

Motivating Factors of Investors to Involve in Supply Chain Management Practices: A Study on Ready Made Garment Industry in Bangladesh

Salma Akther¹, Al Mamun²

(1. Faculty of Business and Economics, The University of Melbourne, Australia; 2. Bank Asia Limited, Bangladesh)

Abstract: The export-oriented clothing industry in Bangladesh, commonly known as ready made garment (RMG) occupies an inimitable position in the economy of Bangladesh. The aim of this study is to examine the intent of investors/manufacturers of Bangladeshi RMG to engage in supply chain management practices. Bangladeshi garment industry is the leading export earner as well as main sources of GDP (Gross Domestic Product) for Bangladesh over the decade. Development of the garment industry in Bangladesh was driven by the structural economic reforms of the 1980s, which opened the Bangladeshi economy towards foreign investment, deregulation of markets and privatization. Nowadays Bangladesh is well known across the globe for its vigorous success in the arena of readymade garment industry. On time deliverance, short lead time and desired quality product determines the criteria to gain the orders from international buyers. Thus, involve in supply chain management practices (SCMP) treated as compulsory requirement for these industries. To discover the absolute motive of RMG Investors/Manufacturers, the descriptive study was associated on 10 companies that are presently practiced SCM activities in Bangladesh. Standard questionnaires were utilized to accumulate the data. Research result showed 14 variables of Investor/Manufacturer motives are comprised in SCMP. Each variable was interconnected in nature. Four fundamental motivational factors stand as operational, economical, environmental & ethical, and social & behavioral. Shield motives of Investors/ Manufacturers can easily have recognized by these factors. This will assist the respective authority to control the RMG companies and acknowledged the forthcoming action steps to advance the supply chain management (SCM) system of this industry at Bangladesh. Rank order data interpretation represented that environmental motive and ethical motive are strong portent of Investor/Manufacturer motives to incorporate in Supply Chain Management practices.

Key words: supply chain management; motives of investor; supply chain management practices in Bangladesh

JEL codes: L670

1. Introduction

In recent decades, Asian clothing manufacturing industry is in a leading position to export cloths around the world, especially Bangladesh is one of the significant contributor (Taplin, 2014). Clothing export competition are comprised for Asian territory with China, Bangladesh, Hong Kong, Viet Nam, India (World Trade Organization,

Salma Akther, Assistant Professor, Jagannath University, Dhaka Bangladesh; research areas/interests: industrial studies, manufacturing. E-mail: salma_akther@yahoo.com and sakther@student.unimelb.edu.au.

2014). As a developing country, Bangladesh has accomplished a global supplier position of RMG by competing with china and proves their growth potential (Asian Development Bank, 2015). This is the largest export earning source (80%) of Bangladesh. Cloth exporting, employment generation, and quantity of factories have significantly increased after the invalidation of (MFA) “multi-fiber arrangement”, a quota system for ready made garment industry (Ahamed, 2013). Around 6000 garment factories are running currently in Bangladesh, whereas more than 80% are women worker. Bangladesh achieved the target value (79%) of export for the year 2012. Export target was set as 24147, 31m USD for FY 2013-2014 which was grew by 2.72% more than the required target of the year 2014. Now RMG industry has set a target to earn 50b USD by 2021 (Bangladesh Investment Development Authority, 2015). Cost obligation, quality maintenance, expected customer services with on time delivery are the recent challenges for RMG industry in Bangladesh as a global player. Reputed buyers have now diversified opportunity to meet their clothing demand around the world. Easy accessibility in raw materials and inexpensive labor force enhances the global operations of clothing sector in recent time. Therefore, involving SCMP are mandatory for investors/manufacturers of RMG industry in Bangladesh to be more competent and provide approachable contributions.

Nowadays accurate production process is fundamental criteria for international buyers for ranking owners’ capability of RMG factories. Moreover, profitability, offer utmost value to the customers, dynamic production processes are the critical factors for manufacturers of RMG factories in Bangladesh. Supply chain management practices are meaningful when it can supply the required products and services and information by adding value to the end consumers (Galaskiewicz, 2011). So, manufacturing issue and providing expected services considered the apparent key facts of the supply chain management activities for Bangladeshi garment industry. It is one of interrelated business activity which attaches the supplier, manufacture, and buyer altogether. From lead time to shipment all the activities are to set for completed goods that are included in supply chain management activities as well (Tan, 2001). However, rapid demand changing patterns of clothing industry create obstacle to further growth of this sector. Hence, factory owners are exploit possible opportunities to improve their performance in this sector by focusing on supply chain management practices (Sen, 2008). It is evident that linking the production process with the supply chain management practices in the organizations can better perform in the RMG sector (Gunasekaran et al., 2008). Partnership development, execution of information technology, dynamic operational procedure, recognize performance dimension, meet up the top management obligations and demand categorization are the success criteria for US apparel supply chain management (Lee & Kincade, 2003). Extensive lead time factor is one of the utmost challenges for the RMG sector in Bangladesh which is underpinned the matter of SCMP. Although the complete application of SCMP is complicated, Bangladesh has huge potential to get benefit to apply this system which can shorter the lead time and ensure the global competitiveness. Some difficulties are articulated to implement the supply chain management activities, but these are too, little to defeat and there is no such mentionable negativity compare to benefit options of this practices. Some researches like effective use of supply chain management, sustainability measurement of supply chain management activity which explains their valuable findings but research on the motivating factors to involve in SCMP are not available. Present studies are also limited with no focus on driving force to involve in SCMP at RMG sector in Bangladesh to achieve the ultimate output, cost efficiency and varying customers demand.

Motivational factors identification to engage in SCMP are the core intention of this study which can assist the different arms of this sector like suppliers, manufacturers, and buyers. It is also signifying the further research studies on the SCMP. Hence, the following research questions are indispensable for this work:

- What are the major variables of investors to involve in SCMP (Supply Chain Management Practices)?
- What are the motivating factors of investors to involve in SCMP?

How perceptual map and rank order data help us to insight the investors' motives to involve in SCMP?

2. Literature Review

RMG raw materials are import based in Bangladesh. Almost 90% natural fiber and 60% knit clothing materials are needed to import to meet the export demand (Ahamed, 2013). Inefficient uses of information and communication technology, disorganized port systems are impediments for lean production of RMG sectors in our country. As a result, this industry experienced high lead time to deliver the clothing orders (Ferdousi, 2009). It is also marked that, Bangladeshi RMG factories consumed more lead time in compare to Sri Lanka, China and India. (Haque & Azad, 2010). Bangladeshi RMG factories are not carefully measured the impact of SCMP as well (Lam & Postle, 2006). Islam (2012) investigates in his research that goods delivery completions of Bangladeshi RMG companies are extremely depends on expertise of SCM. Justifiable operational procedure, raw material accessibility, guaranteed new orders from international buyers are the success criteria of supply chain management practices. He also argued that Bangladesh can fully accomplish the foreign buyers expected requirement by applying SCMP in their companies.

Supply chain management practices are the most preferred approach to reach in global platform from local corner. Furthermore, customers' commitment, gaining cost advantage and maintaining quality products exerts the high necessity to involve in SCMP. To become a global competitor, Bangladesh continuously focuses on the value proposition of supply chain management and establishes an effective procurement and shipment procedure to deliver the clothing goods. Besides, most of the investors involved in SCMP because of their ethical concerns which create pressure to do an incredible thing for this sector (Ali & Habib, 2012).

Chowdhury and Quaddus (2015) mentioned that risk reduction and profit maximization are the other reasons to involve in SCMP for Bangladeshi RMG investors. Factory owners are recognized that it is more opportunistic to involve in SCMP to achieve their expected result. Investors are highly inspired to practice the SCM not for individual profitability but to benefit the total RMG sector.

Societal concerns are also a powerful force for the investors to engage in supply chain management practices. SCMP helps investors to develop a sustainable value in the mind of consumers that could be valuable factor to gain healthy output for RMG sector (Anisul Huq et al., 2014).

This paper considered several aspects of investors to involve in SCMP from the past literature which support us to picturize the investor's motive. The ultimate purpose of this study is to categorize the motivating factors of investors to involve in SCMP and enriches supply chain management knowledge enormously to achieve paramount development for this sector.

3. Hypotheses

Pre-specified hypothesis is the foundation to evaluate this study which is indicated in below:

H: Investors motives for engaging in SCMP are interrelated.

Motivational factors of investors to involve themselves in SCMP can be identified by the help of the above hypothesis which could be an effective platform for investors to apply any future action steps of supply chain management system.

4. Methodology

Descriptive research was taken into consideration for this study. Therefore, from the descriptive research perspective, a survey method has applied to diagnosis the association among the concentrating variables of investors intention for attaching in the SCMP. Structures questionnaires are applied for gathering the related data on this study.

The sample framework had constructed for 43 factories which involved in supply chain management practices for conduction of the survey research. Utilizing of the simple random sampling techniques, this study has noninitiated 10 factories among the 43 factories. The information was gathered from five persons where 1 person represent from the top level, 2 belongs to the mid level and rest of the 2 were from lower ordered employee of each organization. Therefore, the total sample size comprises with 50. Investors motives variables related information were gathered from the above mentioned 50 sample that we observed from the previous research study. Likert scale style, dichotomous question, multiple choice questions and rank order scale were utilized to form a structured questionnaire for deportment of the survey. Composed data were organized on the computer followed with the concluding analysis which was completed through the statistical software (SPSS) based on factor analysis and multidimensional scale (MDS) technique frequency analysis.

5. Results and Findings

To find out the interdependence among the motives of investor, the study conducted a factor analysis on 14 variables of investor motives. Those variables of investor motives are: motive of sustainability, motive of risk reduction, motive of improving efficiency, acquisition motive, expansion motive, adoption motive, eco-motive, ethical motive, environmental motive, profit motive, financial motive, social motive, behavioral motive and motives of technological development. Depending on those variables, the conducted factor analysis revealed that variables are interrelated while null hypothesis of factor analysis is rejected in accordance with KMO and Bartlett test results (because level of significance is $.00000 < .05$ or $.01$).

Therefore, it is proved that investors motives to engage in SCMP are interrelated. These interrelated patterns of the investor motives will able to find out factors. It is to be noted that number of factor will be selected based on the Eigen value. By measuring the Eigen value, we have identified four factors; which has shown at Rotated Component Matrix (Table 1).

From the observation of the rotated component matrix, the study finds four factors of investor to involve in SCMP as a name of "Component". The component 1 integrates the motive of sustainability, motive of risk reduction, efficiency motive, acquisition motive, expansion motive and adoption motive. While component 2 include the eco-motive, ethical motive and environmental motive. Also, component 3 integrates among the profit motive, financial motive and expansion motive. On the contrary, social motive, ethical motive and behavioral motive incorporate as component 4. It could give name for each component, by considering the nature of variables of each component, which name will notify as factor. The component 1 addressed as operational factor, although all the variables of component 1 related with operational goals of organization; and component 2 is known as environmental and ethical factor; while component 3 is acknowledged as economic factor; first and foremost component 4 termed as social and behavioral factor.

**Motivating Factors of Investors to Involve in Supply Chain Management Practices:
A Study on Ready Made Garment Industry in Bangladesh**

Table 1 Rotated Component Matrix*

	Component			
	1	2	3	4
Profit motive			.748	
Social motive				.745
Eco-motive		.654		
Ethical motive		.692		.555
Motive of sustainability	.772			
Behavioral motive				.787
Motives of risk reduction	.724			
Efficiency motive	.758			
Financial motive			.798	
Acquisition motive	.693			
Environmental motive		.890		
Expansion motive	.520		.687	
Adoption motive	.844			
Technological motive				
Extraction method: principal component analysis. Rotation method: quartimax with Kaiser normalization				

*Rotation converged in 6 iterations.

Four factors are recognized from this analysis, called as operational factor, environmental & ethical factor, economic factor and social & behavioral factor, to engage in SCMP. From all those factor, first factor known as operational factor combine the motive of sustainability, motive of risk reduction, efficiency motive, acquisition motive, expansion motive and adoption motive. Observation of operational motives indicates that adaptation motive is imperative, accordingly the probability of its impact is 0.844. Afterward others significant motives as probability are motive of sustainability (.772), efficiency motive (.758) motive of risk reduction (.724), acquisition motive (.693) and expansion motive (.520). The other factor acknowledged as environmental & ethical factor unite the eco-motive, ethical motive and environmental motive. Among those motives, environmental motive has greatest impact on the factor rotate though it's impact probability is 0.890; and other's important motives are ethical motive, which impact probability is 0.692, and eco-motive whereas its impact probability is 0.654. Along with those two factors, other central factor is economic factor which incorporate the profit motive, financial motive and expansion motive. Among those motives, financial motives get high priority due to its impact probability is 0.798; subsequently others key factors as probability are profit motive (.748) and expansion motive (.687). The last factor which is known as social & behavioral factor includes the social motive, ethical motive and behavioral motive. From those motives behavior motives have highest impact while its probability of impact is 0.787 and succeeding motives are social motive (.745) and ethical motive (.555).

From the diagnosis of this factor analysis of investor motives to involve in SCMP, we can construct a graphical presentation which can be termed as "Investor Motives of SCMP". This graphical presentation is given below:

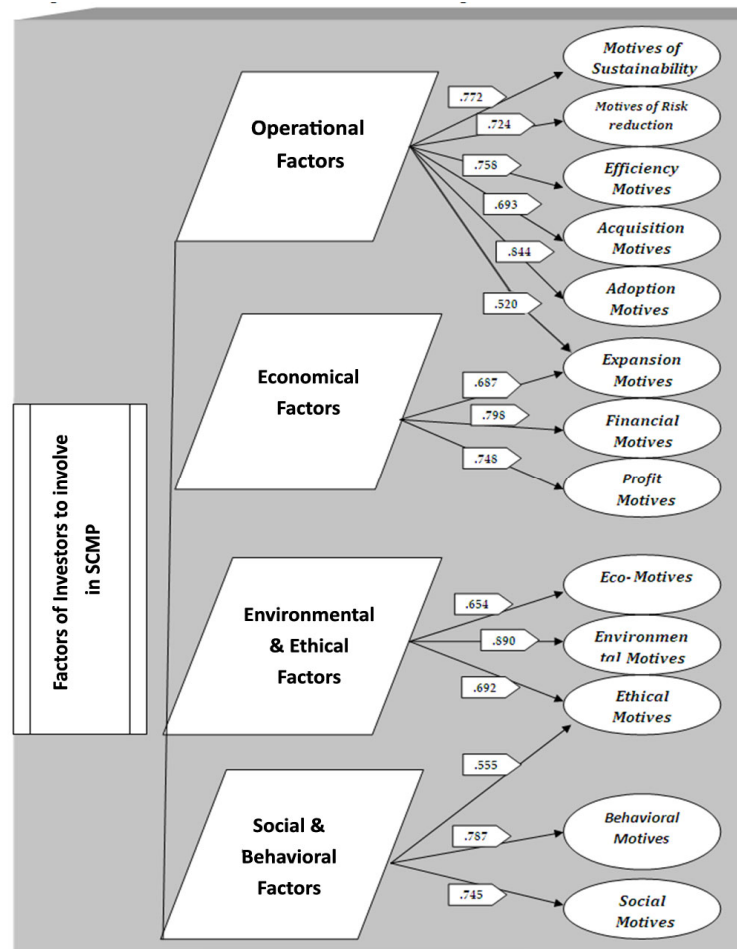


Figure 1 Investors Motives of SCMP

Nevertheless, this study also opportunistic to design a perceptual map of investors motive to engage in SCMP on consideration of the dimension of investor thinking, which can be resultant of factor analysis.

Although interpretation of more than two dimension of human thinking are certainly a critical application, this study allows us to develop a two dimensional investor's thinking line about their motive to engage in SCMP; Henceforward factor analysis authorizes us to construct four-dimensional perceptual map as Eigen Value more than 1. Two-dimensional perceptual map is given in Figure 2.

From Figure 2 we observe that eco-motive (mf_3) and motive of risk reduction (mf_7) variables are playing significant role for both magnitudes. Then subsequently acquisition motive (mf_10), social motive (mf_2), adoption motive (mf_13) etc. are originated to the investors thinking to engage in SCMP.

On the other hand, financial (mf_9) and expansion motives (mf_12) are also play the vital role as variable for the component/dimension 1 (Economical & Operational Motives) and, ethical (mf_4) and environmental motives (mf_11) are imperious variable for the component/dimension 2 (Environmental, ethical, Social and Behavioral Motives).

**Motivating Factors of Investors to Involve in Supply Chain Management Practices:
A Study on Ready Made Garment Industry in Bangladesh**

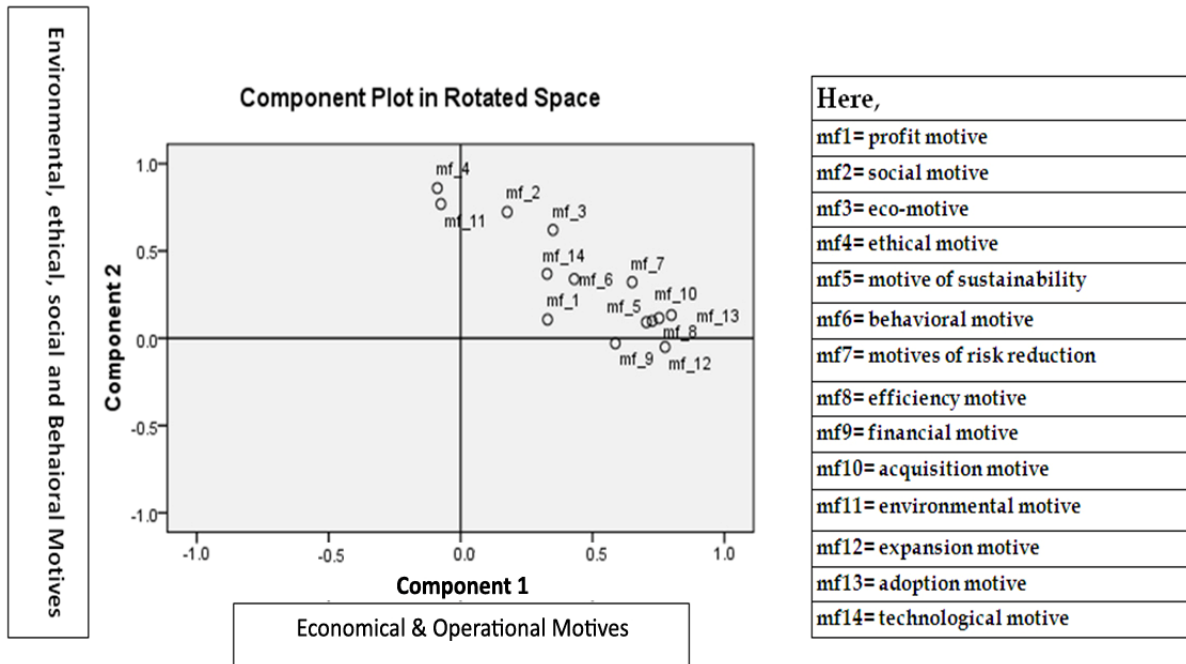


Figure 2 Investors' Perceptual Map

Furthermore, the clarification from the rank order data can categorize the motives of investors to involve in SCMP. Rank order percentage of investors motives are given in Table 2.

Table 2 Rank Order of Investors Motives to Involve in SCMP

Motive factors	Rank 1	Rank 2	Rank 3	Rank 4
Profit motive	2%	6%	30%	14%
Social motive	28%	14%		14%
Eco-motive	26%	28%	16%	6%
Ethical motive	6%	16%	16%	32%
Motive of sustainability		4%	6%	
Behavioral motive		10%	2%	
Motives of risk reduction				10%
Efficiency motive		2%		2%
Financial motive		2%		
Acquisition motive		2%		
Environmental motive	38%	16%	12%	12%
Expansion motive			2%	4%
Adoption motive			12%	6%
Technological motive	100%	100%	100%	100%

From the observation of Table 2, we can depict that environmental motive (38%) is ranked 1 by most of the investors, followed by, eco-motive (28%), environmental motive (16%), social motives (14%) and ethical motive (16%). After that most of the investor noted profit motive as rank 3. Above all, ethical motive (32%) is ranked as 4 by most of the investors.

6. Conclusion

RMG investors need to apply SCMP together with all supply chain associates. Accomplish lead-time requirement, standard cloth featuring are the buyers' specification in SCMP. Several noticeable motives are identified to involve in SCMP at RMG companies in Bangladesh. To overcome the economic loss and to maintain goodwill, prioritize SCMP are obvious for current manufacturers of RMG. Still there are lots of obstacles on the way of implementation of SCMP system in this sector. Those obstacles are not ever lasting; which also can be overcome by the appropriate strategic initiatives of investors and authoritarian body. This study finds four factors of SCMP. One is operational factor, another is economical factor and others are environmental & ethical factor and social & behavioral factor. Each of these factors contains different motives, though all of the motives have not same effect on the factor. Hence, motives of individual factor will work as same way, i.e., they will respond as the nature of that factor. This study can entirely diagnosis the methods of responses of all identified motives. It provides a ground to classify the strategy needs to hold to control the SCM activities of the RMG company. Furthermore, this study will enough supportive to easily and clearly know about the factor of investors motive to involve in supply chain management practices (SCMP). This in turn may assist to sketch the well-structured supply chain management systems that would render an immense reward for the Bangladeshi readymade garment industry in future.

References

- Ali M. and Habib M. M. (2012). "The material requirements planning system for readymade garments and inventory control", *Journal of Applied Management and Investments*, Vol. 1, No. 2, pp. 140-145.
- Ahamed F. (2013). "Background of history of Bangladesh and ready-made garment industry: Key challenges in the RMG industry", *Middle East Journal of Business*, Vol. 8, No. 1.
- Anisul Huq F., Stevenson M. and Zorzini M. (2014). "Social sustainability in developing country suppliers: An exploratory study in the readymade garments industry of Bangladesh", *International Journal of Operations & Production Management*, Vol. 34, No. 5, pp. 610-638.
- Asian Development Bank (2015). "Asian economic integration report", Asian Development Bank, available online at: <https://www.adb.org/publications/series/asian-economic-integration-report>.
- Bangladesh Investment Development Authority (2015). "Garments & textiles", available online at: <http://www.bida.gov.bd/site/page/c9ffe4ad-1b7e-4c85-b77e-b7d9427d4533/Garments-&-Textiles>.
- Chowdhury M. M. H. and Quaddus M. A. (2015). "A multiple objective optimization based QFD approach for efficient resilient strategies to mitigate supply chain vulnerabilities: The case of garment industry of Bangladesh", *Omega*, Vol. 57, pp. 5-21.
- Ferdousi F. (2009). "An investigation of manufacturing performance improvement through lean production: A study on Bangladeshi garment firms", *International Journal of Business and Management*, Vol. 4, No. 9, p. 106.
- Gunasekaran A., Lai K. H. and Cheng T. E. (2008). "Responsive supply chain: A competitive strategy in a networked economy", *Omega*, Vol. 36, No. 4, pp. 549-564.
- Galaskiewicz J. (2011). "Studying supply chains from a social network perspective", *Journal of Supply Chain Management*, Vol. 47, No. 1, pp. 4-8.
- Haque A. and Azad R. (2010). "Is Bangladeshi RMG sector fit in the global apparel business? Analyses the supply chain management", *The South East Asian Journal of Management*, Vol. 4, No. 1, p. 53.
- Islam M. S. and Liang G. Q. (2012). "Supply chain management on apparel order process: A case study in Bangladesh garment industry", *Asian Journal of Business and Management Sciences*, Vol. 2, No. 8, pp. 60-72.
- Lee Y. and Kincade D. H. (2003). "US apparel manufacturers' company characteristic differences based on SCM activities", *Journal of Fashion Marketing and Management: An International Journal*, Vol. 7, No. 1, pp. 31-48.
- Lam J. K. and Postle R. (2006). "Textile and apparel supply chain management in Hong Kong", *International Journal of Clothing Science and Technology*, Vol. 18, No. 4, pp. 265-277.

**Motivating Factors of Investors to Involve in Supply Chain Management Practices:
A Study on Ready Made Garment Industry in Bangladesh**

- Şen A. (2008). "The US fashion industry: A supply chain review", *International Journal of Production Economics*, Vol. 114, No. 2, pp. 571-593.
- Tan K. C. (2001). "A framework of supply chain management literature", *European Journal of Purchasing & Supply Management*, Vol. 7, No. 1, pp. 39-48.
- Taplin I. M. (2014). "Global commodity chains and fast fashion: How the apparel industry continues to re-invent itself", *Competition & Change*, Vol. 18, No. 3, pp. 246-264.
- World Trade Organization (2014, April 12). "International trade statistics 2014: Merchandise trade", available online at: <https://www.wto.org>.