Impact of Working Environment on Less Productivity in RMG Industries: a Study on Bangladesh RMG Sector

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Abstract

The readymade garments industry (RMG) sector acts as the backbone of Bangladesh economy and is considered as a catalyst for the development of the country. Despite having epic growth of the RMG sector, and its bright prospects, challenges are still there. One of the biggest challenges currently faced by RMG industries of Bangladesh is to ensure better working conditions for the millions of garment workers which might have salient impacts in accelerating productivity to compete in global export market.

Index terms— orking environment, less productivity, rmg sector, multiple regression, anova, hypothesis.

1 INTRODUCTION

he Readymade Garments (RMG) industry plays a vital role in economic growth of Bangladesh which contributes to 76% of national exports and 90% of manufacturing goods exports (Export Promotion Bureau of BD, 2011). The garment industry is highly laborintensive and employs approximately two million workers, out of which 90 per cent are women (UNIDO, 2011). Despite having the magnificent growth, RMG sector is facing some challenges now-a-days. One of the biggest challenges currently faced by RMG industry of Bangladesh is to ensure workplace safety and better working conditions for the millions of garment workers. Two major accidents, the Tazreen fire and the Rana Plaza collapse, have brought the issue of workplace safety to the fore and led all stakeholders to act accordingly. The government, the International Labor Organization (ILO) and the buyers have been working together to improve working conditions in garment factories and the discontent of workers over wages has also subsided to a great extent with the implementation of the new wage board award. Bangladesh is now improving its competitiveness in this major manufacturing industry by reducing total production and distribution time, which will improve surface-level competitiveness by improving total productivity. Simply stated when people produce something with least amounts of resource being used then it can be called as productivity. It has been further explained that productivity is the ratio how well an organization converts input resources into goods and services [1]. The level of productivity surely depends on workers performance but there is a single most influential factor that can affect the performance of workers during production and that is the working environment. The quality of comfort derivable from work environment determines the level of satisfaction and productivity of workers. If the working environment is not conducive then the productivity of the workers cannot be optimized.

Plummeting productivity in the RMG sector of Bangladesh is a prime concern that can compromise the level of output and ultimately hurt the overall economy of Bangladesh. That is why workforce productivity remains a primary element for success in most organizations especially in the manufacturing industry like the RMG sector. Productivity is defined as a measure of quantifying the output against the amount of input. It expresses the relationship between the quantity of goods and services produced (output) and the quantity of labor, capital, land, energy, and other resources to produce it (input) [2]. It has been shown in different studies that the condition of the work environment and the productivity is inextricably linked [3][4][5][6][7]. The work environment is a composite of three major sub environments viz: the technical environment, the human environment and the organizational environment [7]. The work environment has effect on the performance of employees. The type of work environment in which employees operate determines the way in which such enterprises prosper. The physical

layouts along with the effective and efficient management processes are playing an important role in enhancing employees' productivity and organizational performance [1]. Work environment as "an entirely" which comprises the totality of forces, actions and other influential factors that are currently and, or potentially contending with the employee's activities and performance [3]. Work environment is the sum of the interrelationship that exists within the employees and between the employees and the environment in which the employees work [4].

It is quite evident now that there can be lots of influential work environment factors that can inhibit the performance of the workers and the result will be low productivity. So to have a deep understanding it is an essential prerequisite to examine the work environment factors that is responsible for less productivity. It is the number of management functions: provision of adequate fringe benefits, supervision, work method and organization, in the work environment which appear to have been the key factor inhibiting higher productivity [8]. It has also been identified supervision, subordinates, co-workers inefficiency as the major variables that influence productivity **??**9]. The empowerment of employees and the flexibility of the working environment are covered by three key productivity factors: "inadequate supervision and employee involvement in decision-making, too much work, and insufficient rewards and chances to advance" **??**10]. Inefficient planning of work and organizational structure by management followed by poor management leadership in demonstrating and leading change are the two greatest obstacles to productivity [11]. In a survey it was reported that nine out of ten workers believed that a workspace quality affects the attitude of employees and increases their productivity [12]. It has been confirmed in another research work that unsafe and unhealthy workplace environment in terms of poor ventilation, inappropriate lighting, excessive noise etc. affect workers productivity and health [13].

However, the manufacturing sector especially the apparel industry in many countries is in a state of transition. Owing to the intense competition faced by the labour intensive, low cost and wage economies manufacturing giant like China, India, the established players prefer to move up the manufacturing value chain to compete on technology and innovation. As a result manufacturing companies try to redefine, redesign and improve their production systems to meet the competitiveness demanded by the challenges of present markets [14][15]. However in this prevailing situation, the Bangladesh's RMG sector has not yet achieved its full potential. Considering this situation, this study will examine the major working environmental factors causing low productivity in RMG sectors of Bangladesh. There are a lot of studies on the RMG sectors of Bangladesh but few literatures have been found scrutinizing the working environmental factors responsible for low productivity.

2   II.

3   METHODOLOGY

The study had been carried out in four RMG industries (appendix-A) of Bangladesh having variation in its production capacity and product category (woven or knit). The objectives of this study were to identify and examine the working environment factors causing low productivity in RMG sectors of Bangladesh, to what extent are factors in the work environment perceived as having adverse effects on productivity?, how important are some specifically named facilities in the work environment to enhancing workers' productivity? And to obtain different aspects relating to the working environment and productivity in the garments sector that improves the understanding about the concepts.

The survey instrument is considered in three parts. In the first section demographic data was collected, the second section was on the rating of different independent variables to see their impact upon less productivity and in the section three several questions were asked to the respondents to state their agreement of each of the statement on a five point rating scale (1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree). We have used multiple regression for our data analysis. The purpose of this mechanism is to measure the relative influence of each independent variable (insufficient and ineffective coworkers, inadequate monetary and non monetary rewards, political chaos in the country, outdated system, ineffective management, discrimination and biasness inside the organization, unsafe and unfavourable working condition in the workplace) on the dependent variable (less productivity in the RMG sector). Thus The relative significance of each of the independent variable on the dependent variable can be measured from the associated coefficient. We also will test the hypothesis based on the significance level below 0.05 where H_0 is the null hypothesis and H_1 is the $H_0 : H_1$,

4   DATA ANALYSIS AND FINDINGS

In order to analyze the results of our collected data we firstly described the descriptive statistics, then the model summary with the significance level of the data after that we moved to the analysis of variance (ANOVA) to see the F statistic and finally we described parameters with Beta co-efficient to see what is the level of influence of predictors on the low productivity in the RMG sectors.

5   a) Descriptive Analysis of the Sample

The questionnaire was completed using face to face interviews, for 15 days in 4 different garment factories in Dhaka and nearby locations namely, Style Garden Ltd., Fakir Apparels Ltd., AJI Apparels Industry Ltd. and MIM dresses Ltd. We completed around 112 questionnaires but after eliminations of those containing errors, we finally retained 100 where the skilled workers (65%) were the most, the rest dominant respondents were the

semiskilled (24%) workers. The sample was unbalanced in terms of male-female ratio (Male was 32% and the Female 68%) and most of the respondents ages was between 20-25 (78%) where, ages more than 25 was about 18%. Since the low productivity is a negative issue and the size of our questionnaire was quite elaborative, we conduct the interviews considering the respondent's convenient time to give them enough time to deduce the unbiased and logical responses. It is quite evident from the table 1, that the mean response was highest in the ineffective management (m=4.41) variable that means most respondents agree that there is a positive influence of this factor on the less productivity and the outdated system (m=4.38), rewards (m=4.20), unsafe environment (m=4.17), ineffective co-workers (m=4.08) in the descending order of importance have also positive responses on less productivity from the respondents of the RMG sector. But it is found that the political chaos (m=2.90) and discrimination in the workplace (m=2.99) are the two variables that concede neutral or negative responses from the respondents. In table 2, we found a strong correlation (R= 0.81 or 81%) between the predictors or independent variables and the less productivity in the RMG sectors. The R2= 0.658 that means predictors can explain 65% of the variation in low productivity that seems very good. The most important thing in this table is adjusted R2(0.602) that suggests adding each of the independent variables after the first independent variable, makes a 60% contribution in explaining the variation in the less productivity in RMG sector and the significance F change (0.000) is significant at 99% that is very satisfactory to prove the model is very fit and the Durbin-Watson residual factor is 0.380 that is quite close to 0 denotes the study has been done in an exhaustive way leaving very few responses been examined. In table 3 we analyzed the variance of the variables loaded in the model to examine if there is any relationship exists between the dependent variable less productivity and the independent variables. The significance level of the F value determines the goodness of fit of the model. Typically, if significance is greater than 0.05, we conclude that our model could not fit the data. If significance < 0.01, then the model is significant at 99%; In this study, we can see that significant is 0.000 that is < 0.01; so we can conclude that the model is significant at 99% and we can accept the model. Analysis of coefficient provides us which independent variables have significant relationship with the dependent variables and provides us the importance of each independent variable independently. Here, Beta (B) depicts that every unit change in the independent variable can cause a certain portion impact on the dependent variable. The relative coefficient of independent variables describes the relative importance to contribute the less productivity in RMG sector. c) Testing of hypothesis Here, we see that the Ineffective Management (0.000), outdated system (0.002), inadequate monetary and monetary rewards (0.001), unsafe working condition (0.000), insufficient and ineffective co-workers (0.004) have a strong [Significance at 0.05 levels] impact on the less productivity in the RMG sector of Bangladesh. From these results we can validate the following hypothesis: The following two hypotheses are rejected completely because in both cases the significance level was above 0.05: H 6 : Political chaos (0.910) has a strong impact on less productivity in the RMG sector H 7 : Discrimination and biasness in the workplace (0.241) has a strong impact on less productivity in the RMG sector Thus, we can conclude that the less productivity in the RMG sector caused mostly by the ineffective management, outdated system of the factory, Inadequate Monetary and Non-monetary rewards, Unsafe and unfavourable working environment and the Insufficient and ineffective co-workers. Ineffective management is the most significant factor (Every unit of ineffective management can cause 0.789 unit of less productivity) that have strong impact a on the less productivity followed by Outdated system, Inadequate Monetary and non Monetary rewards, Unsafe working conditions and the insufficient and ineffective coworkers. The Discrimination and biasness in the workplace does not seem to have a strong impact (can cause only 0.049 unit of less productivity) upon less productivity. The Political chaos in the country is the only factor which is not considered as the criteria that can have some impact on less productivity.

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IV.

7 CONCLUSIONS

One of the main reasons why the developing country like Bangladesh cannot burgeon rapidly is underutilizing the resources available. The RMG sector in Bangladesh is now prospering in a brisk manner that can be an opportunity for Bangladesh to familiarize it as an industrialized country but the problem is it barely capitalizes its human and other resources that can give it a much needed competitive advantage than that of other countries. To be so, it should boost up the productivity of this industry in the highest level and reconcile all the negative issues that can have even a slim negative impact on this mammoth sector. The following questions are related to demographic information. For each question, please choose one answer that is the most appropriate for you.
[1]

Figure 1:

Figure 2:

1

Working Environmental Factors	Mean	Std. Deviation	N
Ineffective Management	4.41	0.647	100
Discrimination and biasness inside the organization	2.99	1.040	100
Outdated system	4.38	0.774	100
Inadequate monetary and non monetary rewards	4.20	0.829	100
Political chaos in the country	2.90	1.000	100
Unsafe and unfavourable working condition in the workplace	4.17	0.682	100
Insufficient and ineffective co-workers	4.08	0.761	100

Figure 3: Table 1 :

2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig.
1	0.811 a	0.658	0.602	0.255	0.658	11.567	7	42	0.000

Figure 4: Table 2 :

3

Figure 5: Table 3 :

4

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Significance
		B	Std. Error	Beta		
	(Constant)	1.195	0.268		2.317	0.003
	Ineffective Management	0.789	0.032	0.318	3.707	0.000
	Discrimination and biasness inside the organization	0.049	0.072	0.326	0.991	0.241
	Outdated system	0.510	0.030	-0.189	2.667	0.002
1	Inadequate monetary and non monetary rewards	0.474	0.032	0.638	2.044	0.001
	Political chaos in the country	-0.038	0.031	0.046	0.115	0.910
	Unsafe and unfavourable working condition in the workplace	0.422	0.052	0.034	0.109	0.000
	Insufficient and ineffective co-workers	0.313	0.076	0.316	1.131	0.004

Figure 6: Table 4 :

7 CONCLUSIONS

1. What is your Gender? | Male | Female
2. What is your Age? | 15-24 | 25-34

3. What is your monthly income in BDT?

Less than Tk. 2000   Tk. 2000-3000

4. What is your Level of Education?

No education   Primary   Secondary

5. What is the working duration of you in this company in Years?

1-2   3-4   5-6   7-8

6. What is your skill level?   Unskilled   Novice

Section 2: Factors responsible for low productivity

1. Ineffective Management
(uneducated and inexperienced management body)
2. Discrimination
3. Outdated System
4. Inadequate monetary and non-monetary rewards
5. Political Chaos
6.Unsafe and risky environment
7. Insufficient and ineffective co-workers
8. For others, please specify:
Section 3: Questionnaire regarding workplace environmental factors responsible for low productivity in RMG
industries
The   workplace   environment   is   highly

accountable for the efficiency of the workers; workers

Figure 7:

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Positive philosophy/culture of management body enthuse me to work productively Inefficient planning of work and the organizational structure imposed by management affects the working environment that leads to low productivity Strict supervision affects the concentration of doing my job properly Because of inadequate and inexperienced supervision there is a limited chance to advance The team leaders rude behaviour affects the performance of my job The autocratic and non-participative leadership of superiors hampers my productivity 2.

The overall sophisticated operational system and the technologies helps me to give my best outcome Insufficient equipment and outdated system of resource processing lowers the productivity of work

.2 3.

The recognition of my performance motivates me to work hard Regular payment of salary and wage encourages me to give the organization my favour in return 4.

The proper lighting, ventilation, available space to move on assists me to foster my ability to take workload The suffocated atmosphere, the physical layout inside the workplace vacillate my productivity

.3 5.

Presence of safety equipment and hazard prevention facilities increases my productivity I always become tensed about the safety and health hazard issues that lowers my productivity 6.

Inefficient co-workers linger the process that lowers my productivity I feel my performance usually boosts up when I work with the likewise skilled person 7.

The biasness and discrimination in the workplace affect my working ability The political instability prevailing in the country affects my performance

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