, I., 2007. Logistics and supply chain integration. London: Sage publications.

Seuring, S., 2003. Strategic supply chain management- from focused factories to focused supply chains. In Seuring, S., Müller, M., Goldbach, M. & Schneidewind, U. (eds). Strategy and organisation in supply chains, 181-196. Heidelberg, Germany: Physica-Verlag.

Shaw, M.E., 1981. *Group dynamics: The psychology of small group behaviour* (3rd ed.). New York: McGraw-Hill.

Swafford, P.M., S. Ghosh, N. Murthy, 2005. The antecedents of supply chain agility of a firm: scale development and model testing. Journal of Operations Management, (24): 170-88.

Tan, K.H., S.B. Lyman, and J.D. Wisner, 2002. "Supply chain management: a strategic perspective", International Journal of Operations & Production Management, 22(6): 614-631.

Tang, M. J.L. Gattorna, 2003. Developing an aligned supply chain operating strategy, in J.L. Gattorna (ed.). *Gower handbook of supply chain management*. Burlington, VT: Gower., 25–35.

Sufian Qrunfleh Monideepa Tarafdar, 2013. "Lean and agile supply chain strategies and supply chain responsiveness: the role of strategic supplier partnership and postponement", Supply Chain Management: An International Journal, 18(6): 571-582.

Towill, D.R., M. Christopher, 2002. The supply chain strategy conundrum: To be lean or agile or to be lean and agile? *International Journal of Logistics: Research and Applications*, 5(3): 299–309.

Townsend, R., 1970. "Up the organization", Coronet Books, London.

Vitasek, K., K.B. Manrodt, J. Abbott, 2005. What makes a lean supply chain? *Supply Chain Management Review*, 9(7): 39–45.

Weiber, R. and D. Muehlhaus, 2010. Strukturgleichungsmodellierung. Eine anwendungsorientierte Einfuehrung in die Kausalanalyse mit Hilfe von AMOS, SmartPLS und SPSS, Heidelberg.

Wisner Joel, D., G. Keong Liong and Keah Choon Tan, 2003. *Principles of Supply Chain Management,A balanced approach.2005.* Rental Plan, Commodity Logistics.

Womack, J.P., D.T. Jones and D. Ross, 1991. The Machine that Changed theWorld, A Division of Harper Collins Publishers, New York, NY.