



**DRIVERS OF SUPPLY CHAIN PERFORMANCE OF
RETAIL CHAIN STORES: MODERATING EFFECT
OF STRATEGIES.**

by

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LIST OF ABBREVIATIONS

EI- External Integration
II- Internal Integration
SCP- Supply Chain Performance
SC- Supply Chain
SCM- Supply Chain Management
SR- Supply Chain Responsiveness
SE- Supply Chain efficiency
CO- Coordination
IM- Inventory Management
IT- Information Technology
BSOA- Bangladesh Superstore Owners' Association
TR- Transpiration Management
AS- Agile Strategy
LS- Lean strategy
DC- Distribution Centre
FMCG- Fast Moving Consumer Goods
QR – Quick Response
EDI – Electronic Data Interchange

LIST OF SYMBOLS

Q^2	Predictive Relevance
R^2	Coefficient of Determinations
f^2	Effects Size
P	Significance Level

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Pendorong Prestasi Rantaaian Bekalan Diantara Rangkaian Kedai Runcit : Kesan Moderasi Strategi.

ABSTRAK

Pengurusan rantaaian bekalan runcit telah mendapat perhatian penting kerana terdapat kekurangan penemuan empirikal yang berkaitan dengan peramal prestasi rantaaian bekalan dalam kalangan rangkaian kedai runcit. Objektif kajian ini adalah untuk meneroka apakah pendorong utama prestasi rantaaian bekalan dalam kalangan rangkaian kedai runcit di Bangladesh. Kajian ini menggunakan responsif dan kecekapan rantaaian bekalan runcit sebagai ukuran prestasi. Lima pendorong rantaaian bekalan iaitu peranan pembekal, penggunaan IT, pengurusan inventori, pengurusan pengangkutan dan akhirnya kordinasi telah kenal pasti sebagai penentu prestasi kepada rantaaian bekalan runcit. Sebaliknya, dua jenis strategi rantaaian bekalan telah diuji sebagai moderasi dalam kajian ini. "Agile Strategy" rantaaian bekalan diuji sebagai moderasi dalam hubungan antara pendorong rantaaian bekalan dan tindak balas rantaaian bekalan runcit manakala "Lean Strategy" rantaaian bekalan diuji sebagai moderator dalam hubungan antara pendorong rantaaian bekalan dan kecekapan rantaaian bekalan runcit. Data untuk kajian ini telah dikumpulkan melalui soal selidik berstruktur dengan menggunakan kaedah persampelan kelompok atau pensampelan kebarangkalian. Separa Squares Least Structural Equation Modeling (PLS SEM) teknik dengan perisian 2.0M3 PLS pintar telah digunakan untuk menganalisis data. Kajian ini menunjukkan bahawa peranan pembekal, penggunaan IT, pengurusan inventori dan penyelarasan antara jabatan-jabatan lain adalah penyumbang besar kepada responsif rantaaian bekalan runcit. Manakala kecekapan rantaaian bekalan runcit adalah didapati mempunyai pengaruh yang penting dan positif terhadap kordinasi, pengurusan inventori, pengurusan pengangkutan dan penggunaan IT. Dapatan kajian juga menunjukkan bahawa keberkesanan strategi rantaaian bekalan strategi telah moderat hubungan antara peranan dan penggunaan IT terhadap tindak balas rantaaian bekalan runcit. Keputusan kajian terhadap kesan moderasi sekali lagi menunjukkan bahawa lean rantaaian bekalan strategi telah mendorong hubungan antara kordinasi dan pengurusan pengangkutan dengan kecekapan rantaaian pembekalan. Kajian ini mempunyai implikasi sama ada kepada organisasi perniagaan dan juga aspek-aspek teoritikal yang penting dalam menilai penentu prestasi terhadap rantaaian bekalan runcit. Satu rangka kerja telah dibangunkan untuk menggabungkan hasil kajian ini bagi melengkapkan jurang teori pengurusan rantaaian bekalan runcit. Rangka kerja ini yang dinamakan sebagai SIITCOS, yang bermaksud pembekal, pengurusan inventori, teknologi maklumat, penyelarasan pengurusan pengangkutan dan strategi. Lima pendorong rantaaian bekalan telah dicadangkan sebagai "building block" kepada prestasi rantaaian bekalan diantara rangkaian kedai runcit dan strategi ini adalah dapat meningkatkan prestasi. Oleh kerana terdapat kekurangan pengetahuan mengenai konstruk tertentu dan hubungan pembolehubah yang membentuk rangka kerja yang berkesan yang boleh digunakan untuk menguruskan rantaaian bekalan runcit maka rangka kerja ini boleh dijadikan satu penyelesaian yang praktikal kepada masalah ini. Rangka kerja ini dapat membantu para peruncit dalam memperkasakan pengurusan rantaaian bekalan mereka.

Drivers of Supply Chain Performance of Retail Chain Stores: Moderating Effect of Strategies.

ABSTRACT

Retail supply chain management has gained much importance as there is paucity of empirical findings related to the predictors of supply chain performance of retail chain stores. The objective of this study is to explore important drivers of supply chain performance of retail chain stores in Bangladesh. The study uses responsiveness and efficiency of retail supply chain as the performance measures. Five supply chain drivers namely suppliers' role, use of IT, inventory management, transportation management and finally coordination have been explored as the determinants of retail supply chain performance. On the other hand two types of supply chain strategies have been tested as the moderators in this study. Agile supply chain strategy is tested as a moderator in the relationship between supply chain drivers and retail supply chain responsiveness while lean supply chain strategy is tested as a moderator in the relationship between supply chain drivers and retail supply chain efficiency. Data for the study have been collected through a structured questionnaire survey using cluster sampling method of probability sampling. Partial Least Squares Structural Equation Modeling (PLS SEM) technique with smart PLS 2.0M3 software has been used for data analysis. The study reveals that suppliers' role, use of IT, inventory management and coordination among other departments are the significant contributors of retail supply chain responsiveness. On the other hand retail supply chain efficiency is found to be significantly and positively influenced by coordination, inventory management, transportation management and use of IT. The findings also show that agile supply chain strategy moderates the relationship between suppliers' role and use of IT with retail supply chain responsiveness. The results of moderating effect test again show that lean supply chain strategy moderates the relationship between coordination and transportation management with retail supply chain efficiency. This research has implications both for business organizations and theoretical aspects with an interest in examining the determinants of retail supply chain performance. A framework has been developed incorporating the findings of this study to complement the theoretical gap of retail supply chain management. The framework is named as SIITCOS, which stands for suppliers, inventory management, information technology, transportation management, coordination and strategies. The five supply chain drivers have been proposed here as the building block of supply chain performance of retail chain stores and strategies are here to increase performance. Therefore, the outcome of this study enriches the retail supply chain management literatures by proposing a new framework which can be helpful for the retailers to manage their supply chain.

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Supply Chain (SC) is a value creation process whereby all firms in a chain work with each other to create value for the chain as a whole. Value creation occurs through operation. This is achieved through product transformation. Porter's Generic Value Chain (1985) shows that some parties are providing backward linkages to make final products and other institutions like forward linkage providers are reaching these finished items to the end users. If any deviation occurs within this total process, it will surely affect the overall level of performance of a particular supply chain (Bowersox & Closs, 2001). So special care must be taken for the smooth operation of all the activities within the supply chain. And managing the retail supply chain is somewhat different from managing manufacturing supply chain as retailers usually don't have production plants. However, presently some world prominent retail chain superstores are serving billions of customers and making huge profit of this business. The most successful ones are Wal-Mart, Safeway, SPAR (Samenwerken Profiteren Allen Regelmatig), ALDI (Albrecht Diskont), Netto, Lld. etc. The success of this retail chain store business highly depends on proper supply chain management (Colby & Marguarette, 2005).

It is extensively recognized now in literature that competition is based on supply chain versus supply chain rather than firm versus firm (Spekman, Kammuf & Myhr, 1998; Croom, Romano & Giannakis, 2000; Lambert & Cooper, 2000; Harland, Caldwell, Powel & Zheng, 2007; Towers & Burnes, 2008; Wang & Chan, 2010; Singh, 2011; Caridi, Moretto, Perego & Tumino, 2014). An organization's capacity to show better performance always bases on successful and effective implementation of supply chain activities with right order and practices. These practices include information, distribution, facilities management, inventory management, customer satisfaction and sourcing decisions (Richey, Chen, Upreti, Fawcett & Adams, 2009). If any firm wants to increase performance, these drivers of supply chain performance are to be managed properly (Soni & Kodali, 2011). The coordination among all the supply chain partners is necessary to enhance organizational efficiency and performance. This coordination means that all the activities in the supply chain network have to be closely linked with each other so that the retailers can improve their supply chain performance (Mouritsen, Skjott & Kotzab, 2003).

Retailing deals with the activities of buying goods or services and subsequently selling them to the final consumers, usually in small quantities and without transformation (Vera, 2012). Retail chain superstores are the shops selling a large variety of household goods and equipment and the stores are managed and owned by single authority (Cobuild, 2001). These superstores have successfully made a revolution in the urban lifestyle with the idea of all necessary products under one roof (Bachmann, 2008). A good variety of products are available in the retail chain stores and all the assortments are inventoried in a convenient way so that customers can take, check and verify the goods very easily (Uddin,

2013). A number of private organizations have established the retail chain store business in Bangladesh seeing the success of some global retailers such as Wal-Mart, Safeway, Sears and some others. Rahimafrooz Superstores limited (RSL) was the first one to launch the first ever retail chain store services in Bangladesh in the year 2001. From that very year till now people of Bangladesh have seen many of these superstores to open their business with a huge bang and buzz but also leaving many out of business without making noise (Islam, 2012). It happens for many reasons but the main reason was their inability to respond to customers' preferences at affordable costs (Khan, Tabssum & Jahan, 2014). Therefore, it indicates that further study is necessary to identify ways to meet customer demand of this sector by making necessary products available and affordable in the outlets.

It was only in 2001 that the first supermarket made its debut in the capital city, Dhaka, by the name and style of Agora, closely followed by Nandan to make a mention. After that some other brands joined in the industry seeing the success of the trend setters, out of which, Meena Bazar, CENTEL, Fresh N' Near, PQS (Price, Quality and Service), Prince Bazar, Almas, Pick and Pay, Family Needs, Shop and Save, and Swopno are worth mentionable. Since its inception, retail chain store business in Bangladesh has proven itself as an extremely competitive and unmerciful place to get into but also highly profitable business to do if one can play it right (Munni, 2010). It has been expanded very rapidly within a short span of time in Bangladesh. People especially living in Dhaka city of Bangladesh are becoming time conscious and they do not have enough time to spend for shopping. In the large cities of Bangladesh, it is very hard to move from one place to another place for shopping purposes due to traffic jam. Majority of the people want to buy

all kinds of goods from a particular departmental store at a time so that they can save their time, money and energy (Sharmin & Farhana, 2012). As people are getting aware day by day, most of the educated customers are now quality conscious and they want to buy quality products with better personnel services easily in the hassle free retail chain stores with available assortment of necessary products (Khan et al., 2014).

Like other countries, Bangladesh's retail chain store business is becoming popular day by day. Most of the fast moving consumer goods (FMCG) companies distribute their products from their own warehouses located in different parts of the country to these stores, as few professional distribution houses are available (Munni, 2010). Wholesalers play a limited role in this regard because companies supply goods to both retailers and wholesalers. Therefore retail chain stores are to think deliberately about its upstream and downstream supply chain to remain responsive to customers' preferences. At present dynamic and responsive market demands require that organizations strategically manage upstream & downstream supply chain (Kazi & Ahsan, 2014). The increasing use of information technology and outsourcing trends encourage business firms to explore supply chain management (SCM) as a weapon to generate a better source of competitive advantage (Randall, Gibson, Defee & Williams, 2011; Hendricks & Singhal, 2012). Moreover, retail managers have started thinking their supply chain management expertise as a strategic weapon (Brigitte, Jacques, Florence & Laurent, 2014) since it is being thought as a way to increase companies' bottom-line consequences (Cinzia, Wilson & Floris, 2014).

Supply chain is a network of activities that perform the functions of procurement of materials, transformation of these materials into immediate and finished goods and the distribution of these finished goods to customers (Reiner & Trcka, 2004). Like other countries, the supply chain of retail chain stores in Bangladesh is hugely complex as it involves so many markets, products, processes and intermediaries; and for this reason, delivery of necessary commodities and services is often fragmented and understood only in discrete sections (Bowersox & Closs, 2001). Changes in one area impact upon the others, and issues such as pricing, regulatory change or actions by competitors influence the whole supply chain in ways that are not simply understood or managed (Chopra & Meindl, 2010). Very often it happens that customers do not get their required products at stores due to improper management of supply chain that consequently leads to less profit and customer loss (Raman & DeHoratius, 2001; Anderson, Fitzsimons & Simester, 2006; Chopra & Meindl, 2010).

A few firms have been able to perform the value creation activities in the supply chain properly and satisfy customers' needs by responding timely at affordable costs. Some authors such as Halldorsson, Larsson and Poist, (2008) and Hult, Ketchen, Cavusgil and Calantone, (2006) think that supply chain management (SCM) offers the base for retail organizations to develop their own blueprint for managing the opportunities and threats effectively. Chain store business supply chains are typically large and consist of global networks with numerous products and stock keeping units (SKUs) mass-produced in a number of plants with different competences across the globe (Corstjens & Lal, 2012). The global nature of retail chain store business and the complexity of their supply chains make

it challenging to gain visibility into the overall sequence of activities and inventory pictures (Brian, Clifford, Wesley & Brent, 2010). In addition, continuous product availability and better customer service levels are essential in the industry as customers are very much demanding and have little tolerance for product shortages or deviations in quality of products (Frédéric & Thomas, 2015; Coe & Lee, 2006, 2013).

Pedram (1999) in his article cited that in most retail chain store business companies, supply chain management has been the responsibility of a separate and mostly disconnected department or group of employees reporting to the head of technical operations. Historically, these include: the purchasing and planning departments which have been in charge of procuring the raw material, equipment, and required services and goods, the shipping and distribution departments that make sure the intermediate or finished product is safely delivered to the intended customers. Indeed, until a few years ago, high inventories, frequent need for expensive air shipments, or the large number of manufacturing and warehouse facilities has been of little concern as long as the market did not face any product shortages and the new products were successfully scaled up into the plants (Simchi, David & Edith, 2000).

However, during the past few years, pressure from generic manufacturers has increased, and at the same time, new product pipelines have become barren (Aoyama, 2007; Bianchi & Ostale, 2006; Wood & Reynolds, 2012a). As a result, retail chain stores began to do what other industries had done one or two decades earlier and started reducing their vertically integrated structures by looking outside for suppliers of goods and services

(Weise, Kellner, Lietke, Toporowski & Zielke, 2012). Eventually, for most companies, purchase of raw materials and services became a much larger part of business units' cost structures, and therefore, reducing that cost has now become one of the cornerstones of supply chain objectives (Koh, Demirbag, Tatoglu & Zaim, 2007; Broekmeulen, Fransoo, Donselaar & Woensel, 2006). At the same time, to fill the knowledge gap in the retail supply chain management, Kuglin and Rosenbum, (2001) stated that the retail chain store industry has begun recruiting senior managers from other industries, some with limited prior knowledge of the retail chain store business. In doing so, the industry is risking having individuals untrained in the changing requirements of today's chain store companies, sustaining a new product technology transfer and commercialization pipeline, or trimming costs and improving efficiencies (Tan, Lyman & Wisner, 2002). Streamlining each of these tasks of value creating process, ensuring they are managed properly with the right teams and individuals, and ensuring success within budget and agreed upon timelines are critical endeavors in the chain store business industry (Alina, Ruud, Jagdip, Arvind & Cheryl, 2011; Heizer, 2008). Thus, each delay, error, validation failure, or any mismanagement in the supply chain network would cost the business unit dearly (Wong, Boon & Wong, 2011).

It is commonplace for retail chain stores that a lot of products remain idle in one region and other regions lack the required items due to the improper supply chain management (Chopra & Meindl, 2010). This scenery is also common in Bangladesh as the retailing industry here is fragmented and undeveloped compared to its South Asian counterparts (Uddin, 2013). However, this situation is changing because of globalization,

economic and trade liberalization, changing patterns of consumers' shopping behavior, growth of urbanization, significant increase of income of middle class consumers, government's liberal attitude towards foreign imported food products and the growth of organized superstores (Bangladesh Superstore Owners' Association, 2014). Consequently, the annual turnover of the superstores is more than Tk. 16 billion (1600 crore; equivalent USD; 2.03 billion) with a sales growth rate of 15-20 percent (Bangladesh Superstore Owners' Association, 2014). This steady growth rate of the industry has inspired the superstore owners to expand their operation with 600 more retail outlets in the next five years (Munni 2010); and as at 2015 a total of around 200 retail chain stores are in operation in the country (Zahedul, 2015).

Though the retail chain store business is very promising in the country, only a few studies have been conducted in this sector. Seiranevoda (2011) has conducted a study on the factors that influence the consumers in choosing superstores in Bangladesh where he identified six factors that include brand image, perceived price, perceived quality, quality of service, product availability and location of the store. Alauddin, Hossain, Ibrahim and Haque, (2015) have also identified the same factors influencing customers to shop at retail chain stores in Bangladesh. In another research work, Datta (2010) argued that customer retention in Grocery Food Retailing in Bangladesh has become a major concern for retail organizations desiring to stay in business, maximize profits and build and sustain competitive advantage. The longer customers are retained by an organization, the more benefits it is likely to accrue from a sustained income stream. Another study by Sharmin