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

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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 up 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 identify the actual intention of Investors/Manufacturers of RMG companies, a descriptive study has been conducted on 10 company's which are currently involved in SCMP in Bangladesh. The data were gathered by administering questionnaires. The result indicated that 14 variables of Investor/Manufacturer motives involved in SCMP and these variables were interrelated. The main four motivational factors are operational, economical, environmental & ethical, and social & behavioral. These factors will help us to insight the hidden motives of Investors/manufacture which will help the authority to monitor RMG companies as well as to take future initiatives to develop the supply chain management (SCM) system for this industry in Bangladesh. Results of rank order data showed that environmental motive and ethical motive are strong predictors of Investor/Manufacturer motives to involve in Supply Chain Management practices.

Key Words*: Supply Chain Management, Motives of Investor, Supply Chain Management Practices in Bangladesh.*

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, 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 study 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.

This study is prepared for finding the motivational factors of investors to involve in SCMP which will help to several beneficiaries like suppliers, manufacturers, and buyers. It is indeed a subject matter of further studies for the SCMP. Hence, the following particular 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?

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 strong 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 different aspects of investors to involve in SCMP from the past literature which help us to draw 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.

Hypotheses

This study has analyzed based on some pre-specified hypothesis which is given below:

H*: Motives of investors to involve in SCMP are interrelated.

This hypothesis will help us to find out the factors of motivating the investors to involve in SCMP, which will assist the investors to take decisions about future supply chain management system.

Methodology

This study was carried out descriptive research. So, as a descriptive research, a survey has conducted to explore the relationship among the considering variables of investors motive to involve in SCMP. Data were collected through a structured questionnaire.

To conduct the survey, a sample frame had developed on 43 factories which involved in supply chain management practices. From the 43 factories, this study selected 10 factories by using simple random sampling technique. From those 10 factories, it has been collected information from five persons, where one from top management, two from middle level employee and two from lower level employee of each company. So, the total sample size is 50. From the 50 sample, we have collected information about the variables of investor motive which we found from previous study. To conduct the survey a structured questionnaire had developed by using Likert scale, dichotomous question, multiple choice questions and rank order scale. The collected data were tabulated on the computer and the final analysis was performed on statistical software (SPSS) based on factor analysis and multidimensional scale (MDS) technique frequency analysis.

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. Based on those variables, the factor analysis of this study find out that variables are interrelated though null hypothesis of factor analysis is rejected according to KMO and Bartllet test results (because level of significance is .00000 <.05 or .01). So, it can be said that motives of investor to involve in SCMP are interrelated. These interrelated patterns of the investor motives will able to find out factors. Note that: number of factor will be selected based on the Eigen value. By measuring the Eigen value, we have found four factors; which has shown at Rotated Component Matrix (Table: 1).

Table 1 : Rotated Component Matrix[a]				
	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.				
a. Rotation converged in 6 iterations.				

By observing the rotated component matrix, the study finds four factors of investor to involve in SCMP as a name of "Component". Here component 1 incorporates the motive of sustainability, motive of risk reduction, efficiency motive, acquisition motive, expansion motive and adoption motive. Whereas component 2 include the eco-motive, ethical motive and environmental motive. Besides those, component 3 integrates among the profit motive, financial motive and expansion motive. On the other hand, social motive, ethical motive and behavioral motive incorporate as component 4. Now, it can assign name of each component, based on the nature of variables of each component, which name will acquaint as factor. Here, component 1 named as operational factor, though all of the variables of component 1 related with operational goals of organization;

and component 2 is known as environmental and ethical factor; whereas component 3 is known as economic factor; above all component 4 named as social and behavioral factor.

This study has been identified four factors, named as operational factor, environmental & ethical factor, economic factor and social & behavioral factor, to involve in SCMP. Among those factor, first factor known as operational factor incorporate the motive of sustainability, motive of risk reduction, efficiency motive, acquisition motive, expansion motive and adoption motive. Among those operational motives, adaptation motive is most important motive hence the probability of its impact is 0.844. Subsequently others important 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 known as environmental & ethical factor incorporate the eco-motive, ethical motive and environmental motive. Among those motives, environmental motive has highest 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. Besides those two factors, other important factor is economic factor which incorporate the profit motive, financial motive and expansion motive. Among those motives, financial motives get more priority due to its impact probability is 0.798; subsequently others important 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. In between of those motives behavior motives have highest impact while its probability of impact is 0.787 and subsequent motives are social motive (.745) and ethical motive (.555).

From this factor analysis of investor motives to involve in SCMP, we can develop a figure which

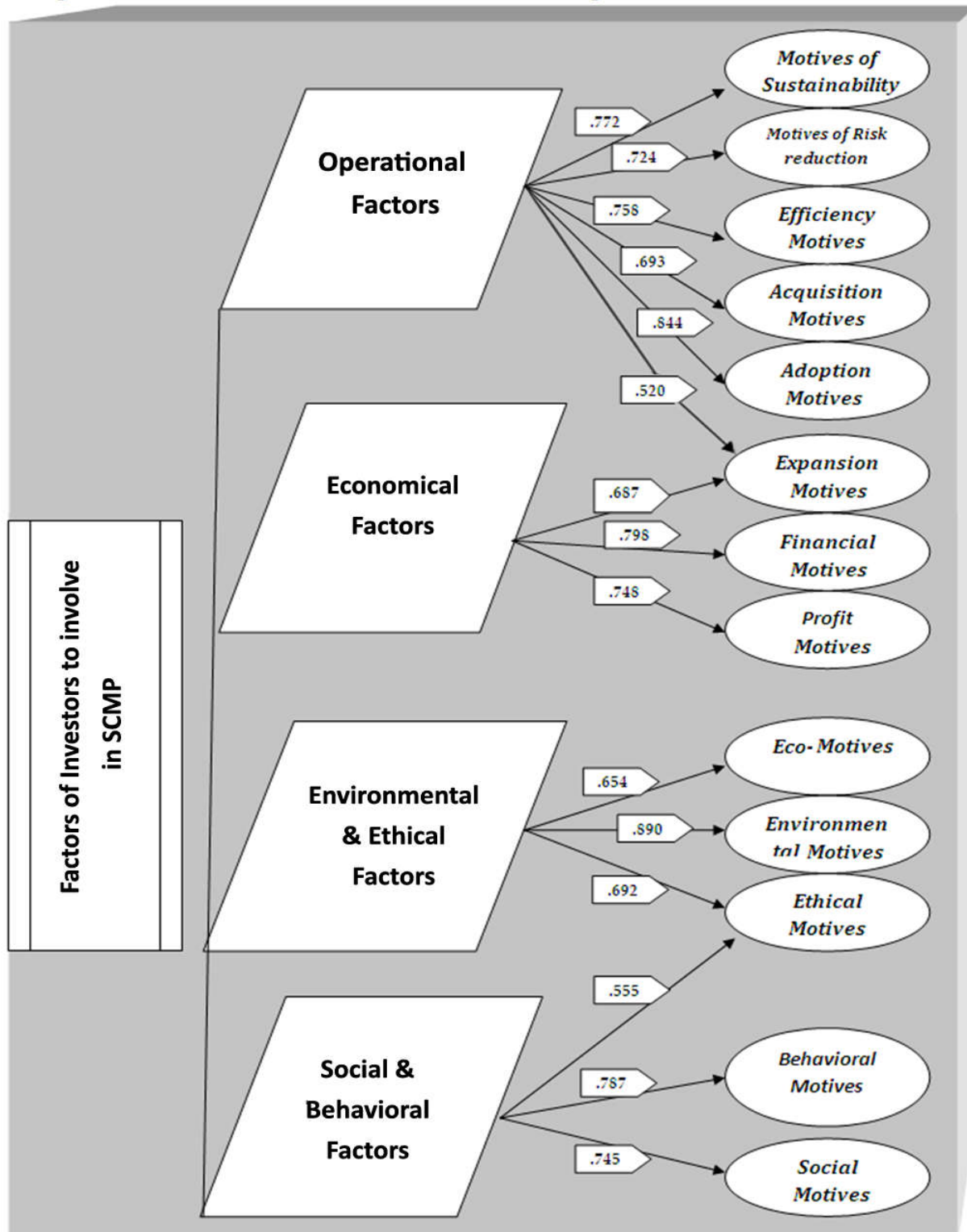can be named as "Investor Motives of SCMP". This figure shown below.

Figure - 1: Investors Motives of SCMP

However, this study also intends to develop a perceptual map of investors motive to involve in SCMP based on the dimension of investor thinking, which can be derived from factor analysis. Though it is so much difficult task to interpret more than two dimension of human thinking, an attempt has been made to develop the two dimension of investor's thinking about their motive to involve in SCMP; Hence factor analysis permit use to develop four-dimensional perceptual map as Eigen Value more than 1. The two-dimensional perceptual map of investor motive to involve in supply chain management practices are given below:
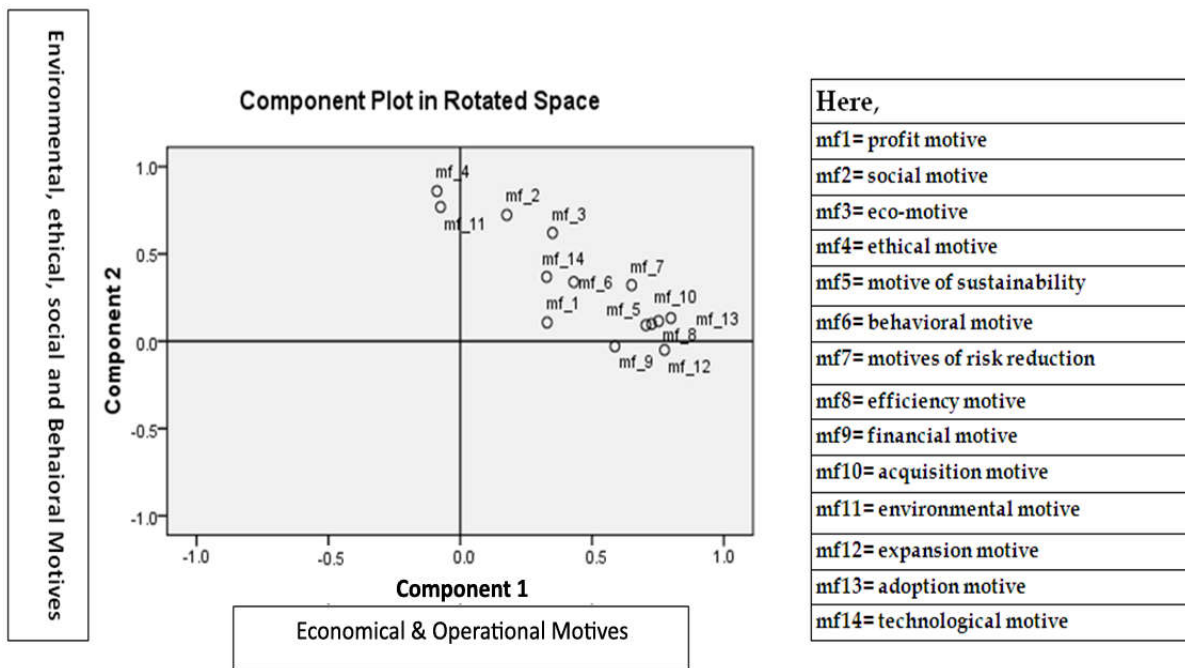

Figure 2 Investors' perceptual map.

In figure 2 we see that eco-motive (mf_3) and motive of risk reduction (mf_7) is very important variables in both dimensions. Then consequently acquisition motive (mf_10), social motive (mf_2), adoption motive (mf_13) etc. are come to the mind of investors to involve in SCMP.

On the other hand, financial (mf_9) and expansion motives (mf_12) are important variables for the component/dimension 1 (Economical & Operational Motives) and, ethical (mf_4) and environmental motives (mf_11) are important variables for the component/dimension 2 (Environmental, ethical, Social and Behavioral Motives).

Beside those, from rank order data, it can also clarify the motives of investor to involve in SCMP. The percentage of rank order of investor motive gives below:

Table 2: Rank order of investors Motive 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%	
Motive of risk reduction				10%
Efficiency motive		2%		2%
Financial motive		2%	4%	
Acquisition motive		2%		
Environmental motive	38%	16%	12%	12%
Expansion motive			2%	
Adoption motive				4%
Technological motive			12%	6%
	100%	100%	100%	100%

In table 2, we see 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.

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 ready made garment industry in future.

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