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FACTORS AFFECTING PRODUCTIVE EFFICIENCY OF THE APPAREL INDUSTRY OF BANGLADESH

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ABSTRACT

Although labor productivity is a popular productivity(partial) measure for any production system but the factors which are responsible for augmenting its value, needs careful attention. Evaluation of performances of any production systems definitely depends upon various factors for its subsequent improvement. The apparel industries in Bangladesh suffer from poor productivity due to several factors, or variables. On many occasions, these variables are not only complex in nature by itself, but interacting too, thereby multiplying the complexity further. These factors or variables have never been analyzed econometrically. As a result, accurate performance, in terms of productivity, could never be known. This impedes subsequent improvement drive. This study is part of bigger research aimed at analyzing the factory performances, finding out the weak variable linkages and identifying the efficient frontier of apparel industry of Bangladesh. The study focuses on fifteen parameters in order to determine their influences upon the output of the workers as a whole. Five among them have been found to be influencing the output produced, which are: Gender, Age Group, Work Experiences, Satisfactions and Qualifications of the workers.

Keywords: Labor Productivity, Apparel Industry, Worker's Performances

1. INTRODUCTION

It a well known phenomenon that there exists a greater need for the productivity enhancement of the abundant labor force of the country, specially in the apparel sector. With the increase in the productivity per unit cost of the product is reduced which leads the company to remain competitive in both the inside and outside markets of the country. The unproductive workers are burdensome to the company and in the long run could destroy the organization. Productivity provides information about the performance, quality of individuals, work groups and processes. It presents current operational results and comparisons to past history.

In this study an attempt is being made to explore the affects of various parameters which positively or negatively influence the productive efficiency of any apparel industry. A questionnaire suitably designed to incorporate factors thought to influencing the productive efficiency of the apparel factory have been analyzed in a sequential manner. After obtaining detail answers analysis was carried out to find which factors are significant contributors to the productive efficiency [1]. The analysis was done using the SPSS.

Fifteen factors such as: Gender, Age Group, Work Experiences, Level of satisfactions, Fatigue, Relation with Fatigue, Number of hours worked, Compensation, Comfort, Skillness improvement, Nonpayment, Deferred payment, Qualifications, Need for training, Mode of learning, were analyzed against the output produced.

2. OBJECTIVES OF THE STUDY

To study the affects of various labor related factors affecting the productive efficiency of apparel industry.

3. METHODOLOGY AND DATA COLLECTION

A suitably designed questionnaire, incorporating labor related various factors thought to have affects on the productive efficiency, have been used to collect the primary data. These data have been collected from the apparel factories around the greater Dhaka city.

4. FACTORS AFFECTING THE PRODUCTIVE EFFICIENCY

4.1 Gender

Gender plays a major role in the factory environment. In Bangladesh, women's employment in export-oriented industry has narrowed the gender gap in many spheres [2]. The percentage of male and female and their individual contribution is necessarily big issue for augmenting the productivity. In Table 1 the number and percentage of male and female working in the factory are shown. In Table 2 the p-value shows that the relationship found between outputs produced in number of pieces and gender is significant.

Table 1: Gender distribution

Gender	Number	Percent
Male	120	29.6
Female	285	70.4
Total	405	100.0

Table 2: Output related to gender

Gender	pieces produced per hour			p-value
	60-79	80-99	100+	
Male	10.0	24.4	36.3	0.013
Female	90.0	75.6	63.7	
Total	100.0	100.0	100.0	

Here the outputs produced have been divided into three groups and analyzed accordingly. From the analysis it can be seen that in the higher producing categories the percentage of male workers are increasing proportionately i.e. the male workers are performing better than their counterpart.

4.2 Age Group

In considering the age of the workers as have been shown in the Table 3 the total numbers of workers are divided against four age groups (19-24, 25-30, 31-36 and 37+) and three output producing groups (60-79, 80-99 and 100+). In Table 4 the p-value shows that the relation between output produced in number of pieces and the different age groups are significant.

Table 3: Output distribution

PCSPHR GROUP	Age Group			
	19-24	25-30	31-36	37+
	Number of workers			
60-79	8	2	0	0
80-99	55	123	18	9
100+	12	159	7	12
Total	75	284	25	21

Table 4: Output related to age group

Age Group	% Output			p-value
	pieces produced per hour			
	60-79	80-99	100+	
19-24	80.0	26.8	6.3	0.0
25-30	20.0	60.0	83.7	
31-36	0	8.8	3.7	
37+	0	4.4	6.3	
Total	100.0	100.0	100.0	

It can also be seen that the better performing group is the group having the age between 25 to 30 years.

4.3 Work Experiences

In a factory undoubtedly work experiences of the workers augments the output of the factory as whole [3]. This has also found true in this case. The work experiences of the workers are divided into three groups (leas than 3 years, 3 to 10 years and more than 10 years) against output produced in pieces into three groups (60 to 79, 80 to 99 and more than 100) as shown in Table 5. The patterns of workers following into different groups are analyzed and when these data are run has been found to have very significant relationship, which can be seen from the p values in the Table 6.

Table 5: Distribution of Work Experiences of the workers.

Work Exp. Group	Number of workers				Total
		<3	3-10	10+	
PCSP HR GROUP	60-79	1	0	9	10
	80-99	45	25	135	205
	100+	26	103	61	190
Total		72	128	205	405

Table 6: Output related to Work Experiences

WEXPGR	pieces produced per hour				P Value
	60-79	80-99	100+	Total	
<3	10.0%	22.0%	13.7%	17.8%	0
3-10	0	12.2%	54.2%	31.6%	
10 and above	90.0%	65.9%	32.1%	50.6%	
Total	100.0	100.0	100.0	100.0	

4.4 Level of Satisfactions

The fourth factor has been analyzed is the level of satisfactions of the workers, which is divided into five levels (Very satisfied, Satisfied, Neither satisfied nor dissatisfied, Dissatisfied and Very dissatisfied) against the three output produced in pieces in hour(60 to 79, 80 to 99 and more than 100) as shown in Table 7. When these levels of satisfactions of the workers are analyzed against the output produced it was found to have no significant relationship as shown in Table 8.

Table 7: Satisfaction distribution

PCSPHR		Numbers of workers			
		60-79	80-99	100+	Total
SATIS GROUP	Very much satisfied 81%>	8	178	165	351
	Satisfied 61%-80%	1	15	9	25
	Neither satisfied nor dissatisfied 51%-60%	1	5	5	11
	Dissatisfid 30%-50%	0	2	5	7
	Very much dissatisfid <30%	0	5	6	11
Total		10	205	190	405

Table 8: Output related to satisfactions

	PCSPH RGR	pcs produced per hour			P Value
		60-79	80-99	100+	
SATISFACTION GROUP	Very much satisfied 81%>	2.3	50.7	47.0	0.001
	Satisfied 61%-80 %	4.0	60.0	36.0	
	Neither Satisfd nor Dissatisfied 51%-60 %	9.1	45.5	45.5	
	Dissatisfied 30%-50 %	0	45.5	54.5	
	Very much Dissatisfied <30%	2.5	50.6	46.9	

4.5 Qualifications

The qualification of the workers plays an important role, since uneducated person are able to learn the skills and techniques very slowly, which in turn lead the overall performance of the factory to remain in a low level. The qualifications of the workers have been classified into three tiers: below Class V, Class VI to VIII and above Class VIII. The pattern distributions are shown in Table 9. When the values of the output are analyzed against the qualifications it is found that there exists a significant relationship as shown in Table 10.

Table 9: Qualifications distribution.

Class interval	Number	Percent
Below class V	243	60.0
Class VI to VIII	121	29.9
Above class VIII	41	10.1
Total	405	100.0

Table 10: Output related to relationship to qualifications.

Qualification	% Output pieces produced per hour				
	60-79	80-99	100+	Total	P Value
Below class V	90.0	74.1	43.2	60.0	2 cells (22.2%) have expected count less than 5.The minimum expected count is 1.0
Up to Class VIII	10.0	13.7	48.4	29.9	
Above Class VIII	0	12.2	8.4	10.1	

5. CONCLUSION

After carrying out the analysis Gender, Age Group, Work Experiences, Satisfactions of the workers and Qualifications of the workers have been found to have positive influences on the output produced. From the values after conducting individual linear regressions it has been found that approximately 3.4 percent of the variation in output is explained by the gender factor, approximately 4.2 percent of the variation in output is explained by the age group factor, approximately 3.7 percent of the variation in output is explained by the work experiences, approximately 0.05 percent of the variation in output is explained by the satisfactions, 4.9 percent of the variation in output is explained by the qualifications factor. Also it is understood that there are other factors besides these contributing factors which have influences on the output produced. The differences between R Square and Adjusted R Square are very small. The error quantity indicates that the misspecification is very small. It can be seen that in the higher producing categories, the percentage of male workers are increasing proportionately i.e. the male workers are performing better than their counterpart. These values have been shown in Table 11.

Table 11: Gender Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Gender	0.185	0.034	0.032	0.53631
Age Group	0.206	0.042	0.040	0.53401
Satisfaction	0.074	0.005	0.003	0.54418
Work Exp.	0.19	0.037	0.034	0.535
Qualificns	0.221	0.049	0.046	0.53218

6. RECOMMENDATIONS

1. The data set considered have been collected from around the greater Dhaka city. The analysis may be carried out collecting the data from outside the Dhaka city e.g. Chittagong and other parts of the country.

2. In finding the factors, responsible for augmenting the productive efficiency of the Apparel factories, fifteen factors have been considered, mostly related to labor productivity of the workers and working conditions of the factory. Other factors such as style of leadership, management quality etc. may be incorporated.

3. Multiple Regression Analysis may also be applied taking into account all the parameters which may influence the output.

7. REFERENCES

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