



# North South Business Review

## **Mahmud Akhter Shareef**

Editorial Note: Multidisciplinary Research

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## **EDITORIAL NOTE: POLICY DEVELOPMENT FOR BANGLADESH**

We are highly delighted to inform you about the second issue of “North South Business Review” (NSBR) journal published in 2018. It is published by school of business and economics (SBE), North South University. It is our pleasure to acknowledge that gradually researchers from different educational and professional institutions in Bangladesh and abroad are becoming more interested to publish their research papers in this journal. Many researchers from different institutions with multidisciplinary background have shown immense interest to publish their scholarly articles in NSBR.

This issue of NSBR has introduced studies from different areas of development economics and management, organizational relations, corporate governance of financial institutions, marketing performance of supermarkets, and occupational health & safety of ready-made garments sector. After thorough blind review, we have selected five advance research papers from these disciplines to publish in this issue. We deeply hope that these papers can create scholars’ interest as well as these can fulfill their inquisitive learning expectations as future research guideline. The central focus of this issue is to address problems, develop paradigms, and suggest practical guidelines of management for effective, efficient, and sustainable organizations.

The first paper of this journal has proposed an effective management system. The study has developed a model which can integrate economic, social and environmental benefits for sustainable e-waste management in emerging economies and developing countries. Based on empirical study, the researches has emphasized the economic, social, and environmental outcomes of the model and outlined the theoretical and practical implications of the research.

The second paper of this issue is engaged in identifying the factors which ensure employees’ involvement in organizational life. It has conducted extensive survey to address the factors which influence employees to be involvement in organizational functions with intrinsic motivations. In this aspect, the study has used expectancy theory.

The third paper has analyzed corporate governance reflecting financial performance. It has studied Sri Lankan firms. The authors were attempted to reveal and conceptualize the association between corporate governance and financing decisions within Sri Lankan listed firms. Through studies among several enlisted firms in Sri Lanka, this study has identified that firms with well-established corporate governance structures are able to gain easier access to debt financing at lower cost since such firms are able to repay their debt on time.

The fourth study is dealing with sustainable management of Bangladeshi supermarkets. In this context, it has introduced green marketing concept. This study has addressed all seven aspects (7p's) of service marketing and developed a structured guideline to find out whether supermarkets are adopting green marketing strategy for their customers. It has suggested future framework for green marketing.

The fifth paper has analyzed ready-made garments sector in Bangladesh. For occupational health & safety, it has evaluated effectiveness of training for workers. After the incident of Rana Plaza and Tazreen Fashions, health & safety (H & S) has become an issue of paramount interest among the buyers, manufacturers, legislatures, and regulators of the apparel manufacturing sector of Bangladesh. The findings of this research can provide structured benchmark to the decision making authorities of ready-made garments to formulate policies regarding H&S training program.

This journal contains the above mentioned five papers which are focused on multidisciplinary issues of effective management system for future organizations. Integrating these application based concepts, this issue ultimately presents a comprehensive view of sustainable organization which has significant importance for developing policies and strategists related to business administrations.

It is our earnest hope that the readers will enjoy reading this issue as much as we did during our review of the papers for this issue.

**Mahmud Akhter Shareef, PhD**

Managing Editor

NSBR

## **ACKNOWLEDGMENTS**

I would like to thank Professor Mohammad Mahboob Rahman, Dean, School of Business & Economics, North South University and Editor-in-chief of NSBR for giving me the opportunity and support to edit this issue. As Managing Editor, I have been impressed by the many scholarly articles we received in response to the call for papers for this issue. All submissions went at least through two blind review cycles before receiving final acceptance. We gratefully acknowledge the support of the referees who reviewed the manuscripts and provided thoughtful suggestions for improving the quality of the papers.

# A SUSTAINABLE E-WASTE MANAGEMENT MODEL FOR EMERGING ECONOMIES AND DEVELOPING COUNTRIES

*Hafiza Sultana,<sup>1</sup> Dr. Muslima Zahan,<sup>2</sup> Habiba J. Shirin<sup>3</sup>*

## ABSTRACT

This empirical study aims to develop an efficient e-waste management model for emerging economies and developing countries. To propose the same, first, the critical factors for sustainable e-waste management have been identified from both suppliers and consumers, with a combination of judgement and convenient sampling. The model has been proposed through qualitative analysis taking into account the strengths, weaknesses, opportunities, and threats of the informal scenario of e-waste handling, that is predominant in these nations. The research indicates the economic, social, and environmental benefits of the model, and, thus, offers valuable academic insights necessary to understand the e-waste solutions in the background of developing countries like Bangladesh. It can also assist the public and private organizations to realize the critical factors and their roles required to create a sustainable e-waste management framework.

**Keywords:** e-waste, EOL electronics, sustainability, people, environment, informal sectors, Bangladesh

**Paper Type:** Research Paper

## 1. INTRODUCTION

The volume of electronic waste or e-waste is increasing at 3 to 5 percent per year, approximately 3 times faster than other individual waste streams in the solid waste sector (Schwarzer et al., 2005). Around 20–50 million tons of e-waste is generated globally in a year (Dat et al., 2012). Proper disposition and recycling of e-waste has become a major concern for governments and organizations across the globe in recent years.

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When developed countries incorporate ‘closed-loop’ economies and extended producer responsibility, many developing nations, on the contrary, lack the necessary infrastructure, along with the financial and institutional resources for sustainable e-waste management (Schluep et al., 2013). Although proper handling of e-waste in less-developed countries has received significant academic attention, the existing studies mostly investigate the health, socio-economic, and environmental issues (for example, Frazzoli et al., 2010; Herat, 2008; Li, Duan, & Shi, 2011; Li et al., 2011; Muenhor et al., 2010; Xing et al., 2009, etc.), and discuss solutions from a policy implications perspective (Ansari et al., 2010; Garlapati, 2016; Herat & Pariatamby, 2012, etc.). Considering the gap in research scope, the objective of this empirical study is to design a sustainable e-waste management model for emerging economies and developing countries, with special focus on Bangladesh, a developing nation; in South Asia.

Today Bangladesh is a common destinations for e-waste along with India, Sri Lanka, Pakistan, Malaysia, Vietnam, Nigeria, etc. (Herat & Pariatamby, 2012). Besides, the quantity of a couple of most common consumer electronic products, namely television and cell phone, gives an approximate idea about the enormous e-waste generated in the country. The number of active cell phone subscribers is 154.179 million in August, 2018 (BTRC, 2018). Next, 18.68 million household have access to television, which is 58.91 percent of the total household (BBS, 2017).

Driven by the fast urbanization, improvement in income per capita, and an increasing interest in consumer electronics items (Chowdhury et al., 2014; Balabanič, Rupnik, & Klemenčič, 2011), the volume of e-waste is growing every year. The economy does not have the data on actual volume of e-waste and lacks a take back or collection system. Although the government has launched 3R strategy, it is focused more on solid waste management (Chowdhury et al., 2014; Yousuf & Reza, 2013), whereas the Electrical and Electronic Waste (Management and Handling) Rules, 2011, are yet to be enacted in a full-fledged manner. Furthermore, as the economic features and social structure in developing countries, specifically in Asia and Africa, are different from that of the developed world, both technologies to adapt and infrastructure to develop must conform to the local conditions (Herat & Pariatamby, 2012).

In this backdrop, the study aims to propose a model, that integrates economic, social and environmental benefits, for sustainable e-waste management in emerging economies and developing countries. In doing so the research offers valuable academic insights necessary to understand the suitable e-waste solutions in these nations; especially, with a model that integrates the strengths, weaknesses, opportunities, and threats of the informal e-waste scenario, predominant in these nations.

It can also assist the public and private organizations to understand the critical factors and their roles required to create a sustainable e-waste management framework. The rest of the paper is organized as follows. Section two and three discusses the existing literature and research methodology, respectively. Section four presents the discussion of the study along with findings and analyses.

Then, section five summarizes the academic and managerial implications. Lastly, section six concludes the study with the limitations and directions for future research.

## **2. LITERATURE REVIEW**

E-waste refers to End-of-Life (EOL) electronic and electrical products, televisions, monitors, computers, printers, chips, motherboards, audio and stereo equipment, telephones, cell phones, wireless devices, video cameras, fax machines, photocopy machines, etc., which include most small and large appliances used by modern households and organizations (Garlapati, 2016; Herat & Pariatamby, 2012). E-waste contains a broad variety of toxic substances, such as heavy metals and persistent organic pollutants (Frazzoli et al., 2010), and, so, is considered as hazardous waste under the Basel Convention. Some of these substances have been phased out by law, but are present in older equipment; while some are still used in manufacturing, for instance, mercury is used in many latest electronic devices (Schluep et al., 2013). Therefore, e-waste management is concerned with handling the EOL electronic and electrical appliances in order to minimize the volume of e-waste, provide occupational safety to the workers, and utilize cost-efficient, socially-responsible, and eco-friendly techniques (Garlapati, 2016; Schluep et al., 2013; Yousuf & Reza, 2013).

The existing literature on e-waste can be divided into two major streams. The first category of research investigates the socio-economic problems and environmental threats from e-waste (e.g., Herat, 2008; Li et al., 2011; Li, Duan, & Shi, 2011; Frazzoli et al., 2010; Muenhor et al., 2010; Tue et al., 2010; Wang et al., 2009; Wu et al., 2009, etc.).

The second category specifies the challenges for e-waste management and proposes solutions mostly from a policy implications perspective (e.g., Garlapati, 2016; Schluep et al., 2013; Herat & Pariatamby, 2012; Khan et al., 2014, etc.). When e-waste is improperly managed, which is prevalent in developing countries and countries in transition, human health and the eco-system are at severe risks (Schluep et al., 2013). In addition to causing the direct and local exposure (Ma et al., 2008), e-waste influences the environment-to-food chains contamination and, thus, affects the general population and their future generations (Frazzoli et al., 2010).

Figure 1 shows how the lethal materials from e-waste spread by deposition to ground, irrigation, uptake by aquatic organisms, etc. and affect humans through inhalation, contact with soil and dust, and oral intake of contaminated food and drinking water, etc.

The health consequences are illnesses related to thyroid, reproduction, lungs, cell functioning, and so on (Balabanič, Rupnik, & Klemenčič, 2011; Garlapati, 2016; Tue et al., 2010; Wang et al., 2009; Wu et al., 2009; Xing et al., 2009). The risks are more critical for emerging economies and developing countries, since the informal sectors are involved in e-waste recovery and recycle chain, and use crude and perilous techniques, particularly for disposition and recycling (Garlapati, 2016; Herat & Pariatamby, 2012; Schluiep et al., 2013; Yousuf & Reza, 2013).

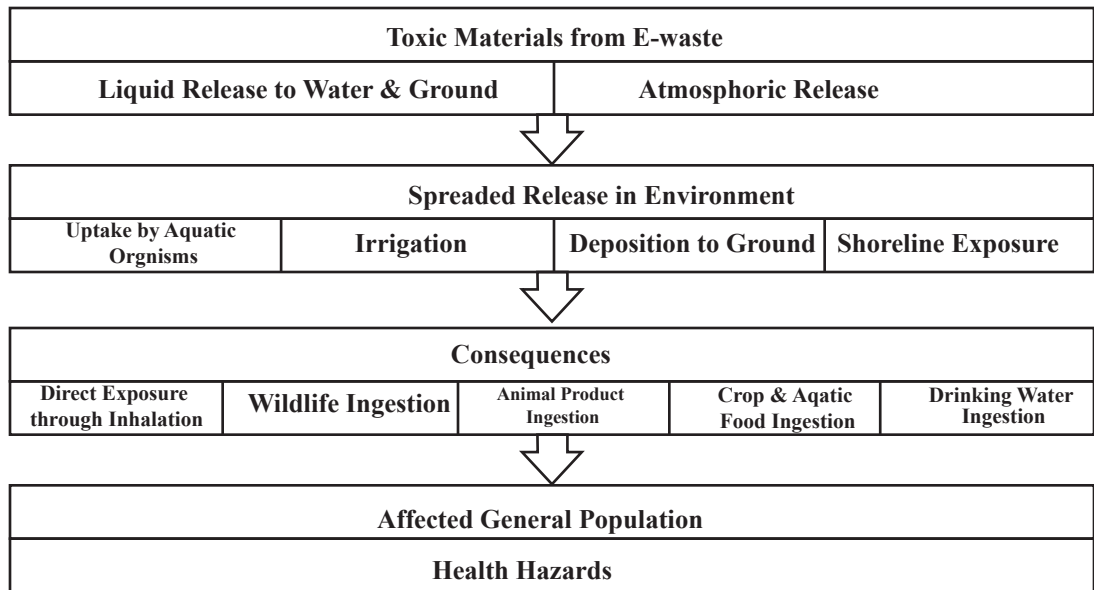


Figure 1: Dangerous Impacts of E-waste Source: Frazzoli et al., 2010

While there are significant differences between the informal and formal scenarios of e-waste recycling, each has its strengths, weaknesses, opportunities and threats (as shown in Table 1). So, the best solution for these nations can only be derived by combining strengths and opportunities of both systems, for instance, high collection efficiency of the informal scenario with state-of-the-art processing facilities of a formal system. Recently, an alternative business model has been implemented in Bangalore, India, by transferring informal wet chemical processes to advanced recycling technologies, and targeted to combine ‘the best of both worlds’ (Wang et al., 2012).

Through financial incentives and training to the informal sectors for collection and recovery, together with a formal intermediary for buying and selling activities, the model proves that ‘the efficient and sustainable recovery of secondary resources from e-waste is a market opportunity for developing countries’ (Schluep et al., 2013). Moreover, environmentally sound and socially responsible e-waste management requires the establishment of collection centers, transportation, treatment, storage, recovery and disposal, at national and/or regional levels (Garlapati, 2016).

Scholars have also identified that, there are both challenges and opportunities for developing economies in e-waste management (e.g. Garlapati, 2016; Herat & Pariatamby, 2012; Lepawsky & Billah, 2011; Schluep et al., 2013, Wang et al., 2012). The major challenges for the policy-makers in these countries are, arranging funds and investment to develop formal recycling infrastructure, informing public agencies, organizations, and common people about the hazardous nature of e-waste, creating proper infrastructure for collection/take-back and recycling, and developing rules and regulations to deal with the issue (Osibanjo & Nnorom, 2007).

They also need to achieve efficiencies in the informal sectors, by realizing the environmental and social aspects of these sectors (Wang et al., 2012).

**Table 1: SWOT Analysis of E-waste Recycling Chain in Formal vs. Informal Scenarios**

	<b>Formal scenario</b>	<b>Informal scenario</b>
<b>Strengths</b>	Access to state-of-the-art end-processing facilities with high metal recovery efficiency	High collection efficiency; efficient deep manual dismantling and sorting; and low labor costs give advantage to manual techniques over mechanical technologies in the pre-processing steps
<b>Weaknesses</b>	Low efficiency in collection; often low efficiency in (mechanized) pre-processing steps	Medium efficiency in dismantling and sorting; low efficiency in end-processing steps coupled with adverse impacts on humans and the environment
<b>Opportunities</b>	Improvement of collection efficiency; technology improvement in pre-processing steps	Improvement of efficiency in the pre-processing steps through skills development for dismantling and sorting; implementation of alternative business models; providing an interface between informal and formal sector
<b>Threats</b>	‘Informal’ activities in the collection systems	Bad business practice (bribery, ‘cherry picking’ of valuables only, illegal dumping of non-valuables, etc.); lack of government support (no acceptance of informal sector, administrative hurdles for receiving export licenses, etc.)

**Source: Schluep et al., 2013**

In addition, there are research based on the e-waste scenario in Bangladesh (Ansari et al., 2010; Shumon, Arif-Uz-Zaman, & Rahman, 2011; Lepawsky & Billah, 2011; Sultana, Shirin, & Zahan, 2018). Nevertheless, most of these studies take a policy implications perspective. They also concur in findings that, while economic value addition and social benefits from current e-waste chain are significant, its harmful effects on people and environment are largely neglected. Although the rubbish electronics recovery and recycling chain is a significant source of metals, plastic, and glass for domestic production, and the informal sectors are estimated to employ 200,000 people directly in Bangladesh, the risks of poor working condition, workers' health, and environmental damage cannot be neglected (Lepawsky & Billah, 2011). Most of the e-waste in the country is dumped in open landfills and water bodies (Herat & Pariatamy 2012). Only 15 percent of the total waste (mostly inorganic) generated in Dhaka, the capital of Bangladesh, are estimated to be recycled (Ahmed, 2011).

### **3. RESEARCH METHODOLOGY**

The research is based on primary data collected from surveys and interviews. The primary data has been comprehended with secondary data collected from webpages and statistical records. The broad research question has three parts: what factors are critical for creating a sustainable e-waste management framework, what is an appropriate e-waste model for developing countries and emerging economies, and what benefits these nations can acquire from the proposed model?

#### **3.1 Study Design**

Qualitative methodology is the broadest sense to research that produces descriptive data with the aim to develop concepts, insights and understanding, instead of analyzing data to assess pre-conceived model, hypothesis or theory (Taylor, Bogdan, & DeVault, 2015). Considering the empirical nature of the study, the authors incorporated a flexible research question and qualitative approach. Furthermore, descriptive research is more suitable for the study, because it intends to develop an e-waste management model for developing economies, an area relatively under-researched, whereas the data collection methods include various fact-finding methods like surveys (Kothari, 2007).

### 3.2 Selection of Samples and Critical Factors

The research focuses on consumers electronics (mainly TVs and cell phones) and includes two important entities from the consumer electronics industry of Bangladesh, namely the large organizations, first, the suppliers, the sellers of own brands and distributors/dealers of international brands, and, secondly, the consumers. The geographic scope of the study was Dhaka, where the most e-waste is generated, and which is the center of present rubbish electronics chain. For the organization survey,

150 experienced employees from 7 leading organizations in the Bangladeshi consumer electronics industry were selected through personal contacts to ensure participants were both accessible and cooperative (Bell & Bryman, 2007), and to enable frank and open discussions (Anisul Huq, Stevenson, & Zorzini, 2014). Another set of 150 employees from 65 firms, related to electrical and electronics industry, was selected in the same manner to check whether any biasness exists in the suppliers' perspective. The survey was followed by phone interviews with 25 experienced key people engaged in major supply chain activities in the selected organizations.

For the consumer survey, 250 educated, financially-solvent, and knowledgeable urban consumers from separate households were selected through personal contacts to ensure the respondents are able to evaluate the critical factors according to their importance. So, the samples were selected through a combination of judgement and convenient sampling. From literature review, the critical factors for e-waste management were selected, while a few have been identified later as primary data collection continued.

### 3.3 Primary Data Collection

Primary data was collected between March and August, 2017. The surveys were administered by phone and email with semi-structured questionnaires. The phone interviews were conducted with a checklist. The organizations survey aimed at identifying the significant factors from the suppliers' point of view. The factors were categorized into positive, which will serve as opportunities for sustainable e-waste management, and negative, which are likely to serve as threats. The second survey focused on evaluating similar factors from the consumers' point of view. However, to keep the survey convenient for the respondents, a smaller list of factors, irrespective of their nature, was used. Interviews were conducted at the end of data collection to fine-tune the survey findings.

Factors	Mean
A mandatory take-back/collection system (Garlapati, 2016)	4.168
Convenient collection locations (Identified from primary data)	4.116
Government initiatives to create a legal framework (Osman & point of, 2007)	4.105
Proper EOL strategies from the manufacturers (Sultana, Shirin, & Zahan, 2018)	4.021
Role of formal and informal institutes to create awareness (Garlapati, 2016)	4.042
Improve efficiency of current e-waste handling chain (Herat & Pariatamby, 2012)	3.984

Source: Study Result; Consumer Survey

### **3.4 Data Analysis Methods**

The respondents were asked to rate each factor in a Likert Scale, which ranged from 5 to 1 (5=Strongly Agree; 4=Agree; 3=Not Sure; 2=Disagree, and 1=Strongly Disagree). The summary of collected data has been presented with simple quantitative technique like the numerical mean. The proposed model has been developed through profound qualitative analysis.

## **4. DISCUSSION**

The first sub-section identifies the critical factors for sustainable e-waste management and the second proposes an appropriate e-waste model for emerging economies and developing countries. Finally, the discussion ends with the importance of government participation, as well as the economic, social and environmental benefits of the model.

### **4.1 Findings from Surveys and Interviews**

Majority of the respondents (72 percent out of 500) agreed that, they know about the negative impacts of e-waste, but are unaware of the sustainable solutions. The consumers have identified the significant factors for implementing proper e-waste management are: developing a mandatory take-back/collection system, specifically, creating convenient collection locations for consumers, government initiatives to create a legal framework, proper EOL strategies from the manufactures, which require suppliers' participation, the role of formal and informal institutes in creating consumer awareness, and improvement of existing informal e-waste recovery and recycling chain to increase efficiency (as shown in Table 2).



In addition, the suppliers selected the significant negative factors as, inadequate legal framework to ensure proper e-waste management, lack of e-waste data and statistics, little awareness about dangerous impacts e-waste among public agencies, organizations, and common people, absence of EOL strategies from the global manufacturers, insufficient resources, specifically financial, technical, and human, to implement a sustainable e-waste framework, and lack of infrastructure for collection/take back and recycling. On the other hand, the factors identified as opportunities are, predicted profitability of organizations involved in sustainable e-waste management, formal pressure for compliance with rules on regulations on environment, as well as workers' health and safety, growing consumer interest for 'green' products and technology, the possibility of transferring skills and resources from the informal sectors into a formal e-waste system, and growing informal pressure to design strategies for corporate social responsibility (as shown in Table 3).

From the surveys, a few issues had been identified for detailed discussion in the interviews. First, currently there are no EOL policies for Bangladesh from the global manufactures. If the manufacturers design EOL guidelines for the country, the possibility of non-compliance by the local suppliers without a proper monitoring system exist. Therefore, the suppliers insisted more on a legal framework and formal monitoring system to ensure all the market players are similarly involved in the e-waste management framework. Then, the distributors/dealers lack adequate financial and human resources to participate in e-waste management. If any organization collaborates with the manufacturers to implement EOL strategy, its costs and product prices may rise. They are concerned that, their profitability might decrease because of the price sensitivity of Bangladeshi consumers, and fierce rivalry among competitors, who have not adopted such a strategy. Again, it implies the necessity of equal participation by all suppliers.



**Table 3: Critical Factors for E-waste Management, from Supplier Perspective**

<b>Factors as Threats</b>	<b>Mean</b>
Inadequate rules and regulations (Herat & Pariatamby, 2012; Osibanjo & Nnorom, 2007)	<b>4.320</b>
Lack of e-waste data and statistics (Herat & Pariatamby, 2012; Lepawsky & Billah, 2011)	<b>4.256</b>
Little awareness about the negative impacts (Osibanjo & Nnorom, 2007; Sultana, Shirin, & Zahan, 2018)	<b>4.240</b>
Lack of EOL strategies from the manufacturers (Sultana, Shirin, & Zahan, 2018)	<b>4.176</b>
Shortage of skilled workers, technology, and financial resources (Garlapati, 2016; Herat & Pariatamby, 2012; Schluep et al. 2013; Sultana, Shirin, & Zahan, 2018)	<b>3.928</b>
Inadequate infrastructure for collection/take back and recycling (Garlapati, 2016; Osibanjo & Nnorom, 2007)	<b>3.888</b>
<b>Factors as Threats</b>	<b>Mean</b>
Predicted higher profitability of organizations (Lepawsky & Billah, 2011; Schluep et al. 2013)	<b>4.488</b>
Formal pressure for compliance with regulations (Identified from primary data)	<b>4.464</b>
Growing consumer interest for green products and technology (Khan et al., 2014)	<b>4.368</b>
Transfer of the existing skills and resources to a formal system (Schluep et al. 2013)	<b>4.224</b>
Informal pressure for corporate social responsibility (Identified from primary data)	<b>4.221</b>

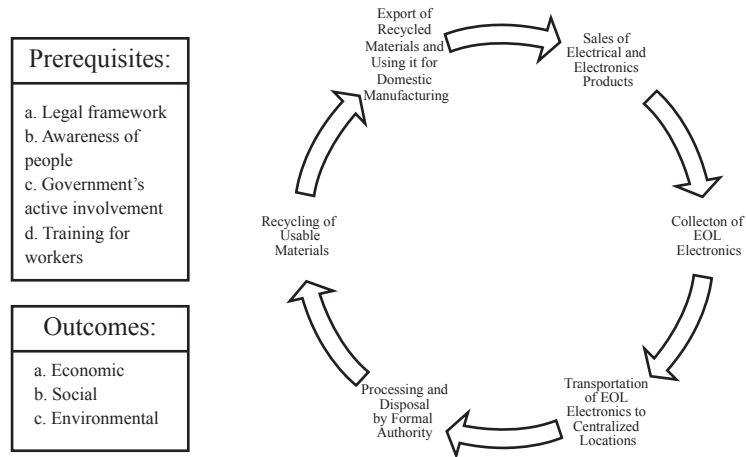
**Source: Study Result; Organization Survey**

More importantly, instead of transferring a successful model from technologically-advanced and financially-solvent countries, a different model is necessary for developing countries like Bangladesh, taking into account its labor-intensiveness and informal sectors in e-waste handling. The experts also suggested that, consumer awareness is very important for any sustainability planning because both the manufacturers and suppliers will emphasize more on ‘green’ products and technology, when there is significant demand for such products in the market.

#### **4.2 The Sustainable E-waste Management Model**

The proposed e-waste model consists of six major steps, collection of EOL electronics; transportation of collected items to centralized locations; processing and disposal of e-waste; recycling of useable materials; export of recycled materials and using the same for domestic manufacturing; and sales of electrical and electronic appliances to close the loop. Developed based on the general e-waste framework in developed nations, the model includes necessary changes for developing countries and emerging economies (as shown in Figure 2).

Collection Centers for EOL Electronics: The collection points of EOL electronics should be at convenient locations to reduce the consumer difficulty related to transport costs and hassles. Therefore, creating collection centers in the education institutes and work places is a feasible solution. The collection centers will store, keep regular record of the incoming materials (quantity and weight), and, then, transfer the records to the government. The efforts of the centers can be rewarded with non-monetary incentives, such as study materials to the education institutes and office supplies to the organizations, for free and at reduced prices.



**Figure 2: The Sustainable E-waste Management Model for Emerging Economies**

Transport Facilities to and from Centralized Locations: A selected network for transporters will be assigned for carrying EOL electronics to a centralized location and from the location to disposal facilities. A specific network is necessary to exercise strict monitoring so the collected items are not sold illegally during transport.

Processing EOL Electronics by a Public Private Partnership (PPP): A PPP is vital between the public agencies and domestic/foreign organizations to perform the processing and disposal functions. Furthermore, the government needs to create a central database for e-waste by recording imported quantity of electronic products, surveying e-waste inventory among the households and businesses, and combining records from the collection centers.

To ensure a uniform performance of the overall e-waste chain, centralized locations will be established in each significant area, especially at the metropolitan cities. These locations must be chosen carefully so that transport from and to becomes cost-effective and fast. The PPP can employ the skilled workers from the informal rubbish electronics industry. However, training and development of workers is essential, so the existing workers are able to meet their new job requirements, and additional workers are created to meet the industry growth.

The workers will inspect and sort the incoming items for further processing:

- a) The defective electronic devices will be repaired and sold as refurbished products;
- b) The non-repairable devices will be dismantled to separate usable components and parts;
- c) The usable component-parts will be used for remanufacturing;
- d) The usable materials will be separated for recycling; and
- e) The unusable items will be disposed in a safer manner by the same PPP organization, or a different institute monitored by the PPP.

Recycling Industry for Usable Materials: The materials suitable for recycling will be transferred to recycling plants by the same transport network or transport provided by the recycling organizations. New firms, both local and foreign, may enter into the industry to invest in advanced recycling. The role of the government is indirect but important to promote the infant recycling industry. Besides, expertise and skills from existing facilities, for example, recycling of industrial batteries in Bangladesh, can be utilized for gradually moving onto state-of-the-art recycling technology.

### **4.3 The Necessity for Government Participation**

The pre-requisites of the model are, training to workers involved in the entire e-waste chain, secondly, creating awareness about e-waste management with sustainability among general population, and finally developing a legal framework to prevent illegal import and handling of e-waste. The important role of the government for these activities has been supported by previous studies (Garlapati, 2016; Herat & Pariatamby, 2012; Schlupe et al., 2013; Yousuf & Reza, 2013). In addition, the current study proposes that, the government of emerging and developing economies should directly participate in the e-waste management framework.

The active intervention of the government is necessary, especially, at the initial period of sustainable e-waste management to cover all geographic areas, acquire adequate funds, and improve the efficiency of the model. Besides, it will be difficult to have access to e-waste inventory of households and organizations and to cover all the geographic areas for collecting EOL electronics with private initiatives only. After the industry flourishes, some or all of the activities may be transferred to the private sectors, whereas a monitoring body of experts should check the performance of the overall e-waste system and recommend improvement strategies. Last of all, the government has the authority to negotiate with the global manufacturers of consumer electronics, so the latter design EOL strategies to confront the e-waste challenges in the destination markets created by their brands. It may need to form alliances with the neighbor nations, so multiple countries are able to take advantage from common e-waste facilities.

#### **4.4 Sustainability Features of the Proposed Model**

First, the model offers financial revenue to the related organizations with higher recovery rate (Schluep et al., 2013) in the backdrop of opportunities for domestic production and export. The earnings are expected to exceed the implementation costs, when the profit margin from dismantling and resale of a typical CRT monitor in Dhaka, Bangladesh is as high as 230 percent (Lepawsky & Billah 2011). Besides, the recycled materials and refurbished electronic products will reduce demand for imports (Herat & Pariatamby, 2012). Secondly, the model suggests social benefits by transferring human resource from the informal e-waste chain into the formal system, so severe job cuts, deteriorated living standard, and consequent social unrest can be circumvented. It will create new jobs and improve existing jobs with safe working condition and, thus, minimizes the negative impacts on workers and population nearby e-waste sites. Regarding environmental benefits, the model targets to collect most EOL electronics, lower residuals after reuse or recycling, and dispose residuals with safer methods, and, so, reduces the negative effects of e-waste on general population and the eco-system.

### **5. ACADEMIC AND MANAGERIAL IMPLICATIONS**

Considering developing countries are expected to produce twice the e-waste generated by developed economies in next five years (Garlapati, 2016), and the recovery and recycling of EOL electronics would become too complex to handle with informal scenarios (Schluep et al., 2013), emerging economies and developing countries must transfer their resources, skills, and infrastructure from informal e-waste handling to formal e-waste management in a sustainable manner in days ahead. The proposed model aims to assist the sustainable e-waste management framework, and, thus, offers valuable academic insights to understand the suitable e-waste solutions in these nations. Secondly, the study will be useful to the public agencies and private organizations in order to realize the critical factors and their roles required for the sustainable e-waste model. With the economic, social, and environmental benefits of the model specified, the study provides motivation to managers for its successful implementation. Last of all, the research also confirms the necessity of e-waste management at national and/or regional level with active government intervention, which can aid the policy makers to develop effective long-term strategies on sustainability.

## **6. CONCLUSION AND DIRECTIONS FOR FUTURE RESEARCH**

The study aims to design an efficient solution for sustainable e-waste management in emerging economies and developing countries, considering the increasing necessity of proper e-waste handling in these nations, and the necessity of a different model that conforms with the local conditions different from developed economies. Besides, the existing literature has not proposed any model or specific framework for sustainable e-waste management in developing countries like Bangladesh. Despite its limitations of qualitative research, the current study has identified the critical factors for e-waste management framework and proposed a model for implementing the same in these nations. Although the scope of the research is Bangladesh, its analysis and recommendations will be useful to similar economies, though a little change might be necessary for local differences in other nations. Moreover, the study has emphasized the economic, social, and environmental outcomes of the model and outlined the theoretical and practical implications of the research. Future scholars could incorporate more consumer electronics items to generalize the findings and consider multiple developing countries to investigate e-waste solutions with a cross-cultural perspective.

### **ENDNOTES:**

- (i) The total volume of manufacturing (15 percent) and assembly (25 percent) is much lower compared to finished-product imports (60 percent) (Sultana, Shirin, & Zahan, 2018).
- (ii) Since the response from the second set of organizations was similar, it has been inferred that the suppliers' viewpoint is valid and reliable.

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# **FACTORS INFLUENCING EMPLOYEES ON JOB INVOLVEMENT: EFFECTS OF EXPECTANCY THEORY ON PRIVATE BANKING BANGLADESH**

*Farhana Afroz<sup>1</sup>*

## **ABSTRACT**

The studies of expectancy theory have been established as major conceptual framework for explaining work related behavior. The present research study has a certain aim to identify whether factors of expectancy theory do motivate employee for delivering high involvement at workplace. This study is a casual research in nature. Using nine components, the present study extracted three fundamental factors by using factor analysis method. This report found that are most important factors to be considered valance, instrumentality and expectancy in this order .For data collection, a questionnaire survey of 100 executives of private bank of Dhaka district was carried out. This research could help researchers and practitioners in terms of framing the concept of job involvement not only for banking industry as well as for other industries in Bangladesh.

**Keywords :** Job Involvement, Expectancy, Instrumentality and Valence

## **1. INTRODUCTION**

Expectancy theory has evolved in the recent years as a basic pattern for the study of human attitudes and behavior in work and organizational settings (Lawler and Suttle,1973).The aspects related to employee's job performance or involvement have been a concern of all times, but especially of the current society, irrespective the field of activity (Suciu, 2013). Performance is defined as the productivity and accomplishments of a worker, which are acknowledged by the organization or system in which he works(Robbins ,2003).Job involvement refers to the active participation of employees in their work and in the decision-making (Lowler, 1992).

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It also indicates the flow of information and power downward in the organization so that employees can work autonomously and regulate their own behaviors (Cummings and Worley, 1993). For the attainment of organizational goals and employer should understand the mechanism why the employee involve himself or herself to work for the utmost level. Expectancy theory is one of the most central motivation theories, and substantial evidence supports the view that expectancy theory can predict effort and performance (Van Eerde and Thierry, 1996; Mitchell, 1974). Expectancy theory is a decision theory of human motivation and choice in the work situation.

It has been suggested that the theory can provide the basis to prescribe, describe and predict a wide variety of work related variables (House et al, 1974). It is clear that the variables embodied in the theory are all capable, under certain conditions, of predicting satisfaction, effort, and performance, though the link between outcome expectancies and performance has received less consideration in the banking industry (House et al, 1974). With the help of this study, author wanted to mitigate this gap by applying widely accepted Expectancy theory and with an in-depth observation of the effect of the components of Expectancy theory on job involvement and also to identify among the three factors of Expectancy theory, which one affects the employees mostly in the banking industry.

## **2. LITERATURE REVIEW**

Vroom's (1964) expectancy theory was developed to predict individuals' levels of motivation. Expectancy theory predicts that individuals will be motivated to put forth effort if they believe that their effort will result in good performance (expectancy); that this performance will lead to secondary outcomes, such as rewards, recognition, or satisfaction (instrumentality); and if they assign a high positive valence to the secondary outcomes. Vroom's Expectancy theory tries to explain the motivated behavior which is goal oriented. He argued that people tend to act in a self-indulgent way which implies preferring the actions that will bring the highest subjective value (Vroom, 1964).

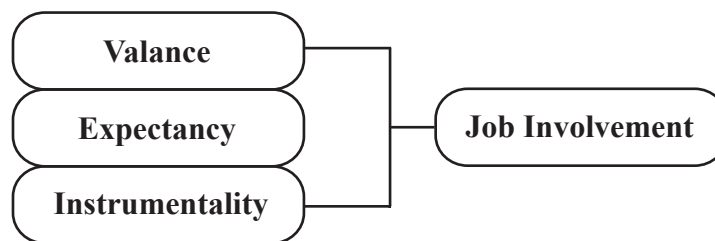
Essentially, the Expectancy theory argues that the strength of a tendency to act in a certain way depends on the strength of an expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual (Robbins, 1993). As a consequence, behavior could be oriented towards anticipated and individualized goals. Vroom's theory states that the 'choices made by a person among alternative courses of action are lawfully related to psychological events occurring contemporaneously with the behavior (Vroom, 1964).

So, people choose among alternatives in a conscious manner and the choices are systematically related to psychological processes, particularly perception and the formation of beliefs and attitudes (Pinder, 1984). On that note, it can be said that organization should work on those issues which actually force the employees to act in manner to ensure high job involvement. The banking industry now is in growth stage and its contributing a lot in our nation's development.

Expectancy theory is often criticized for being too idealistic. Although, it helps in identifying self-interested individuals in an organization who are willing to perform at their best. These employees can achieve maximum job satisfaction or job involvement if the right motivator is provided to them. Thus, the theory helps in interpreting individual psychologies. This in turn helps in recognizing the individual motivators that influence people to make choices based on their specific expectations (Kanfer 1990; Ramlall 2004). In this particular study has the following aim- To identify whether each Expectancy theory factor does influence employees equally for job involvement.

### Conceptual Framework

Based on the literature review, the following figure 1 has been developed to show the framework of the research. Earlier, it has been explained and proven job involvement is one of the components of job attitude and for ensuring the job performance or high job involvement. The following Expectancy factors can be played an integral part of the performance of an employee. However, which might not be true for everybody since job attitude depends on two factors such job involvement and job satisfaction.



**Figure1: Conceptual Framework of this Research (Author's projection)**

## **Valance**

It indicates the value an individual places on the rewards of an outcome, which is based on their needs, goals, values and sources of motivation. Influential factors include one's values, needs, goals, preferences and sources that strengthen their motivation for a particular outcome. Valence is characterized by the extent to which a person values a given outcome or reward. This is not an actual level of satisfaction rather the expected satisfaction of a particular outcome (Montanaet.al, 2008)

## **Expectancy**

Expectancy is the belief that one's effort (E) will result in attainment of desired performance (P) goals. Usually based on an individual's past experience, self-confidence (self-efficacy), and the perceived difficulty of the performance standard or goal (Chiang, et.al.2008). Following measures can be considered to describe expectancy:

- Self-efficacy – the person's belief about their ability to successfully perform a particular behavior. The individual will assess whether they have the required skills or knowledge desired to achieve their goals.
- Goal difficulty – when goals are set too high or performance expectations that are made too difficult. This will most likely lead to low expectancy. This occurs when the individual believes that their desired results are unattainable.
- Perceived control – Individuals must believe that they have some degree of control over the expected outcome. When individuals perceive that the outcome is beyond their ability to influence, expectancy, and thus motivation, is low.

## **Instrumentality**

Instrumentality is the belief that a person will receive a reward if the performance expectation is met. This reward may present itself in the form of a pay increase, promotion, recognition or sense of accomplishment. Instrumentality is low when the reward is the same for all performances given. Factors associated with the individual's instrumentality for outcomes are trust, control and policies:

- Trusting the people who will decide who gets what outcome, based on the performance,
- Control of how the decision is made, of who gets what outcome,
- Policies understanding of the correlation between performance and outcomes

### **3. METHODOLOGY**

A questionnaire served as a data-gathering instrument .The cover page of the questionnaire described the purpose of this study. The study is an explorative research to find out the Expectancy factors which are influencing to employees for the job involvement or not .A convenience sample of 100 respondents was drawn from various private banks of Dhaka district. Data for the study is collected by administering a structured questionnaire .The items in the questionnaire are adopted from the literature.

The questionnaire consists of two parts .The first part of consists of demographic and personal information of the respondents and the second part consists of a series of statements where the respondents needed to provide answers in the form of agreement or disagreement to express their attitude towards the effect expectancy theory on high performance construct on a 5-point Likert scale (Strongly Agree -5, Agree-4, Neutral -3, Disagree-2 and Strongly Disagree-1).

For conducting the factor analysis, we have done a pilot test to identify the exact items from the questionnaire. Since the concept of Expectancy theory needs a certain level of knowledge to understand, for that reason as a respondent we surveyed service holders like the bankers in the private sector. We have assigned two undergraduate students for distributing the questionnaire and their main task was to communicate with the respondent that they completely understand the concept. Initially the questionnaire was consisted of fifteen items but later on it was nine items. Most subjects spent between 7 to 10 minutes filling out the entire questionnaire.

## 4. DATA ANALYSIS AND FINDINGS:

### 4.1 Descriptive Statistic

Table 1  
Summary of Respondent

Dimension	Description	Frequency
Gender	Male	80
	Female	20
Age	25-30	19
	31-35	44
	36-40	25
	40 and Above	12
Working Tenure	0-2	19
	3-4	39
	5-6	28
	7 and more	14

Table 1 has explained the demographic profiles of the respondents. Most of the respondents were male and age belongs to 31-35 and maximum respondents are working for 3 to 6 years respectively

### 4.2 Factor Analysis

•Construct Validity

TABLE 2  
Depicts the Result as Moderately Significant Following Kmo & Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.654
Bartlett's Test of Sphericity	Approx. Chi-Square	421.851
	df	36
	Sig.	.000



A large value (.654) and (Bartlett’s Test of Sphericity .000) indicates that data collected for factor analysis is mediocre adequate as revealed by the table 2 (Hutcheson and Sofroniou, 1999).A principal component factor analysis with Varimax Rotation was carried out for items or dimensions indicating factors that influence employees for high performance .

An assessment of Eigen value (table 4) has led to the retention of three factors. These factors have accounted for 40.837%, 21.193% and 11.715% respectively .This means that the total variance accounted by all the three factors is 73.746%(table 4)The rotated factor grid has appeared in the (table 3).This shows that variables under study have consisted of three factors which indicates the Expectancy theory.

**TABLE 3**  
Factors Loadings of Correlation Coefficient Based on Varimax Rotation of Factors Influencing Employees for Job Involvement in Private Banks

Rotated Component Matrix			
Variables	Factors		
	1	2	3
X <sub>1,1</sub>	.893		
X <sub>1,2</sub>	.870		
X <sub>1,3</sub>	.678		
X <sub>2,1</sub>		.882	
X <sub>2,2</sub>		.828	
X <sub>2,3</sub>		.588	
X <sub>3,1</sub>			.854
X <sub>3,2</sub>			.794
X <sub>3,3</sub>			.672
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

Where, for  $X_{i,j}$ , I identifies factor and j identifies items under ith factor . Accordingly, these 9 items are classified in three main components or factors as:

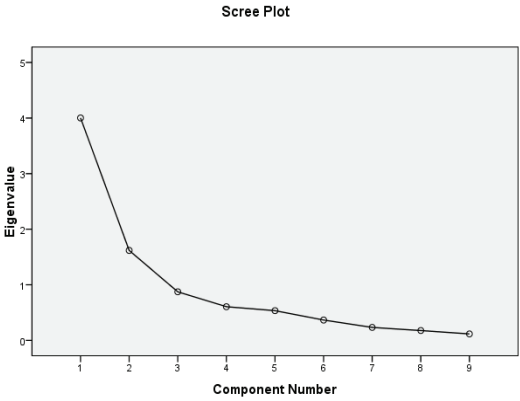
Factor -1 (comprising 3 items) is labeled as “Valance”

Factor -2 (comprising 3 items) is labeled as Instrumentality”

Factor -3 (comprising 3 items) is labeled as “Expectancy”

**TABLE 4**  
Total Variance Explained

Total components	Initial Eigen Values			Rotated Sum of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.675	40.837	40.837	2.320	25.778	25.778
2	1.907	21.193	62.031	2.300	25.558	51.336
3	1.054	11.715	73.746	2.017	22.410	73.746
4	.630	6.999	80.744			
5	.610	6.773	87.517			
6	.437	4.852	92.369			
7	.353	3.920	96.289			
8	.194	2.151	98.440			
9	.140	1.560	100.000			



**Extraction Method: Principal Component Analysis**

a. When analysis a covariance matrix ,the initial eigenvalues are the same across the raw and rescaled solution

### **4.3 Analysis:**

#### **Factor -1: Valance**

Factor -1 explains 40.837 % of the total variations presented in the variable set. This factor has the most significant loading on these variables that have formed the most significant group. Valance is importance because the individual places the highest preference on the outcome. It is the most influential variable and employees focus on the desired outcomes mostly before engaging themselves for ensuring high job involvement at workplace.

#### **Factor -2: Instrumentality**

Factor -2 explains 21.193% of the total variance presented in the variable set. This factor has significant factor loading ranging from moderates to high on these variables, which formed the second important group. Instrumentality is the belief good performance will lead to a valued outcome.

#### **Factor -3: Expectancy**

Factor -3 explains 11.715 % of the total variations presented in the variable set. This factor also indicates significant factor loading on these variables that have formed another important group Here employees consider increased effort will lead to increased performance, here employee's confidence, believe of the accomplishment on work are very crucial factors to make themselves align with work deeply. Here this factor is least preferred variable to employees for evolving themselves at workplace.

## **5. DISCUSSION**

Valence, instrumentality, and expectancy—were included in relation to 5 types of criterion variables: performance, effort, intention, preference, and choice (Van, et.al, 1996). Though Expectancy attitudes were found to be significantly related to some measures of effort and performance. Expectancy theory holds that people are motivated to behave in ways that produce desired combinations of expected outcomes (Kreitner, R. and Kinicki,1998).The absence of any factor from the formula will lead to a lack of motivation (that is why in the above formula there is a multiplication and not an addition sign). So, if any of the model's factors is null, motivation will also be null.

To make the employee involve in an utmost way, the organization has to ensure all the expectancy factors in the work place. In this study, it also proved that but among the three factors, valance has given the most significance and preferred factor by the respondent. So it can be said before job involvement, employees consider the outcome of their hard work at workplace. According to Montana et al. (2008) Expectancy theory emphasizes the needs for organizations to relate rewards directly to performance and to ensure that the rewards provided are those rewards deserved and wanted by the recipients. In another, it can be entitled reward mechanism is one the powerful driver to attract and retain employees and for ensuring organization ultimate success. Instrumentality is the belief that a person will receive a reward if the performance expectation is met.

This reward may present itself in the form of a pay increase, promotion, recognition or sense of accomplishment. Instrumentality is low when the reward is the same for all performances given. In the organization, they should introduce such mechanism where individual will be treating differently from each other. Victor Vroom's expectancy theory is one such management theory focused on motivation. According to Holdford and Lovelace-Elmore (2001, p. 8), Vroom asserts, "Intensity of work effort depends on the perception that an individual's effort will result in a desired outcome". In order to enhance the performance-outcome tie, managers should use systems that tie rewards very closely to performance.

In order to improve the effort-performance tie, managers should engage in training to improve their capabilities and improve their belief that added effort will in fact lead to better performance (Montana, et al., 2008). For the higher benefit , organization should be considered self-interest in the alignment of rewards with employee's wants and also make connection among expected behaviors, rewards and organizational goals for win –win situation .Although expectancy model has a lot of criticism and many authors have entitled this theory as being too simplistic in nature and need to revise.To identify the job involvement of an employee other factors should be taken into account such as Big Five Personality Dimensions (Barrick and Mount,1981),Organization Commitment(Judge, 2001), Work/life Balance Policies (Anderson, 2002) and so on.

## **6. CONCLUSION**

Expectancy theory has evolved in recent years as a basic paradigm. Industrial and organizational psychologists have built upon the original Vroom model to describe and predict a wide variety (Robbins, 1993). According to Robbins and Judge (2013), expectancy theory is more suitable than other theories like goal-setting theory in organizations which have proper infrastructure. In this particular study, we have seen that reward is very important construct among these factors. Here it needs mentioning that expectancy theory also suggests that different people want different things from their organization. Organizations are able to identify actual performance of their employees using this theory. So, this theory helps them in retaining employees who can add value to their firm by recognizing their respective intrinsic and extrinsic motivators (Ramlall 2004; Samuel and Chipunza 2009).

Effort measure ensures this theory works towards interpreting the specific behavior that the employees exhibit based on their individual expectancy calculations, considering this outcome organization can map out what kind of remedy organization should provide its employees. The process of rewarding for desired performance outcome is instrumentality if there is any kind of discrimination or any unethical practice exists, it will negatively effect in the positive involvement of employee. With the help of this particular study author wanted to find out the effect of expectancy theory. Today's world employee's expectation has been changed a lot and the way organization changes the standard of high performer.

To ensure the high performance, organization can not only stand on Expectancy theory's factors rather need to work on others work motivational factors to make productive employee. Hence, managers often need to incorporate additional performance measurement theories along with expectancy theory in order to measure and monitor individual performances (Parijat and Bagga 2014).

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# CORPORATE GOVERNANCE AND FINANCING DECISIONS OF SRI LANKAN LISTED FIRMS

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## ABSTRACT

The purpose of this paper is to evaluate the association between corporate governance and financing decisions in Sri Lanka as an example of emerging market. Data are drawn from a sample of 150 listed firms from the Colombo stock exchange (CSE). Multiple regression analysis is used in the study in estimating the relationship between the corporate governance and financing decisions. Corporate governance was proxied by board size, independent directors, board meeting and CEO duality. Financing decisions was measured by Debt ratio.

The empirical results show statistically significant and positive associations between board size, independent directors, firm size and growth and financing decisions (debt ratio), suggesting that Sri Lankan listed firms pursue high debt policy with a larger board size and higher percentage of independent directors. The results also indicate an insignificant relationship between the board meeting, CEO duality and financing decisions. Accordingly, the results recommend that firms with well-established corporate governance structures are able to gain easier access to debt financing at lower cost since such firms are able to repay their debt on time. The main value of this paper is the analysis of the effect of corporate governance on financing decisions from the Sri Lankan perspective.

**Keywords:** corporate governance, financing decisions, debt capital

## INTRODUCTION

The financing decision is associated with the flow of funds from capital markets to the corporation and how financial managers make choices between the use of debt and equity in financing investment and opportunities. An important financial decision facing firms is the choice between debt and equity capital (Glen & Pinto, 1994).

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The financial decision set by management is very important in determining the optimal capital structure (Berger & Udell, 2006). The capital structure of a firm is a specific mixture of debt and equity the firm uses to finance its operations. Wen, Rwegasira, and Bilderbeek (2002) state that institutions may significantly influence firms' capital structure decision and that agency and monitoring problems, while existing in every country, may create different outcomes. Corporate governance is a framework to build an environment of accountability, trust and transparency.

Corporate governance deals with the agency problem, because of the separation of agents (e.g., managers) and shareholders. Without good corporate governance, a country may experience a crisis. For instance, when many firms become too leveraged and/or have a high level of short-term debt (e.g., due to weak corporate governance practices/systems), a financial crisis may occur (Detthamrong, Chancharat, & Vithessonthi, 2017). Corporate governance is an important tool to reduce conflicts between agents and that may have an influence on a firm's capital structure. Claessens, Djankov, Fan, and Lang (2002) note that better corporate governance frameworks benefit firms through greater access to financing, lower cost of capital, better performance and more favourable treatment of all stakeholders.

Corporate governance has been identified in previous studies to influence firms' financing or capital structure decisions which also affect performance (Berger, Udell, & Yermack, 1997; Friend & Lang, 1988). These empirical studies tended to focus mainly on developed economies. The studies conducted in this area, have been inconclusive (i.e. mixed results). The mixed outcomes of that research suggest that a significant gap exists in understanding the nature, intensity and direction of the relationship between corporate governance and financing decisions. This study expands extant work on the effect of the corporate governance on financing decisions by providing of firms in an emerging nation. As such, the main research question is '...what is the association between corporate governance and financing decisions within Sri Lankan listed firms?' Sri Lanka has recently experienced rapid economic growth after emerging from decades of civil war. While Sri Lanka's recent economic reforms are potentiating the gains from peace, Sri Lanka is still an emerging country with gaps in its development and market regulations.

Moreover, this study would hopefully benefit academics, researchers, policy-makers and practitioners of both countries and other similar countries through exploring the relationship between corporate governance and financing decisions, and pursuing strategies to improve the current status of it. This paper is organised as follows: Section 1.2 presents a review of the empirical studies that investigate the association between corporate governance and financing decisions; Section 1.3 addresses research methods; Section 1.4 reports the results and discussion; and Section 1.5 summarises the conclusion.

## Literature Review and Hypotheses Development

In this section reviews the empirical foundations for the association between corporate governance and financing decisions. This study develop hypotheses regarding the corporate governance (board size, independent directors, board meeting and CEO duality) and financing decisions (debt ratio).

### Board size

The number of directors may influence the board functioning and hence corporate performance (Van den Berghe & Levrau, 2004). Expanding number of directors provides an increased pool of expertise because larger boards are likely to have more knowledge and skills at their disposal. Besides, large boards may be able to draw on a variety of perspectives on corporate strategy and may reduce domination by CEO (Forbes & Milliken, 1999; Goodstein, Gautam, & Boeker, 1994). On the other hand, the board-size effect: increased problems of communication and coordination as group size increases, and decreased ability of the board to control management, thereby leading to agency problems stemming from the separation of management and control (Yermack, 1996). Empirical studies provide mixed outcome on the role of board size on financing decisions. Some studies find larger board size to be associated with higher leverage (Wen, Rwegasira, & Bilderbeek, 2002), whilst leverage is lower when board of directors is larger (Berger, 2017). Based on this discussion, Hypothesis 1 is:

***H1: There is a significant relationship between the size of the board and financing decisions***

### Independent directors

According to the CSE (2013) listing guidelines, independent board members should not relate to a key employee, are independent from management, and have never worked at the firm or its subsidiaries, or for its consultants or major stakeholders. The ASX Corporate Governance board notes that a majority of the board should be independent directors. Similarly, the New York stock exchange (2003) requires all listed firms to have a majority of independent directors on their boards. The UK Combined code of 2004 provides that at least half of the Board members be independent directors.

The Malaysian code on corporate governance (2000) recommends that there needs to be balance on the board of directors with at least a third of the board directors should be independent directors. It is consistency with corporate governance rules as required by section 7.10 of the listing rules of the Colombo Stock Exchange (CSE). In India, the Birla committee (2004) requires the board of directors of a firm to have a mix with not less than half of the being independent. Agency theory suggests that a board comprised of a greater proportion of independent directors, due to their presumed independence, may theoretically lead to better financing decisions (Berger, 2017). The top managers generally face more rigorous monitoring when the board of directors is controlled by independent directors.

The independent directors monitor managers more actively, causing these managers to adopt lower leverage to avoid the performance pressures associated with commitments to disgorge large amounts of cash (Wen et al., 2002). Based on this discussion, Hypothesis 2 is:

***H2: There is a significant relationship between the proportion of independent directors and financing decisions.***

### **Board Meeting**

The boards of directors carry out critical roles, and thus deemed to be an important corporate governance mechanism (Lipton & Lorsch, 1992). The Sri Lankan best practices on corporate governance (2017) in recent times suggest that board meetings should be held at least once in every quarter of financial year. Lipton and Lorsch (1992) suggest that the greater frequency of meetings is likely to result in superior performance. Conversely, Jensen (1993) is that routine tasks engage much of a board's meeting time and thus limit the opportunities for independent directors to exercise meaningful control over management.

Jensen also suggests that boards should be relatively inactive and evidence of higher board activity is likely to symbolise a response to poor performance. The literature advises that there are various aspects of board meetings such as quality, role of the chairman and way the decisions that need to be considered in terms of the impact on firm activities (Van den Berghe & Levrau, 2004). Based on this discussion, Hypothesis 3 is:

***H3: There is a significant relationship between number board meetings and financing decisions.***

## **CEO Duality**

There has been extensive debate in both academic and practitioner forums over the effect of CEO duality on financing decisions. Duality offers the clear direction on a single leader, and a concomitantly faster response to external events (Boyd, 1995). Manager with accurate and timely decisions can minimise the cost of corporate capital and increase the value of the firm through it. The adequate and appropriate investment and financing increase the value of the firm and will result in an increase in shareholder wealth (Emamgholipour, Ramezani, Behzadnia, & Abedi Rekabdarkolaei, 2013).

Prior literature acknowledges that the type of board leadership and role of the CEO can have an influence on financing decisions (Wen et al., 2002). Fosberg (2004) illustrated that there is a negative and significant relationship between CEO duality and the amount of corporate debt. Conversely, Abor (2007) revealed that there is a positive and significant relationship between debt ratio of firm and the CEO duality.

The lack of separation of chairman and CEO duties may lead to reduce the effectiveness of the supervisory role of board and provide the field of the violation of the beneficiaries' rights. An agency perspective the roles of CEO and chair of the board should be separated. The stewardship theory argue that authoritative decision-making under the leadership of a single individual (as both chairman and CEO) leads to higher firm performance (Donaldson & Davis, 1991). Based on this discussion, Hypothesis 4 is:

***H4: There is a significant relationship between CEO duality and financing decisions***

## **Control Variable**

The potential interaction between corporate governance and financing decisions can be influenced by other firm factors including the ownership structure, firm size, profitability and other governance-related indicators such as leverage (Bhagat & Bolton, 2008). As a result, in addition to corporate governance proxies, this study controls for other variables such as firm size, profitability and growth according to the prior research.

## Research Methodology

The population of interest in this study is (initially) the 291 listed firms on the Colombo Stock Exchange (CSE), as at February 2015. In selecting the population, this study excludes financial, investment and securities sector firms because their unique financial attributes, intensity of regulation, and/or intensive use of leverage are likely to confuse and/or foul the outcomes being studied. Also, the risk of missing data was minimised by excluding firms that were not listed the review period. After the eliminations, 150 Sri Lankan listed firms remained in the population. Data on corporate governance and financing decisions were collected from secondary sources which were extracted from annual reports and the database from CSE.

The quantitative data were analysed using SPSS (version 23.0) to produce descriptive statistics and regression analysis. In the empirical analysis, the data for independent variables are collected for 2016, providing for a one-year lag to the 2017 financing decisions data. Thus, 2017-full-year data are used for financing decisions data of Sri Lankan firms. Financing decisions which is the dependent variable is defined as the debt ratio. This is given as total debt divided by total equity plus total debt. In independent variables, board size, proportion of independent directors, board meetings and chief executive officer (CEO) duality are used to measure corporate governance. In control variable, the potential interaction between corporate governance and financing decisions can be influenced by other organisational elements (Lemmon & Lins, 2003).

As a result, in addition to corporate governance proxies, this study controls for other proxies such as firm size, profitability (ROA) and growth.

**Table 1 – Variable Measures**

<b>Variables</b>	<b>Measures</b>	<b>Symbols</b>
<b>Corporate governance</b>		
Board size	Number of directors	BS
Independent directors	Non-Independent directors/total directors	ID
Board meetings	Frequency of annual meetings	BM
CEO duality	Dummy variable equals 1 when CEO doubles as board chair and 0 otherwise.	CEO <i>dual</i>
<b>Financing decisions</b>		
Debt ratio	Total debt/ (total equity + total debt)	DR
<b>Control variables</b>		
Firm size	Size of the firm (log of total assets)	FS
Profitability	Earnings before interest and taxes/ total assets	ROA
Growth	Growth in sales for firm	GROW

## **Results and Discussion**

### **Board Size**

As reported in Table 2, the average is 11.66, with a minimum of two and a maximum of 32. In Sri Lanka, the last code of best practice on corporate governance published by CA Sri Lanka (2017) recommends that every public firm should be headed by an effective board, which should direct, lead and control the company. Although there is no precisely recommended size for a board in Sri Lanka. The Australian code of corporate governance (2014) recommends that a listed firms should have a board of an appropriate size, however, the Spain regulatory requirements seem to suggest five to 15 members (Rodriguez-Fernandez, Fernandez-Alonso, & Rodriguez-Rodriguez, 2014). Lipton and Lorsch (1992) who argued that preferred board size is eight or nine with ten being the limit in order for a board to be effective. From a resource availability perspective, bigger boards should be relatively more effective. Van den Berghe and Levrau (2004) suggest that increasing the number of board directors provides an increased pool of expertise and thus larger boards are likely to have more knowledge and skills at their disposal.

Similarly, resource dependence theory suggests that larger boards may have a better ability to form environmental links and secure critical resources (Goodstein, Gautam, & Boeker, 1994). Conversely, overly large boards can experience such issues as a lack of cohesion, coordination issues, and fractionalisation (Pratheepkanth, Hettihewa, & Wright, 2016).

### **INDEPENDENT DIRECTORS**

The average proportion of independent director is 77.08 percent, suggesting that board directors in the majority of firms are comprised of directors who are independent. Also, firms seem to have met the requirements of the code of best practice on corporate governance, sample firms independence ranging from 18 to 89 percent. Whilst, the ASX corporate governance board notes that a majority of the board should be independent directors. Similarly, the New York stock exchange (2003) requires all listed firms to have a majority of independent directors on their boards. The UK combined code (2004) provides that at least half of the Board members be independent directors. The Malaysian code on corporate governance (2000) recommends that there needs to be balance on the board of directors with at least a third of the board directors should be independent directors.



## **BOARD MEETINGS**

For the number of annual meetings, the average is 4.91 with a maximum and minimum of 9 and one, respectively. The Sri Lankan code of best practices on corporate governance (2017) recommends firms to hold at least one board meeting once in every quarter of a financial year. The boards that meet more frequently would have more time to perform the role of monitoring the management process efficiently. In order to have an effective and constructive board meeting, several conditions need to be fulfilled including information, quality, role of the chairman and way the decisions (Van den Berghe & Levrau, 2004). Overall, the results show that the sample firms comply with the board meetings mandatory requirements detailed in the 2017 code of best practices on corporate governance except one firm didn't meet the requirements embedded in the Sri Lankan best practices.

### **CEO Duality**

As for the leadership of the board, in 60 percent of the firms, there exists duality between the chairperson and the chief executive officer (CEO) of the firm. The code of best practices on corporate governance (2017) makes no recommendation on whether or not both posts should be held by the same person, but it does recommend that in case of duality, a decision to combine both posts of chairman and CEO in one person should be justified and highlighted in the annual reports. Similarly, Hampel Report (1998) points out that, in some circumstances, the top two roles can be combined, but it recommends that the reasons for combining the roles be publicly disclosed.

However, the Cadbury Report (1992) recommends that the role of the board chairman and the CEO be separated. The Malaysian Code on Corporate Governance (2011) also recommends a similar board structure. Proponents of the CEO duality structure argue that combining these two roles (chairman and CEO) provide a clear focus for objectives and operations (Anderson & Anthony, *The new corporate directors: Insights for board members and executives*, 1986).

Separate individuals for the post of chairman and CEO leads to a better corporate governance, the real issue is whether this leads the board to be a better monitor and thus, is capable of increasing the value of the firm as conferred by Abdullah (2004).

### **Control Variable**

In terms of the control variables, firm size, determined as the natural logarithm of total assets has a mean of 14.11. Profitability, given as the ratio earnings before interest and tax (EBIT) to total assets, a mean value of 0.092 suggesting a ROA of 9.2 percent. The mean growth (measured as growth in sales) is 0.39 which indicates that on average, growth rate is sales is 39 percent.



Table 2 – Descriptive Analysis

	Minimum	Maximum	Mean	SD
Board size	2	32	11.66	4.97
Independent directors (%)	18.18	88.89	77.08	1857
Board meetings	1	9	4.91	1.95
CEO duality	0	1	0.60	0.492
Firm size	13.25	26.51	14.11	1.66
Profitability	0.015	0.33	0.092	0.11
Growth	0.62	3.74	0.39	0.33

### Multiple Regression Results

Table 3 presents findings of regression analysis with information on the impact of an independent variable on the dependent variable. The model R<sup>2</sup> value of debt ratio indicate that 65.4 percent of the observed variability in financing decision can be explained by the corporate governance. The F-statistics and significance levels (Table 3) show that regression model (debt ratio) generate statistically significant outcome.

Table 3 – Multiple Regression

	Debt
Constant	6.081 (0.000)
Board size	2.079 (0.021)
Independent directors	2.235 (0.03)
Board meetings	0.965 (0.635)
CEO duality	0.565 (0.334)
Firm size	6.139 (0.000)
ROA	0.373 (0.710)
Growth	7.112 (0.000)
R	0.809
R Square	0.654
F	24.877
Sig	0.000

In Table 3, the regression results of the relationship between the corporate governance and financing decision are presented. The results indicate that there are statistically significant relationships in the case of board size and independent directors. The impact of board size on debt ratio is significant at the 5 percent level, suggesting that Sri Lankan firms have more directors (refer to Table 2 for descriptive statistics) on their boards, and that larger boards adopt high debt policy to raise the value of the firm. The independent directors is significantly impact on debt ratio which implies that firms with more independent directors on the boards tend to pursue high debt policy.

The impact of board meetings on debt ratio is insignificant at the 5 percent level, suggesting holding number meeting does not guarantee greater financing decision; the board can effectively establish its strategic lines of business by meeting at least one board meeting once in every quarter of a financial year as recommends by the Sri Lankan code of best practices on corporate governance (2017). However, the other variable CEO duality is statistically insignificant on debt ratio with positive sign which suggests that separate individuals for the post of CEO and chairman (non-duality structure) leads to employ low proportion of debt.

Firm size is found to be significant at the 1 percent level with debt ratio, suggesting that the larger firm, the more debt it employs in its financing decision. There is an insignificant relationship between ROA and debt ratio. The results suggest that higher profits increase the level of internal financing. At the same time, there is a significant relationship exists between growth and debt ratio at the 1 percent level which implies that high growth firms place a greater demand on more debt.

### **Concluding Remarks**

This study examines the relationship between corporate governance and financing decisions of listed firms in Sri Lanka. The attributes of corporate governance used for this study include board size, independent directors, board meeting and CEO duality. The result of this study illustrates that there is a significant relationship between board size, independent directors, firm size and growth and financing decisions (debt ratio).

This study results indicate that Sri Lankan listed firms pursue high debt policy with a larger board size and higher percentage of independent directors. This research aspirations and intent of this study are summarised in the following hypotheses that are first presented in literature review and hypotheses development section:

**H1:** There is a significant relationship between the size of the board and financing decisions. The study finds size of board to be significantly and positively related to financing decisions (debt ratio). This findings confirm by: Jensen (1986); Wen, Rwegasira, and Bilderbeek, (2002) but contrary to a study Berger, Ofek and Yermack (1997). On balance, this study confirms the H1 assertion of: there is a significant relationship between the size of the board and financing decisions.

**H2:** There is a significant relationship between the proportion of independent directors and financing decisions. The findings of significant impact the proportion of independent directors and financing decisions (debt ratio) are consistent with prior studies including Jensen (1986); Berger, Ofek and Yermack (1997) who revealed that firms with higher leverage have relatively more independent directors. However, this outcome contrast with Wen, Rwegasira, and Bilderbeek, (2002) who illustrated that there is a negative relationship between the proportion of independent directors and debt. Overall, these results affirm the H2 assertion that: there is a significant relationship between the proportion of independent directors and financing decisions.

**H3:** There is a significant relationship between CEO duality and financing decisions. The study notes that CEO duality is not significantly associated with financing decisions (debt ratio). it suggests the importance of avoiding conflict which could occur between a CEO and a board chairman, where the two personalities are different. It could be explained that the absence of this conflict enables the CEO in a one-tier system to pursue an effective debt strategy based on the advice of the board (Abor, 2007).

However, Fosberg (2004) who reveals that a two-tier leadership structure results in higher debt/equity ratio. Hence, H4: There is a significant relationship between CEO duality and financing decisions is not supported. The findings of this study provide a number of interesting implications for policy makers and academics. As, resource dependence theory suggests that larger boards may have a better ability to form monitoring and regulatory mechanism, to pursue high debt policy to increase the value of the firm.

The increase in board size should also be complimented with having independent directors because monitoring is more effective with a larger percentage of independent directors. Generally, a well-established corporate governance system suggests effective control and accounting systems, stringent monitoring, effective regulatory mechanism and efficient utilisation of firms' resources resulting in improved performance. Accordingly, firms with well-established corporate governance structures are able to gain easier access to debt financing at lower cost since such firms are able to repay their debt on time. Future research should consider including many countries. The effect of corporate governance on financing decisions should be more fully examined in future research.

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# SUSTAINABLE 7PS FOR SUPERMARKETS IN BANGLADESH

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## ABSTRACT

Green marketing mix or sustainable 7Ps is the cutting edge issue. To keep up with the changing needs of consumers and changing climate as well as business environment, companies need to adopt green marketing practices. Thus this study finds out whether supermarkets of Bangladesh are adopting green marketing mix. The study found that 90% of consumers are aware about green products (or organic; product that do not harm the environment) and want to purchase these products from a trusted source like supermarkets. Survey results show that 65% consumers expect the green products should also be at competitive prices. Product placement such as shelf display, point of sale advertising, employee training, green product promotion and packaging, improvement of physical environment and selling processes are demanded by the respondents of this study. Supermarkets in Bangladesh hardly try to achieve competitive advantage through Green Marketing Mix. Though they can meet consumer expectations and be more profitable through. So, it is time for supermarkets to act green as well.

**Keywords:** Green Marketing Mix; Supermarkets; Environmental Marketing; Green Products, Sustainable Strategy; Green Strategy; Ecological Marketing.

## INTRODUCTION

Marketing mix is a set of tactical marketing tools (product, price, place and promotions) which are blends to generate desired response from the customer (Yan & Rashad, 2014). Green marketing mix is a particular form of development of product, price, promotion and place that do not harm the environment (Young et al., 2010). Companies that apply “green” marketing philosophy are expected to take into consideration ecological aspects of each element of marketing mix before they develop and place products in the market (Masum et al., 2012).

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Hence, for service marketing the Ps include: Product, Price, Promotion, Place, People, Physical Environment, and Process (Booms and Bitner, 1981).

Green Marketing is one of the latest and most popular trends in the market which has assisted for the environment-friendly in individual and planet (Rajeshkumar, 2012). Because of the increase in climate change and global warming, the general people's concern for environmental problems has constantly increased over the past years.

The effects of climate change, along with pollution and the depletion of non-renewable natural resources, have given rise to environmental awareness (Douglas, 2006). Consumer behavior is turning towards environmental friendly or green products. To meet the demand of today's customers, number of super shops and their product offerings are increasing day by day.

The word "Super shop" literally means super market which is a large shop selling food, drink, household goods etc. People choose what they want from the shelves and pay at the counter. Basically, a super market is a one floor large area consisting of the daily goods that are bought by households. Customers' concern about environment, product variety, product quality, fixed price and hassle-free purchasing make the super shop very popular among the middle and upper class urban consumers who live in the urban area (Masum et al., 2012).

Nowadays customers are more conscious about the use of harmful chemicals in the production, preservation and sales of agricultural products (Akter, 2012). To overcome the hazards in selling store brand agricultural products, green marketing can be a solution. Green marketing is the process of satisfying the needs and wants of customers in a way which can bring benefit or profit for both the providers and the society by reducing detrimental impact on the natural environment. The term "green marketing" describes an organization's efforts at designing, promoting, pricing and distributing products that will not harm the environment (Amin et al., 2013). The word "environmentally preferable" considers – the products and services which would be matched with the environment friendly and from manufacturing to selling of the products must have to be protected from deception and unprincipled things (Saha & Darnton, 2005).

Likewise, there is a growing interest among the consumers all over the world regarding protection of environment. Consumer behavior is turning towards environmental friendly or green product. Previous researches showed that most consumers have expressed a great interest in the protection of the environment and they are strongly concerned about the environment and its degradation. (Juwaheer et al., 2010). Besides, green perceived value would positively affect green trust and green purchase intentions. As a result, an immense opportunity has been created to add value through offering green products.

Although green marketing has been an important research topic for more than three decades, hardly any research has been conducted that focuses specifically on practices of marketing mix of green marketing in Supermarkets. A study (Bhatia and Jain, 2013) provides a brief review of environmental issues and identifies the green values of the consumers, their level of awareness about environmental issues, green products and practices.

Several studies examine the determinants that influence consumers' intention to buy environmentally friendly products (Kalafatis et. al, 1999), purchase intention of organic food (Huque and Rana, 2016), the relation between green brand and green marketing (Simao and Lisboa, 2017), Orientation scale of green marketing (Papadas et al., 2017), the influences of green marketing on consumer purchase behavior (Govender and Govender, 2016), firms internal practices for environmental sustainability and role of green marketing (D'Souza et. al, 2015), Green marketing mix strategies as well as consumer buying behavior for automobile sectors (Irfan et al., 2014; Valecha et al., 2018) and the characteristics of research on green marketing (Kumar, 2016, and Chamorro et. al, 2009).

There are also some studies focuses on the green marketing aspect on different countries, such as for China (Zhu and Sarkis, 2015), India (Kumara, 2017; Dubey and Gupta, 2016), Malaysia (Osman et al., 2016), Pakistan (Ali et al., 2011), Greece (Papadopoulos et. al, 2010) and Bangladesh (Mohajan, 2012).

None of these studies investigated Supermarket strategy for sustainable marketing mix and its relation with customers expectation/satisfaction, or in-depth of service marketing mix for strategic marketing. However, this study firstly attempts to encompass all seven aspects (7p's) of service marketing (Booms and Bitner, 1981); 7p's to find out whether supermarkets are adopting green marketing strategy for their customers.

This article identifies the type of promotion and its effectiveness, supermarkets' employee (people), process and physical environment and analyze whether they are suitable for green marketing from the eyes of the consumers. And finally, this study finds out the environmental strategies for 7Ps and provides strategic implications to improve the effectiveness of green marketing in supermarkets.

Next section describes the literature review. The other sections are Materials and Method, Results and Discussions, Conclusion, Limitation and Future Research.

## **LITERATURE REVIEW**

Green Marketing is sustainable marketing. Green includes many aspects; from ecological to political, Corporate Social Responsibility (CSR) to Fair Trade and conservation to sustainability. According to the American Marketing Association, green marketing is the marketing of products that are presumed to be environmentally safe. Thus, green marketing incorporates a broad range of activities, including product modification, changes to the production process, packaging changes, as well as modifying advertising. Green or Environmental Marketing is the marketing process that consists of all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment (Polonsky, 1994).

Terms like Phosphate Free, Recyclable, Refillable, Ozone Friendly, Environment-friendly, eco-friendly and sustainable are some of the things consumers most often associate with green marketing. With the reference of American Marketing Association Workshop on Ecological Marketing and later published proceeding on green marketing, it was defined as the study of the study of positive and negative aspects of marketing activities on pollution, energy depletion, and non-energy resource depletion (Henion and Kennear, 1976). Several sources point out that a more complete definition of green marketing is based on the process of planning, implementing and managing the development, pricing, promotion and distribution of products in a way that meets the criteria of meeting customer needs, achieving organizational goals of the business and linking these processes to the eco-system (Dangelico and Vocalelli, 2017).

Finally, the main goal of green marketing is to present consumers with the importance of protecting the environment in the context of product consumption, placing an emphasis on building long-term relationships based on both sides of communication, not only with customers but also with other stakeholders and creating the natural need to be environmentally responsible (Moravcikova et al., 2017).

A supermarket is another form of grocery store which is a self-service store offering a wide variety of food and household merchandise, organized into departments. It is larger in size and has a wider selection than a traditional grocery store, but is smaller and more limited in the range of merchandise than a hypermarket or big-box store (Masum et al., 2012). Supermarkets were first introduced by retailers during World War II as they were transformed from small shops or grocery stores where the merchandise was pulled from the warehouse and storerooms by clerks while customers sat in reception areas and listened to the radio.

Retailers feared that the public would balk at self service required by the innovation. But retailers emphasized that pulling your own merchandise in a shopping cart or trolley would result in goods having lower prices. To the retailers delight, supermarkets were popular with the public (MMZimmerman, 1946). The supermarket typically comprises meat, fresh produce, and dairy and baked goods departments, along with shelf space reserved for canned and packaged goods as well as for various nonfood items such as household cleaners, pharmacy products and pet supplies. During the 1960-90 periods three changes occurred in supermarkets. First, product lines expanded into the product lines of other retailers such as pharmacies, clothing stores, automobile part stores, repair stores and fast food.

The expansion of supermarket lines led to the demise of other retailers such department stores and specialty stores. Second, the supermarket expanded in numbers of stores as national chains grew. This enabled more goods to be distributed to more stores in the chains economically. Supermarkets typically are supplied by the distribution centers of their parent companies, usually in the larger cities in the provinces and usually offer products at low prices by reducing their economic margins.

Certain products (typically staple foods such as bread, milk and sugar) are occasionally sold as loss leaders, that is, with negative profit margins. To maintain a profit, supermarkets attempt to make up for the lower margins by a higher overall volume of sales, and with the sale of higher-margin items. Third, the supermarket has expanded in size into big box stores (Gunther, Burke & Yang, 2006). Today, as a result of these changes, Customers usually shop for all of their consumable commodities to meet their needs, by placing their selected merchandise into shopping carts (trolleys) or baskets (self-service) and pay for the merchandise at the check-out.

## **LOGISTICAL ISSUES OF SUPERMARKETS**

Today there are logistical issues affecting the expansion of supermarkets. Merchandise can easily be selected online. But how can the supermarket company efficiently deliver it? Some firms have experimented with a food locker at people homes which is subject to burglary. Other firms have given discounts to customers who wait at home during a two hour delivery window for the delivery truck to come. Other firms have asked for customers' home keys to be given to trustworthy deliveryman wearing body cams to ensure the employees steal nothing. None of these schemes have been successful and freed the requirement that the customer must come to the supermarket, pull his own merchandise, and deliver the merchandise himself to his home. Online merchandisers such as Amazon are teaming up with delivery companies to expand into supermarket products.

In 2017 Amazon purchased the WholeFoods chain to compete with supermarket chains for the online retail food sales and delivery business (Stevens, Gasparro & Haddon, 2017). But whatever Amazon is planning, there is still the problem of delivering perishable food merchandise in a predictable efficient manner when customer purchase online. Now with Green Marketing, the next generation of retail merchandise expectations is starting. The customers want organic, eco-friendly, environmental friendly merchandise. In the same way revolutions occurred in retail marketing in the past when market shops were replaced with supermarkets, supermarkets expanded in merchandise lines and in national chains, and then ultimately transformed into big box stores. Now there is the new revolution where customers want new product lines composed of organic, eco-friendly, environmental friendly merchandise. Once the logistical problem having massive online purchases of food merchandise delivered in a predictable efficient manner, the green market revolution can expand.

## **FARMER MARKETS**

An example of the popularity of green marketing is the increase of popularity of farmer markets. The concept of farmer markets was introduced during the Depression in 1929. There was a breakdown in the supply chain of farm products in the USA. Farmers with excess produce were encouraged by residents of cities to come and sell directly to consumers. At the same time, Fisherman Wharfs came into popularity in the USA in coastal cities.

Only fishermen can sell their excess fish directly to the public in Fisherman Wharfs. Fisherman Wharfs became popular as consumers got freshly caught fish not canned or frozen. Farmer markets have been a success ever since also. Most of the produce sold in farmer markets is organic and natural. Besides having cheaper prices and the fresher produce, farmer markets have resulted in marketing dialogue between customers and farmers (Garner, 2017). For instance, organic farming where no pesticides are used has increased due to customer demands made of farmers by customers in this dialogue.

## **NATURAL FOOD AND ORGANIC FOOD LABELING**

There is a problem in the Green revolution with the labeling of organic and natural food products. There is no uniformity in the definition of organic food products and the definition of natural food products. Some scientists define natural food usually as food not altered by genetic manipulation of DNA. Companies like Monsanto state that nothing is wrong with GMOs. The Monk Mendel introduced food genetic manipulation over five hundred years ago. There is no uniformity in government labeling of what natural food that is manipulated genetically (Mientka, 2013). Another group of government label laws define natural foods as having no chemical preservatives and artificial ingredients. The FDA and USDA have introduced uniformity in what is defined as food grown naturally (Weaver, 2014).-

There is general uniformity in defining organic food by the government as food that is environmental friendly with no fertilizers, pesticides (Cohrssen & Miller, 2016). There is still a lack of uniformity between USA state and federal laws and between USA and international laws (Lathrop, 1991). Over time more uniformity will occur over the definition of natural food and organic food on a state, national, and international basis. Once uniformity occurs, governments, industry, and consumers will have predictable definitions of natural and organic food.

## **CHALLENGES OF GREEN MARKETING**

Green marketing faces a lot of challenges because of lack of standards and public knowledge to what constitutes "Green". Lack of consensus by consumers, marketers, activists, regulators, and influential people has slowed the growth of green products, because companies are often reluctant to promote their green attributes, and consumers are often skeptical about claims (Agyeman, 2014). At the same time, consumers are mistrustful of company claims of green as they have become increasingly sophisticated and knowledgeable through information from the web (Fui Yeng & Yazdanifard, 2015).

The common pitfall of companies' tunnel vision are focused on "managing products" (that is, product features, functions, and efficient production) instead of "meeting customers' needs" (that is, adapting to consumer expectations and anticipation of future desires). Research indicates that many green products have failed because of green marketing myopia—marketers' myopic focus on their products' "greenness" over the broader expectations of consumers or other market players such as regulators or activists (Nagaraju & Thejaswini, 2014). Green marketing myopia can also occur when green products fail to provide credible, substantive environmental benefits (Boztepe, 2012)

Stephen Wenc, the president of UL Environment, laid out four basic challenges to effective green marketing (NADAF & NADAF, 2014) as:

- a) Lack of credibility or trust by consumers and end-users
- b) Confusion regarding green or sustainable product claims
- c) Reputational risk from "misleading claims", and
- d) Liability risk from "green washing" under FTC Green Guides

## **ADVANTAGES OF GREEN MARKETING**

Going green is no longer a trend but a lifestyle; businesses that have already picked up on this change and are currently pursuing a green business model or green marketing strategy are reaping such benefits as:

- > Creating new audiences with product changes, new product development and strategic marketing which will facilitate to raise revenue.
- > Green brands associate consumers with environmental conservation and sustainable business practices and appeal to consumers and thus can add a unique selling point to a product and can boost company's image (Eze & Ndubisi, 2013).
- > Ensuring the environmental friendliness increases the customer satisfaction which enhances the reputation and competitive market value as well as brand equity (Prothero & Fitchett, 2000).
- > 'Greenness', the only concept that can keep the planet Earth which we call our home safe and sound (Masum et al., 2012)

Finally, green marketing is not just about marketing products that are specifically created for the green market, like solar panels or wind turbines. Green marketing is about leveraging the green benefits of any product to appeal to the conscientious consumer.

### **Materials and Methods**

In our research, we attempt to find out the answers to the following questions:

1. Whether supermarkets are trying to adopt green marketing strategies or not?
2. What type of green products are the supermarkets selling most?
3. What type of pricing strategy Supermarkets have adopted to sell green products?
4. What kind of promotions are Supermarkets broadcasting to sell green products and how effective are those promotions?



5. Whether the Supermarkets are providing proper and sufficient information regarding green products through their employees?
6. What sort of physical display environment and point of sale advertising are they providing to display and sell green products?
7. What are the processes through which supermarkets are marketing green products?
8. Whether supermarkets are successful in their green marketing strategies?

## **HYPOTHESES**

Our primary objective is to find out whether Supermarkets have enough involvement in Green Marketing practices which we will analyze in light of the 7Ps of the Green Marketing Mix

### **Product**

*H1: Consumers have proper knowledge about what green products are.*

### **Price**

*H1: Consumers consider green products to be premium or high priced.*

### **Place**

*H1: Consumers expect green products to be mostly available in Supermarkets.*

### **Promotion**

*H1: Consumers are not aware of green brands in Bangladesh.*

### **People**

*H1: Supermarket employees have adequate knowledge to encourage customers to purchase green products*

### **Physical Environment**

*H1: Supermarkets have proper arrangements to market & sell green products.*

### **Process & Policies**

*H1: Supermarkets have specific policies and process to market & sell green products to consumers.*



## **DATA COLLECTION AND METHODOLOGY**

The sample supermarkets are based in Dhaka city. There are currently 121 supermarkets in Bangladesh among Shawapno, Meena Bazaar and Agora are major players. Agora and Meena Bazar are viewed as market leaders in terms of quality and services (Amin, 2015; details in endnote).

This research is mainly descriptive in nature. Supermarket observation and survey are used for data collection. Primary data is collected through questionnaire survey during March-April 2017. Questions are all close-ended. Sample size was 120 persons. 60 persons are from online and 60 persons from supermarket shoppers. There are mainly two parts of the questionnaire – first part to understand the demography of the consumers. And second part is to get their feedback about green marketing in supermarkets so that correlation can be obtained between those two.

For online survey, questions are distributed through Google Forms and released to social media and personal emails. To supermarket shoppers, questionnaires are distributed hand to hand to shoppers at the end of their shopping in front of supermarkets of Agora, Shwapno, Unimart, Meena Bazar and Lavender. Data has been analyzed through proper quantitative and qualitative techniques. All the responses are recorded in Excel and analyzed through use of Pivot Table and Pivot charts.

## **RESULTS AND DISCUSSION**

The result and analyses are discussed separately for all seven aspect of marketing mix as follow:

### **Analysis in Terms of Product**

Mostly four types of green products are sold in the supermarkets. Those four categories broadly include Food & Groceries, Vegetables & Fruits, Electronic & Home Appliances and Healthcare products. Majority of these belong to Food & Groceries like Meats, Grains, Fisheries, Eggs, Milk & Dairy products, etc. Then a large portion belongs to fresh vegetables & fruits too. Electronic appliances and healthcare products retain a very small portion of total share.

In terms of Supermarket, Meenabazar claims to sell organic vegetables which are free of toxic and harmful pesticides and organic meat which they claim to systematically source through quality control process. Agora claims to sell fresh vegetables which they directly collected from the cultivation field of Savar, Kishorganj, Narshingdi and ensure Quality assurance in every stage. Prince Bazar sells healthy eggs in green packaging and promotes to return the used packages and Care-family claims to sell 100% formalin free fisheries. However, Swapno does not seem to be very interested in marketing or claiming to sell green products.

To understand consumers' perception of green products, the study finds out that 90% of consumers are aware of what green products are. This helps us to determine that our first hypothesis **H1: Consumers have a proper knowledge about what green products are is accepted.** The findings have also reveals that 42% of consumers shop fresh fruits and vegetables from Supermarkets; 20% of consumers shop organic foods; 15% of consumers purchase Electronic appliances from supermarkets. This gives us the idea that consumers have positive tendency towards buying organic and fresh food from supermarkets.

### **Analysis in Terms of Price**

It is found from that two-thirds of the respondents (65%) believe that green products are moderately priced. i.e. they are priced similar as substitution products. This implies that our hypothesis **H1: Consumers consider green products to be premium priced is rejected.** Consumers from supermarkets of Dhaka do not perceive green products to be expensive though consumers expect green products should be premium or high priced. This study also shows that most consumers are not willing to buy green products spending an extra penny.

58% of consumers are price sensitive about green products as well and are not willing to pay an extra dime. 38% have explicitly expressed that they will only buy green products if they are reasonably priced or cheap. This implies that **Consumers demand to green products is price sensitive;** as price changes, demand will change accordingly. There is an inverse relationship to price and demand. If the price is high, the consumer will buy substitutes.

### **Analysis in terms of Place**

While many consumers would expect to find green products in a combination of multiple channels, more than 40% consumers think Supermarkets are the good place for green products, and as marketers, all sorts of marketing activities should be focused on this channel. Apart from Supermarkets, another 2 channels that have good potential are Neighborhood Grocers and Online, although all of them were from the higher income group. Thus, the hypothesis **H1: Consumers expect green products to be mostly available in Supermarkets is correct.**

## Analysis In Terms Of Promotion

Findings show that most of the respondents have heard about green marketing or products online (68.3%), word of mouth (20%), television (6.7%). The striking part was only 3.3% have claimed to see green products inside the store. This clearly shows that there is a lot of work that can be done in-store to promote green products through effective shelf placement displays and point of sale marketing. Findings also suggest that consumers could not properly recall any green brands or products advertisement. So, **most consumers are not aware of any green brands in Bangladesh**. But vast engagement of consumers with online proves this media to be an effective platform for promoting green brands and products. However, importance of in-store promotions cannot be neglected as results show that 71.7% respondents feel in-store promotions are extremely important to drive sales.

## Analysis in Terms of People

Majority (43%) of the employees are unable to give any information about green products when consumers inquired. It seems supermarkets are reluctant about the training and educating their employees about green products. Survey result also shows that in 80% of consumers think that employees of the supermarket do not provide any kind of encouragement to purchase environment friendly or organic products over regular products. Hence, it is to reject **H1: Supermarket employees have adequate knowledge to encourage customers to purchase green products**.

## Analysis in Terms of Physical Environment

Results indicate that 73% consumers think that most of the supermarkets do not have specific shelf/space for displaying green products. Whereas, 95% of consumers responded that they would prefer it if there were separate displays or shelf space for green products. It would be easier for them then to be aware of the presence of the green products which in turn might increase the sale of green products. So, in terms of Physical environment, the hypothesis **H1: Supermarkets have proper arrangements to market & sell green products are rejected**.

## **Analysis in Terms of Process**

58% of consumers responded that they get Cotton bags from supermarkets to carry merchandise; 22% paper bags; 10% jute bags and other 10% is the Polythene bags. This shows that supermarkets try to be environmentally friendly though the restriction in use of polythene bags. Use of polythene is restricted by the government and stores have complied. There is hardly any visibility of green promotional materials inside supermarkets. 50% of consumers do not notice any in-house promotional activities and 45% of consumers do not see any promotional activities which effectively makes 95%. It means 95% of consumers do not find any noticeable green promotion in stores.

Taking together, all hypotheses results conclude that Supermarkets in Bangladesh need to increase their involvement in Green Marketing mix. Consumers are more or less aware about green products which they have mostly come to know from online. But in terms of purchasing green products, customers are not left with many options as supermarkets hardly display or sell green brand, environment friendly products. Supermarkets are hardly undertaking any policies to encourage consumers towards buying more green products. There are neither any in-store promotions nor are the employees informative enough nor are green products displayed on separate shelves. So, **overall condition of Supermarkets in terms of Green marketing mix has still much to improve. Green marketing strategies need to be properly adopted by the supermarkets of Bangladesh.**

The supermarket should have sufficient sustainable strategic features to make consumers aware about purchasing green products; more green promotions; more green policies.

The findings indicate that supermarkets in Bangladesh hardly endeavour to achieve competitive advantage over their competitors in terms green marketing strategies. Green marketing strategy is one of the crucial strategies that cannot be left out by competitive organizations. Social responsibility has become the drive of any successful organization in the global market. It can be concluded that, product strategy, pricing strategy, promotion strategy and distribution strategy of any company should emphasize on green marketing practices in order to sustain in the market. For companies to gain competitive edge in the global market, green marketing strategies should be institutionalized in both small and large supermarkets.

## **CONCLUSION**

Customers are aware about green products and organic foods as well as prefer it to be at competitive priced, not premium priced. Otherwise the demand of eco-friendly products will decrease. Shoppers expect sustainable products to be mostly available in supermarkets with proper physical arrangement of shelf display and point of sale advertising and should be promoted accordingly using brand name wherever possible. Supermarkets' employees should have adequate knowledge so that they can encourage the customer to purchase green products. The supermarkets have changed to restrict polythene use and provide cotton and jute bags to customers to carry the merchandise home. In the same way, supermarkets can adopt the overall processes to be sustainable 7Ps oriented.

Green marketing can also increase the satisfaction level of the consumers of super shops by ensuring health safety and environmental protection. It will help to increase awareness about green products and sustainable consumption in Bangladesh. Government can facilitate promoting green products by reducing the tax on green products. Supermarkets show the luxury of shopping for mid or upper-mid level customer. If they encourage people in sustainable consumption, customers and also the informal grocery will follow. Therefore, rising trend of supermarket shopping in Bangladesh can pioneer and supermarkets can patronize adopting sustainable marketing mix to their service marketing.

## **LIMITATIONS AND FUTURE RESEARCH**

Supermarkets situated in Dhaka city are covered only. Some female shoppers are not found interested or of lack of knowledge about green products. 7Ps as generic marketing mix of UK and EU market are explored (Rafiq and Ahmed, 1995). Likewise, sustainable 7Ps can also be explored for different service companies in commercial and service sectors. The researchers must find the ways to save our products, people and planet.

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### **Endnote:**

a. Overview of the Supermarket Industry in Bangladesh: According to the Business Supermarkets Owners' Association (BSOA), currently there are 121 supermarkets in the country. However, the industry is largely dominated by three major players – Shwapno (59 Outlets), Agora (13 Outlets) and Meena Bazar (18 Outlets). Once a key competitor, Nandan, now holds just two stores.

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## **BIOGRAPHY**

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# PERCEPTIONS OF WORKERS ON THE EFFECTIVENESS OF HEALTH & SAFETY TRAINING IN THE RMGS OF BANGLADESH: AN EVALUATION SUBSEQUENT TO RANA PLAZA TRAGEDY

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## ABSTRACT

Health & Safety (H&S) training is one of the vital issues for an employee, organization, and the society at large. Effective evaluation of training programs ensures good governance and global standard H&S practice. Industrial catastrophe like Rana Plaza is an eye opening instance for this industry to rectify the previous malpractices related to H&S issue. This study evaluates the performance of H&S training programs considering the opinion of 200 RMG workers of 10 factories located outside the export processing zone of Chittagong, Bangladesh. Findings of the study were also validated through the opinions of ten experts in the field of H&S. From the study it is revealed that the sample RMG factories made a significant progress in maintaining the regularity of H&S training program and the workers felt engaged at the time of training. Overall learning of the workers is found good in terms of comprehension and competency. The sample RMGs are still struggling to arrange and maintain a good training environment for their workers. Recommendations like hiring ex civil defense professionals as trainer and arranging modern training materials and equipment were emphasized to overcome the limitations of H&S training programs.

**Keywords:** Health and Safety Program, Health and Safety Training, Ready Made Garments, Performance Evaluation, Bangladesh.

**Paper Type:** Research Paper

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## **1. INTRODUCTION**

Health and safety training is an integral part of an organization's management system that aims to disseminate and transfer knowledge, skill and attitude among the employees (Health & Safety Orientation guide for Employers, 2014). H&S training is an effective and popular method for employee skill development as well as increasing productivity. Earlier studies on this issue had particularly mentioned about the importance and contributions of H&S training in different sectors and across different cultures. According to Roskam (2001), competent and trained people are mandatory in every industry to make the workplace free from accidents, and diseases.

H & S training aware (Yoon, Lin, Chen, Choi, & Rui, 2013), educates and encourages workers to take responsibility and accountability (Jin and Chen, 2013) on the hazardous factor of a factory. Burke, Salvador, Smith-Crowe, Chan-Serafin, Smith, & Sonesh, (2011) argued that H&S training has become an inevitable intervention in all organization across the world. Studies revealed that H & S training was effective in preventing industrial accident and developing safety culture at workplace (Miller, Hill, Mason, & John, 2013; Bahn, & Barratt-Pugh, 2012). Also, it was suggested that a thoughtful evaluation of the effectiveness of H & S training can prevent industrial incidences (Bahn and Barratt-Pugh, 2012). Effectiveness of H & S training is measured by assessing the learning of the trainees and their involvement; quality of the training content and materials, instructional methods, trainees' engagement, and evaluation of the total training program (Menger, Rosecrance, Stallones, & Roman-Muniz, 2016; Burke et al., 2011). It was observed that quantitative assessment of H&S training is rare in most of the organizations (Bahari, 2013) and specifically in South Asia region.

Strategies of H&S training ensure theoretical and hands-on learning facility for the employees and other stakeholders of an organization with the aim to develop a safe and productive workplace (Burke et al., 2011). It is observed that, H&S training is more important aspect in some specialized industries like RMG as it is one of the most labour intensive where maximum of the workers are engaged in a specific space with complex machineries, electrical equipments and chemical substance for a longer period of time. As a result, this type of work environment is volatile and hazardous for the stakeholders. In this regard, previous studies precisely tinted the intense importance of H&S training in the RMG industries.

H&S initiatives should be the primary concern to the readymade garment (RMG) factories to ensure a better work environment (Huda, 2016; Ahmed & Hossain, 2009). Bangladesh is the second largest RMG exporting country of the world, but the industry was negligent on the H&S training matters due to lack of awareness and attitude and costs thousands of life of workers.

After the industrial catastrophe like Rana Plaza and Tazreen Fashions, H&S has become an issue of paramount interest among the buyers, manufacturers, legislatures, and regulators of the apparel manufacturing sector of Bangladesh (Huda, 2016). Bangladesh Government has already formed a high-power committee comprising of ministers of different ministries to ensure safe working condition, improved workers' health, and compliant to building codes and fire safety standards (The New Nation, 2013). International Labor Organization (ILO) on the other hand, with the aim of improving the occupational health and safety culture; formed a National Tripartite Plan of Action (NTPA) on fire safety and structural integrity.

NTPA conducted a three-phase awareness training program for the key stakeholders in 600 RMG factories including 1.5 million workers who received training on H&S issues (Salvai, 2015). Accord and Alliance, a consortium of Western buyers' is also working to monitor the progress and activities of H & S trainings in Bangladeshi RMGs through external evaluation. One of the key components of Accord and Alliance initiative is to educate workers through conducting training programs (Accord, 2018). However, studies found deviating and inconclusive results regarding the performance of H&S training (see for instance, Huda, 2016). The current study will provide information on recent practices, status and effectiveness of H&S training sessions conducted in non-EPZ RMG factories.

After such initiatives taken by the different key stakeholders of this industry, the perception of the workers on the effectiveness of H&S training has not been exposed yet. As a key driver of this industry, their candid opinion regarding this issue could aid to obtain the specific outcome of the H&S training provided in the RMGs of Bangladesh.

It is observed in the literature that, researcher like Huda (2016); Ahmed & Hossain (2009) and Akhter, Salahuddin, Iqbal, Malek, & Jahan, (2010) had exposed the inevitability of effective H&S training across different cultures, countries and industries through qualitative assessment. Hence, these outcomes provide the evidence to conclude that no research work has been conducted to mention the particular aspect like the perception of workers on the effectiveness of H&S training in the RMG industry of Bangladesh: subsequent to Rana Plaza tragedy. This vacuum of knowledge has supported us to identify this as a research gap. According to the current research gap this study identified the research question such as what is the degree of effectiveness of different aspects of H&S training in the RMG factories in Bangladesh?

However, to make a clear answer to the research question, the study formulated the research objective to evaluate the performance of H&S training provided to the RMG workers of Bangladesh. To end with, the study incorporated all the methodological consideration to justify the research objective.

## **2. SIGNIFICANCE OF THE TOPIC AND STUDY**

Evaluation is an embedded function of any training program and a critical evaluation of H & S training is needed to assess the performance of training program (Bahn & Barratt-Pugh, 2012; Haas, Hoebbel, & Rost, 2014). H & S training evaluation process mostly measures the extensive engagement of the participants (Morgaine, Langley, & McGee, 2006; Burke et al., 2011). The RMG sector of Bangladesh has witnessed an extraordinary growth (Rahman & Hossain, 2010) and the country became the second largest garments exporting nation of the world.

This industry generated employment of many and acted as the pivotal source of foreign earnings of Bangladesh. According to Latifee (2016), the volume of RMG apparel export was around 28.09 billion USD for the financial year 2015-16 which was 82% of the nation's export earnings. RMG sector employs 4.2 million workers - the highest contributor in the national employment.

Training plays an assertive role for developing human resources. It is also considered as an effective organizational mechanism to minimize workplace H & S hazards and accidents (Lay, Saunders, Lifshen, Breslin, LaMontagne, Tompa, & Smith, 2016). Sinclair, Smith, Colligan, Prince, Nguyen, & Stayner, (2003) found a positive correlation between the evaluation of training and the success of H&S initiatives. It enhances required knowledge, skill and attitudes among the employees to undertake protective measures to proactively minimize risk (Menzel & Gutierrez, 2010; Hogstedt & Pieris, 2000; Miller, Hill, Mason & John, 2013; Bahari, 2013; Lippin, Eckman, Calkin, & McQuiston, 2000; Bottani, Monica, & Vignali, 2009; Weil, 1992).

Despite the market success, Bangladeshi RMG factories are exposed to various kinds of health and safety hazards and frequently failed to ensure a better health and safety culture at workplace (Rashid & Rashid, 2015). H&S issues are still less cared regardless of witnessing several accidents in this sector (Burke et al., 2011). Incident of Rana Plaza damaged country's market reputation resulting in decline in export earnings from European and North American markets (Samaddar 2016). To regain the foreign market share, investment and evaluation of H&S training initiative seems must for the RMG sector of Bangladesh (also suggested by Burke et al., 2011).



H&S training is also an important determinant to develop, review and promote the H & S culture in an organization (Jilcha & Kitaw, 2016; Cole, Stevens-Adams, & Wenner, 2013; Zhou, Fang, & Mohamed, 2010). Becker & Morawetz, (2004) have found that H&S training develops positive motivation among the workers to bring change in the organization explicit to H&S initiatives. On the other hand, inadequate training hinders operational excellence at workplace in terms of H&S initiatives (Podgorski, 2015).

Even though H&S training is vital and regular monitoring and evaluation of the effectiveness of the training is important for further improvement, there is lack of studies on South Asia and especially in Bangladesh in evaluating the efficacy of the same. In addition, the available studies on the relevant field are mostly qualitative in nature and the results of those studies lack statistical significance. This study based on quantitative data collected from a large sample therefore contributes to the literature.

### **3. REVIEW OF LITERATURE**

H & S training program includes many essential events and interventions like H&S awareness, H&S classroom sessions, drill and case studies (OHSAH, 2003). It is a cabalistic function for every industry to ensure a compliant and standard work environment (Akpan, 2011; Gunningham, 2012; Idubor & Osiamoje, 2013; Adebola, 2014). Impact of H&S training influences the result of H&S program in the work place and helps to maintain better organizational culture (Bahari, 2013; Becker & Morawetz, 2004; Robson, Stephenson, Schulte, Amick, Chan, Bielecky, & Peters, 2007). According to Lippin, Eckman, Calkin, & McQuiston, (2000), H&S training directly motivates the workers to improve workplace health and safety conditions and it should be considered as a top priority by the employers. Orientation of H&S scheme remarkably reduces the possibility of injuries at workplace (Kinn, Khuder, Bisesi, & Woolley, 2000).

According to the guidelines provided by Health and Safety Executive, (2001), and also many authors statement like Legg et al. (2009); Stolk, Staetsky, Hassan, & Kim, (2012); Okoye, Ezeokonkwo, & Ezeokoli, (2016); Okeola, (2009); Bahari (2013), organizational policies and strategies should uphold the H&S training initiatives, which would engage and encourage the employees at all level to participate in the training program and provide necessary financial, nonfinancial resources (material, equipments, human) to make the program successful. To ensure positive outcome of H&S program, standard and sufficient number of training should be conducted to reduce work hazards and accidents as stated by Foromo, Chabeli, & Satekge, (2016); Kale, Gujrathi, & Kale, (2013); Health and Safety Executive, (2001); Cohen & Colligan, (1988).



A good number of authors and H&S regulatory bodies namely Legg, Battisti, Harris, Laird, Lamm, Massey, & Olsen, (2009); Rashid & Rashid, (2015); OHSAA (2003) ; Innovation, (2007) pointed about the frequency and long duration of H&S training program for the workers that may help in developing a positive attitude towards H&S interventions of an organization. Organizations should further allocate sufficient time with convenient scheduling to conduct H&S training and ought to maximize engagement of the workers for effective learning (Burke et al., 2011). Auyong, Zailani, & Surienty, (2011); Slatin & Dunn, (2006); Zaky & Pillay, (2017) and many others lay a claim that evaluation of training program is mandatory to facilitate the success of the H&S programs and measures the competency level of the workers with significant outcome.

At the time of post training evaluation, the aforementioned issue must be checked and evaluated for the transfer of knowledge and the comprehension of learning in terms of development of competency (knowledge, skill and attitude) level (Slatin & Dunn, 2006; Kale et al., 2013; Haas et al., 2014; Zaky & Pillay, 2017).

Cole et al., (2013) in their research had made up a statement that, success of training depends on the favorable training environment. However, feedback of the training program from the trainees should be considered with due diligence and with a special reference to quality of the trainer in terms of qualification and facilitation skill (Auyong et al., 2011; Haas et al., 2014). In reference to Thorne, Oliver, Al-Ibrahim, Gucer, & McDiarmid, (2004); Burke et al. (2011); Robson et al. (2010) and Meyer (2017) organizations must design a need based customized lesson content to aid workers for effective learning. Finally, the performance of the H&S training program should be measured based on the transfer of the learning to the trainees (Menger et al., 2016).

According to Akhter et al. (2010) H&S issues are seriously considered in the RMGs of Bangladesh. After the Rana Plaza catastrophe, most of the factories have currently ensured adequate H&S training for the workers by the aid of American & European buyer's communities, Manufacturers' Associations and the government. The safety cell of Bangladesh Garment Manufacturers and Exporters Association (BGMEA) also performing significantly in this regard (Ahmed & Hossain, 2009). The NTPA report was also very positive about the performance of BGMEA in ensuring H&S training programs effectively (Salvai, 2015). However, Huda (2016) and Burke et al. (2011) have argued that H&S training in this industry is inadequate.

Very few research studies have been conducted on the evaluation of H&S training program (Mukherjee, Overman, Leviton, & Hilyer, 2000; Weinstock & Slatin, 2012) and also very rare with reference to the RMGs industries. Authors like Menger et al. (2016); Lay et al. (2016); Okoye (2016); Bahari, (2013) and many others have conducted research on H&S training within the scope of countries, for example USA, Canada, UK, Australia, South Korea and India within their context and mostly on construction & engineering industries, chemical plants, mine and dairy sector. Bangladeshi authors like Akhter et al. (2010), Huda (2016) and Ahmed & Hossain, (2009) made their study broadly on the evaluation of H&S compliance program, but did not particularly focused on the evaluation of H&S training program. Therefore, an intensive empirical research on evaluating the performance of H&S training of RMG factories is very necessary to fill the research gap.

Very few studies on H & S training were made mostly through literature review and key informant interview. However, empirical analysis based on workers opinion on the effectiveness of H&S training program is found absent on those studies. This study will make an endeavor to contribute to the H&S body of knowledge and will try to bridge the gap of the earlier research in a wider range through measuring the performance of H&S training program in the context of RMG factories in Bangladesh.

**Table 1: List of Variables**

Determinants		Code	Reference
1	Regularity of H & S training	Regularity	Cohen & Colligan, (1988); Legg et al. (2009); Kale et al. (2013); Health and Safety Executive, (2001); Foromo et al. (2016); OHSAA (2003); Rashid & Rashid, (2015).
2	Convenient Training Schedule	Schedule	Health and Safety Executive, (2001)
3	Sufficient training materials		Cohen & Colligan, (1988); Kale et al. (2013); Legg et al. (2009); Health and Safety Executive, (2001); Stolk et al. (2012)
4	Adequacy of training Equipment	Equipment	Kale et al. (2013); Cohen & Colligan, (1988), Health and Safety Executive, (2001)
5	Favorable training environment	Environment	Cole et al. (2013)
6	Active Engagement	Engagement	Cole et al. (2013); Burke et al. (2011); Stolk et al. (2012)
7	Effective lesson content	Content	Health and Safety Executive, (2001); Alli, (2008); Burke et al. (2011); Robson et al. (2010); Meyer, (2017).
8	Trainers are qualified	Qualified	Legg et al. (2009); Haas et al. (2014); Salvai, (2015)
9	Trainers are supportive	Supportive	Haas et al. (2014); Salvai, (2015)
10	Effective Comprehension	Comprehension	Health and Safety Executive, (2001); Legg et al. (2009)
11	Improved H & S Competency	Competency	Slatin & Dunn, (2006); Kale et al. (2013); Haas et al. (2014); Health and Safety Executive, (2001); Zaccaro, (1996); Zaky & Pillay, (2017)
12	Developed confidence	Confidence	Hecker, (1998); Zaky & Pillay, (2017)
13	Effective Post training evaluation	Evaluation	Health and Safety Executive, (2001); Auyong et al. (2011); Burke et al. (2011)

Table-1 portrays the major determinants of H&S training as mentioned in cross-country studies. The findings of the table also justify the reason behind using 13 determinants in the current study.

## **4. RESEARCH HYPOTHESIS**

H0: Workers in Bangladeshi RMG factories do not receive effective H&S training (with respect to regularity, schedule, equipment, and other related issue)

Ha: H&S trainings provided in RMG factories are effective

## **5. METHODOLOGY**

### **5.1 Variable identification and Justification**

Authors have extensively reviewed scholarly articles, reports, policy guideline papers, and newspaper articles to explore as many determinants of the H&S training and the parameters of post training evaluation as possible irrespective of the country of study. Research materials were sourced from Google scholars, Scopus data base JSTOR, OSHA web portal, and BGMEA portal. Considering the literature, authors' accumulated 13 variables relevant to H&S training evaluation. Those items were shared with expert panel consisting of three non-academic members having long-time experience in RMG and H&S training to check the applicability of those variables in the current study. All the variables listed on Table 1 are selected for this study. Most popular 5-point Likert scale was used to capture the opinion of the respondents on the refined items.

### **5.2 Questionnaire**

First part of the questionnaire contains demographic questions such as age, training status, and year of experiences. Second segment of the instrument asked about 13 questions relevant to H&S training evaluation. Highly recognized 5-point Likert rating scale was used to capture the opinions of the respondents on those 13 items where point 5 represents 'Strongly agree' and 1 shows 'Strongly disagree'. Questionnaire was first developed in English and then translated into Bengali (local language) to facilitate data collection and better understanding of the respondents. An expert was involved to make sure that two versions of the questionnaire were identical. In the questionnaire, workers were asked questions related to what extent the program helped them to reduce accident and health related problems, regularity of the program, convenience of training scheduling, adequacy of training materials, training environment, effectiveness of the trainer, and the question related to transfer of learning.

### **5.3 Respondents**

This study selected female workers as sample. To select the samples, the outcome of the study conducted by Rashid & Rashid, (2015) and Khan & Wichterich, (2015) was considered. According to their study, female workers represent 80% of the total labor force in the RMG sector in Bangladesh and they are the most common victims of H&S issues. Data collection was controlled by considering the fact that respondents must have at least 5-6 years of working experience in the industry and received H&S training at least once. Working experience was also a vital consideration as a worker should work substantial amount of time to receive H&S training.

Respondents were selected following judgmental sample techniques by considering the fact that they fulfill the screening criteria. A total of 215 questionnaires were distributed among the respondents, however few questionnaires were discarded due to missing responses and faulty answers (ticked multiple options). Finally, 200 usable responses were considered for data analysis. Samples were decisively chosen from five RMG factories located in non-export processing zone (EPZ) area of Chittagong. Non-EPZ factories were chosen as there are evidences to show that most of the fatal incidents related to H&S occurred in the garments factories located in the stated area. The survey was carried out during June to December, 2017.

### **5.4 Statistical Method**

This study considered the whole data as a single sample (RMG workers), to test research hypotheses, one sample t-test (along with significance value) found to be appropriate as suggested by Malhotra & Das, (2016). In addition, mean values were examined to identify the degree of presence of a particular item in the H&S training module. Standard deviation values were reported to check the diversity of opinion among the respondents.

## **6. FINDINGS AND DISCUSSION**

Our results revealed research hypotheses segmented within 13 sub null hypotheses (Table-2). Among them eight sub-null hypotheses have been rejected, that is those research hypotheses were accepted (sig. < 0.05 with t-value  $t > 1.65$  at 2 tail test). However, five sub-null hypotheses have been accepted that is five research hypotheses were rejected with the sign (sig. > 0.05 with t-value  $t < 1.65$  at 2 tail tests). The table 2 revealed the particular values of statistical evaluation of data for better comprehensiveness of the readers. This table represents that, five variables are schedule, material, equipment, environment, and evaluation. For the remaining eight hypotheses that tested the absences of the items have been rejected (in all cases sig. < 0.05 with higher t-values). These findings approve the existence of those eight variables (such as, regularity, engagement, content, and qualified trainer) in the H&S training in the RMG factories in Bangladesh.

Hypothesis 1(a) representing the item 'regularity of H&S trainings' (trainings are not conducted in a regular basis) is found to be rejected (sig. = 0.00 with  $t=53.73$ ). This means H&S programs are regularly conducted at the sample factories. Salvai (2015) also found the regularity of H&S training in this sector after the Rana Plaza tragedy. This finding shows the result of successful training interventions of the buyer, government, and the entrepreneurs. Hypothesis 1(f) no active engagement (sig. = 0.00 with  $t=103.294$ ), 1(g) ineffective lesson content (sig. = 0.00 with  $t=53.73$ ), 1(j) less qualification of the trainers (sig. = 0.04 with  $t=43.961$ ), and 1(k) less support from the trainers (sig. = 0.00 with  $t=143.052$ ) are found to be rejected.

These results signify that the workers were highly engaged at the time of training as they were trained by qualified trainer, received improved course contents, and got supportive behavior from the management and trainers. The study also revealed that the tested sub hypotheses have 1(l) no effective comprehension of the training contents (sig. = 0.00 with  $t=133.792$ ), 1(m) does not increased competency (sig. = 0.00 with  $t=121.536$ ) and 1(n) did not developed confidence of the worker to handle disastrous situations (sig. = 0.00 with  $t=57.083$ ) are also rejected. This means, the training program was effective enough to understand the subject matter and that helped developing skill and confidence level of the workers. These results are consistent to Burke et al. (2011) who also found positive relationship between highly engaged H&S training with the certainty of effective understanding of H&S knowledge.

**Table 2: Mean Values And Hypotheses Testing Results**

	Variable	H <sub>0</sub>	Mean	Std. Deviation	t-value	Sig.	H <sub>0</sub> Decision
1	Regularity	1(a)	3.6850	.96978	53.738	0.000	Rejected
2	Schedule	1(b)	2.3350	.69656	1.57	0.061	<i>Accepted</i>
3	Material	1(c)	2.3450	.69164	1.97	0.082	<i>Accepted</i>
4	Equipment	1(d)	2.5350	.67903	0.89	0.15	<i>Accepted</i>
5	Environment	1(e)	2.5450	.73531	2.88	0.058	<i>Accepted</i>
6	Engagement	1(f)	4.5550	.62363	103.294	0.000	Rejected
7	Content	1(g)	3.7450	.65737	80.567	0.000	Rejected
8	Qualification	1(j)	2.5300	.81389	43.961	0.004	Rejected
9	Supportive	1(k)	4.6900	.46365	143.052	0.000	Rejected
10	Comprehension	1(l)	4.6150	.48782	133.792	0.000	Rejected
11	Competency	1(m)	4.6150	.48782	121.536	0.000	Rejected
12	Confidence	1(n)	3.8850	.96250	57.083	0.000	Rejected
13	Evaluation	1(o)	2.4700	1.00206	2.54	0.08	<i>Accepted</i>

It was observed that hypotheses 1(b) concerning no convenient schedule of the training program (sig. = .061 with t=1.57), 1(c) lack of training material (sig. = .082 with t=1.97), 1(d) insufficiency of training equipment (sig. = 0.15 with t=0.89), 1(e) poor training environment (sig. = 0.058 with t=2.88), and 1(o) no post training evaluation (sig. = 0.08 with t=2.54) were accepted. It can be argued that the sample RMG factories do not arrange the training programs at workers' convenience even though the training programs are conducted regularly. Effective scheduling is very challenging for the Human Resource Department (HRD) of the RMGs as they need to set the time in coordination with the Production departments (PD).

Moreover, the PD always remains strict with their master schedule to maintain the lead time and timely delivery. As a result, workers are not allowed to participate in the trainings during the office hours and in most of the factories it has become a bad practice to conduct H&S trainings on late hours. To surmount this situation, best HR practicing RMG factories play video tutorial in wide screen displays at lunch time and provide supplementary financial and nonfinancial incentives i.e. refreshments, training & transport allowance for additional office hours. For the sustainability of the business, top management may consider this issue as stated by experts of this industry.

Sample RMG factories also lack sufficient materials, modern equipment, and favorable environment for effective H&S training. Most of these factories do not have multimedia enabled training facilities, separate training room, whereas in many factories the training rooms are small and confined. During the survey it was observed that few of these factories did not have sufficient seating arrangements. In most cases, it was found that the instructor-trainee ratio was not maintained. To make the trainings effective, factories need to take assistance from the local civil defense authorities and conduct training minimum twice a year as stated in Bangladesh Labor Law 2016. But again it is a concern of top management to work on this practice as stated by the experts and civil defense authorities.

Post training evaluation is another prime concern as stated in literature (Burke et al., 2011). Our sample factories were found to be reluctant in this important aspect as revealed in the results (mean is 2.47). According to the experts, systematic post training review is very rare in this sector. Opinions of the workers are mostly taken through qualitative interview, and thus there is lack of opinion survey on H&S training. Almost no practice of debriefing and future action plan is made.

Our result revealed that ‘supportive behavior of the trainer’ has got maximum positive response (mean is 4.69) from the respondents. This result confirms that trainers were supportive to the workers at the time of training. During the survey most of the respondents said that the trainers from the civil defense authority are cooperative and enthusiastic to help learning H&S issues. Experts’ opinion in this regard was similar and they suggested engaging civil defense personnel in internal training programs as they are well trained and highly experienced. Retired civil defense officers may be hired as consultant, trainer or safety officer to make the H&S training more effective.



This result is linked to the higher mean values of the items namely comprehension (4.61), competency (4.61), and engagement (4.55). It is obvious that an efficient trainer can assist in better understanding of the lessons, transfer of knowledge, and expertise to make the trainees skilled and create an enthusiastic learning environment through active engagement. At the time of training, organizational citizenship behavior and workplace leadership should be developed so that workers can retain the effect of active engagement not only at the time of training but also at work and daily life. Workers should be taught to volunteer in transferring the available knowledge to their colleagues and the society at large. H&S is not only an industrial concern in Bangladesh rather society should be dynamic in this regard. To engage the workers with learning objective and learning outcome, popular instructional methods like role playing, job instruction training, and group discussion can be more effective.

The result also found moderate effectiveness of three variables i.e. 'confidence level of the workers after the training (3.88)', 'lesson content of the training curriculum (3.74)', and 'regularity of the H&S training program (3.68)'. During the survey some respondents have shown positive energy on their confidence over handling adverse situation. Members of the rescue team said that they are confident to fight the fire, capable of operating fire-fighting equipment, and their notion is clear about the standard operating procedures of fire-fighting. They are also concerned about their personal and family health issues. Respondents said that lesson contents of the training curriculum are rich and composed of native language for better understanding and easy assimilation.

Our results provide an indication to less effective issues such as 'training environment (2.54)', 'training equipment (2.3550)', 'qualification of the trainers (2.53)', 'post training evaluation (2.47)', 'training material (2.34)', and 'convenient training schedule (2.33)'. As stated before, most of the factories are not facilitating a better training environment because of insufficient training budget and limitation of physical space. Besides, enabling a physical training environment, top management must develop policy to promote helpful learning culture. Inadequacy of sophisticated training equipment and materials are common in most of the factories outside the EPZ as stated by the experts. Experts also questioned the qualification of in-house trainers as most of them do not have sufficient academic and professional background to be an H&S trainer.

Qualified and experienced in-house trainers should be hired and members of the training departments should be sent for advanced H&S training so that they could come up with innovative training strategies and instructional methods as per organizational requirements.

With respect to common practice of post training evaluation, the compliance auditors evaluate on the learning of the workers through random qualitative interviews. However, according to OSHA (2003) training manual, all the factors of post training evaluation (Table 1) should be considered and factories should administer questionnaire survey on the participants for authentic feedback and transparent review.

Kirkpatrick & Kirkpatrick (2006) model of evaluating training program is suggested in this regard. Experts have advised to develop an effective implementation plan on post training evaluation as in most cases people get confused about what to do after the training program. Appropriate skill of the evaluator is also a vital aspect of post training evaluation. The item with least mean value is 'convenient training schedule (2.33)'. Training scheduled should be aligned with the master production schedule at the beginning of the year so that it does not hamper daily production schedule and disturbs the leisure & personal time of the workers.

## **7. CONCLUSION AND FUTURE RESEARCH POTENTIALS**

According to Textile Today (2018) RMG industry of Bangladesh has reached at the pinnacle of success in terms of capabilities and competitiveness amongst all the garments manufacturing countries of the world. To maintain this insignia of achievement we must standardize all spheres of its operational requirements with special reference to H&S initiatives. This study, considering the quantitative data as well as qualitative comments of the H&S training beneficiaries (the RMG workers), identified the degree of effectiveness of the stated program in Bangladeshi RMG sector. As the available studies are mostly qualitative in nature, this quantitative study based on a large sample size can be considered as a pioneer attempt in Bangladesh.

The results of the study revealed a significant improvement in the area of workers' competency development through effective engagement and regularity of H&S training. It was found that the trainers of H&S training are very supportive which motivated the participants to involve in the process. Respondents found the trainers competent too; which is a prime reason to make the training sessions more effective. However, it was observed that participants are not satisfied with the training schedule, equipment used in the process, and materials covered. Top management should ensure convenience of the workers through effective scheduling that promotes effective learning environment. A nominal financial incentive with a better training environment can make the sessions more useful to the workers. Government and international bodies may help in financing the training programs. It is equally important to ensure that the trainers are up to date about the training materials.

The findings of this study can be beneficial to different stakeholders of RMG sector of Bangladesh. First, this research work can be used as a benchmark by the decision making authorities (especially RMG factory owners) to formulate policies regarding H&S training program in the RMGs of Bangladesh. Second, regulatory bodies (especially government agencies) can identify those aspects of H&S training where they can contribute more for further improvement of the sessions. Third, from the results of the study, the supporting authorities (the international organizations such as ILO) can explore the degree to which their training materials are up to date and what else can be done to enhance the effectiveness of the training programs.

For instance, a benchmark value for each determinant of the H&S training can be set. And the supporting authorities with the help of government can monitor the status of individual RMG factories in fulfilling that benchmark value. Finally, the recommendations provided in this study can also play a vital role in bringing a positive change in the manufacturing sectors of the world. It is worth mentioning that Bangladesh has achieved the status of developing nation in recent times and we should not take much time in conceptualizing the context, concepts, principles, and practices of H&S training to sustain this precious achievement.

The scope of this research work was limited to the RMGs operating in non EPZ areas of Chittagong. This study didn't consider the management employees as samples. Future researchers may apply the method used in this paper to explore the degree of effectiveness of H&S training in other sectors or RMGs in other developing countries. A cross-country comparative analysis on the degree of fulfillment of the said determinants of H&S training can be of interest to the readers and policy makers. This research work may also open the window for comprehensive study on H&S training through rigorous investigation of the empirical validity of the variables at a large scale in RMG and other sectors of economic preference.

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