A multivariate analysis of human capital: evidence from readymade garments industry of Bangladesh

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ABSTRACT

The aim of the research is to find the association between human capital and financial and non-financial performance. A self-administered survey instrument is developed consisting 26 items under three parts. Both primary and secondary data have been used in this study. In order to collect primary data, face-to-face interview method was used. The result provides evidence that human capital is significantly associated with financial and non-financial performance of an organization. That means skills, education and training, knowledge and competencies, and positive attitudes are vital elements to increases organizational performance. The study recommended the BGMEA, BKMEA, entrepreneurs, policy makers, and investors to concentration on fundamental variables that are influencing the development of human capital in RMG industry of Bangladesh.

Contribution/ Originality
This study used new estimation methodology to measure the impact of human capital on organizational performance. The paper has shown the relationship between human capital and financial and non-financial performance of the organizations. Hence, the study contributes in the existing literature with multi-dimensional analysis of human capital.

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1. INTRODUCTION

Human Capital (HC) enlarges owners' abilities to exploit and discover business opportunities. Researchers have long been interested in finding the relationship between human capital – including skills, education, training, knowledge and experience– and organizational performance. A good amount of arguments proposed a positive association between HC and organizational performance. Development of HC improves the job performance of an employee with new and relevant skills and knowledge. Armstrong (2006) stated that HC is all the abilities including acquired attributes or innate of a human, whose value could be upgraded by appropriate initiatives. Davenport (1999), defined HC as consists of all intangible assets that employees give to their employers. The world is driving to the emergence of knowledge-based business society. HC is considered as a heart of the knowledge-based economy and has been regarded as the basic component of intellectual capital. This needs successful organizations to recognize the significance of HC as a foundation of sustainable competitive advantage. HC is the most significant and valuable intangible assets of any organization. It assists the organization to develop and attain its goals in an effective and efficient manner. Human capital play very important role in organizational performance. It is general facts that as employees obtain more knowledge through education and training, human capital increases the productivity, profitability, and innovativeness. Individuals, groups, organizations, as well as nations progressively recognize that increasing needs of competences and skills are vital to future success and safety. The complex business environment demands positive, proactive and quality HC. Most business organizations comprised HC as a way of competitive advantage in order to increase their outcome. Though a positive interaction between HC variables and organizational outcome is well recognized, doubt remains above the degree of this connection and the conditions under which human capital is more or less strongly associated with organizational performance.

2. PROBLEM STATEMENT

Bangladesh is a rapidly growing economy through maintaining above 6 percent GDP growth every year driven by Ready-Made Garment (RMG) industry, which has promoted the nation in the global arena through the motto "Made in Bangladesh". The industry initiated its journey in the late 70's and since then it continued to perform and has appeared as the largest export earning sector of the country. In the year 2016-2017 export earnings from this sector were US$ 28.15 billion (www.bgmea.com.bd).This sector has contributed to socioeconomic prospects, creating a huge number employment opportunity mostly for the poor illiterate female workforce of the country. At present more than 4 million workers are directly employed in RMG sector. Thus, the population of Bangladesh is an asset to the RMG sector of the country. The vision of Bangladesh is to increase the global market share of this sector from 5.0 percent to 8.0 percent and plans to double its apparel export to reach a high ambition mark of US$ 50 billion by 2021. In order to achieve this target sufficient amount of human capital can play a very important role in this sector. Realizing its worth and making proper utilization of the available human capital will help to develop the economy of the country as a whole. In spite of having importance contribution of HC on organizational performance, no single study is found relating to this topic in this sector. This study will contribute in existing literature and through the analysis of human capital in RMG sector of Bangladesh.

3. LITERATURE REVIEW

3.1. Human capital
The concept and investigation of HC, as well as organizational outcome, have become interesting issues for the scholars. The following study explains how organizational performance is related to human capital. It starts with a review of the concept of human capital and also reviews firm performance and association between HC and organizational performance.

According to Goode (1959), HC is the mix of skills, knowledge, acquired traits and aptitudes contributing to production. Skills signify capacities of the individual which contribute to production

(Bowles *et al.,* 2001). Early ability (both innate and acquired), knowledge and skills obtained through on the job training and formal educations are the two main elements of human capital (Blundell *et al.,* 1999). HC varies from other assets as it ensures earning in proportion to the workers deliver of labour (Hall and Johnson, 1980). The earnings of individual people are mainly dominated by the stock of human capital (Ishikawa and Ryan, 2002). Mayo (2001), the fundamental dissimilarity between HC management and HRM (human resource management) is that the earlier considers employee as valuable assets whereas the second considers employee as costs. Kearns (2005) trusts in human capital management and considers "people are value adders, not over headers". Fombrun *et al.* (1984) fairly represent workers as a most important resource that managers utilize to attain competitive advantage for firms.

From the previous, it can be concluded that HC can be focused on different views like organization, individual (intangible and tangible), cognitive and affective. The intangible features of human capital consist of motivation, attitude, personality attributes, behaviours and commitment. This research concentrated human capital from both viewpoint of affective (individual's attitude) and cognitive (education and training, skills, knowledge and competency).

3.2. Organizational performance

Organizational performance usually focused on the basis of organizational perspective and economic perspective. Organizational perspective constructs on sociological and behavioural patterns of services quality (like customer satisfaction and employee satisfaction), product quality and competitiveness, while economic perspective highlights the magnitude of outside market aspects of the organizations' competitive business situation and anything associated with financial aspects (Tvorik and McGiven, 1997).

Different approaches have been proposed to assess the business and organizational performance by several scholars (Ford and Schellenberg, 1982). There are ten types of organizational performance assessments technique under three broad dimensions: organization's effectiveness, business performance and financial performance (Prajo *et al.,* 2007). Organizational outcome can be evaluated on the basis of gross profit, profitability, return on asset (ROA), return on equity (ROE), return on investment (ROI), return on sale (ROS), market share, stock price, sales & revenue growth, export growth, operational efficiency and liquidity (Samad, 2012; Venkatraman and Ramanujam, 1986).

According to Jones *et al.* (2000) performance of organization can be evaluated in different ways such as financial performance (return on investment, profitability), product performance (amount of distinct product features, product reliability) and market (customer satisfaction, market share). For business organizations, two types of methods may work as a source for performance appraisal. They are profit measures like as ROA and ROS, and growth measures like as sales growth. Here, first one indicates shows the efficiency of its operations. The second one indicates the effectiveness of an organization to introduce new markets opportunity or enlarge in the growth existing markets (Li and Richard, 1999).

Organizational outcome includes following three particular areas of effects: financial outcome (profits, ROI and assets; shareholder return (economic value added, total shareholder return) and market performance (market share, sales) (Richard *et al.,* 2009). Academically, performance is the obvious dependent variable and interest of those organizations associated with any part of management; marketing is concerned with market share and customer satisfaction; accounting is also interested in assessing performance; operations management is concerned with cost of operations and productivity, organizational behavior is concerned with employee structural efficiency and satisfaction; and finance is concerned with response in capital market to all the above.

Performance is associated to different goals and measures depending on size and corporate strategy (Richard *et al.,* 2009) or as a result of stakeholders' diversified concepts of bad and good performance (Lusthaus *et al.,* 2002). According to Dyer and Reeves (1994), organizational performance is multi-dimensional formation constituting to three kinds of assessment for organizational performance. Like

(i) financial outcomes (market value, company profit), (ii) organizational outcomes (customer satisfaction or productivity) and (iii) human resource effect (job satisfaction).

3.3. Linking organizational performance and human capital

A study conducted by Samad (2013) to assess the input of HC on business outcome in Malaysian logistics companies. The study found that all features of human capital have a significant influence on business outcome. This study also concluded that among the different characteristics of human capital, competency and creativity are the most important aspects to enhance business performance.

Carpenter et al. (2001) in their research on the US Multinational companies taking a sample of 245 multinational organizations exploring the influences of CEO global task experience on organizational performance. Empirical evidence suggested that characteristics of CEOs affect strategic actions that have implications for organizational performance. The study indicated that the positive association of a CEO's previous global experience and his or her financial outcome is higher when the other top administration group has global work experience as well. The study showed that a higher degree of intellectual capital predicts organizational performance. Moreover, in highly international organizations, chief executive officers with global work experience appropriated a superior percentage of outcomes in their pay.

Benjamin et al. (2012), in their study emphasizes organization-specific HC as a media to achieve competitive advantage founded on the hypothesis that it limits employee mobility. Ravi et al. (2013) observed that investment in HC which is focused to employee training paly play positive role in improving employee performance. The study found a significantly positive relation between training and employee performance. A unit raises in training is associated with 2.14 percent rise in the performance employee. They also identified that common training that employees employ outside the organizations also improve their performance.

The study of Odhon'g and Omolo (2015) found a statistically significant affiliation between HC investment and organizational performances. The variables of skills developments, education, knowledge management and training have significant relation with organizational performance. Investment in the Human capital is an instrument for making value and constitutes HC risk management strategies for achieving sustainable organizational outcome. Saini et al. (2016) found that skills, knowledge, creative and innovative capability and human capital as a whole have a significant and positive impact on quality performance.

Almasarweh (2016) studied on pharmaceutical companies in Jordan and established that learning, skills and knowledge of HC have the statistically significant impact on competitive performance. Jamal and Saif (2011) identified a positive affiliation between HC management and organizational outcome in knowledge-intensive industry located in Pakistan. Chen and Lin (2005) explained human capital as input completed by the company in technology and talents that promote competitive advantages, which are unique and valuable and ought to be kept away from other competitors. Khandekar and Sharma (2003) recommended that organization that use better HR competencies are possible to achieve superior performance and sustainable advantages. Wan (2007) clarified on the basis examining 4 MNC's that HC development policy has an outcome on organization policy and employee's satisfaction. Nafukho et al. (2006) demonstrated the apparent relation between HRD and employee productivity. Saenz (2005) proved that the human capital has an apparent effect on the outcome reflected by its market-to-book value ratio. Seleim et al. (2007) concluded a positive and significant linkage between HC as well as organizational outcome.

There are to date no single empirical studies in the context of Bangladesh which analyze the impact of HC on organizational performance. This gap induces the researcher to undertake the present study.

4. RESEARCH MODEL

Based on literature review it is observed that skills, education and training, knowledge and competencies and attitudes of human lead to higher organizational performance. Organizational performance can be viewed as financial (profit, sales growth, and market share) and nonfinancial (employee productivity, employee satisfaction and employee turnover). The research model for the study has been presented in the following way:
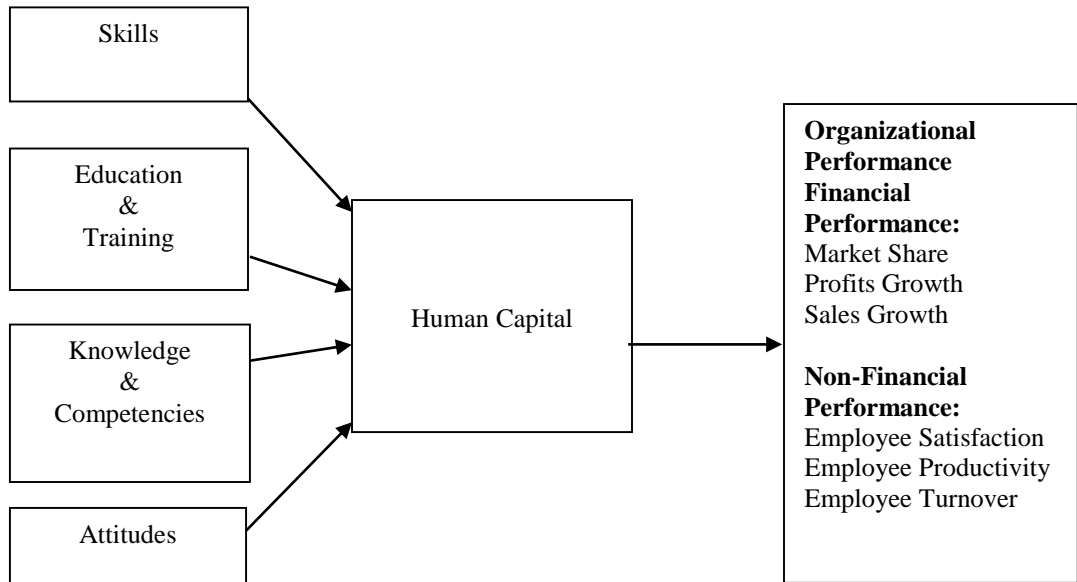

Figure 1: Conceptual framework

In the above figure, Human capital is considered as independent variable Whereas Organizational performance is considered as dependent variable. skills, education & training, knowledge & competencies and attitudes of the employee are the elements of human capital which influence the organizational performance of a market share, sales and profit growth, employee satisfaction, employee productivity and employee turnover.

4.1. Objectives
- To determine the association between human capital and organization's financial performance
- To identify the effect of human capital on organization's non-financial performance.

5. RESEARCH METHODS

5.1. Research design
This study is composed of desk research and questionnaire survey. The investigative study has been applied to observe the impact of HC on organizational performance.

5.2. Sampling and data collection
According to Bangladesh Garment Manufacturer and Exporter Association (BGMEA), there are almost 4500 garments factories in Bangladesh and thus it is taken as population. The study was conducted on 208 respondents from 208 garments using cluster sampling method. The researcher has divided the whole country into five clusters namely Dhaka, Chittagong, Gazipur, Narayanan and other areas of the county. Respondents were selected from each of the clusters conveniently. The

respondents were the Head of HR or top officials selected organizations. The researcher tried to collect data proportionately from each of the clusters, but responses were as follows:

Table 1: Sample selection

Locations	No. of Organization (approximately)	Attempt/ send a questionnaire to collect data	Successfully collected	Response rate	% on Total Number of Organization
Dhaka	2450	162	141	87%	5.76%
Gazipur	650	44	43	97%	6.62%
Narayanganj	750	50	5	10%	0.70%
Chittagong	600	40	16	40%	2.67%
Other	50	4	3	75%	6%
Total	4500	300	208	69%	6.67%

For collecting primary data face-to-face interview, sending and receiving questionnaires through email technique have been used. In order to measure financial performance especially for sales and profit growth, secondary data of sales volume and net profit from 2013 to 2016 have been used. Due to confidentiality some financial data was calculated based on the assumption of the respondents. The researcher tried to interview the employees to measure whether employee satisfaction level has improved or not over last three years, but authority did not permit rather they filled up questionnaires from their own studies. The researcher has attended to conduct an interview with 300 respondents. After scheduled confirmation, the researcher firstly briefed the respondents about the purpose of the study then asked them about questions and filled up accordingly. A respondent took ten to fifteen minutes on to complete the survey instrument. Data have been collected from Chittagong and Narayanganj through email and taking help from some people. Finally, the researcher has been successfully conducting an interview of 215 respondents. Out of 215 instruments 7 have been rejected due to partially completed. So, the success rate is 69% (208*100/300). Secondary data were collected from research studies, books, journals and academic working papers etc.

5.3. Survey instrument

The researcher has been gone through comprehensive literature review to identify the variables and items that have been used. A self-administered survey instrument is developed consisting 26 items under three parts (included in the appendix). The first part designed for an independent variable which includes 20 items under four components namely skills, education and training, knowledge and competencies and attitudes of employees. The second and third parts of survey instruments designed for dependent variables of financial performance and nonfinancial performance respectively. The survey instrument is developed while keeping two criteria in mind: i) that the survey instrument meets reasonable reliability and validity standards; ii) that the instrument is short and practical to administer in terms of the amount time required to complete.

5.4. Reliability measures

Reliability displays the inside consistency of items used in study as variable. To analyze the reliability of the variable, Cronbach's Alpha coefficient value has been used. Cronbach's alpha is very popular and commonly accepted approach to verify the reliability of scale. (Page and Meyer, 2000; Cooper and Schinder, 2001; Hair et al., 1998; Malhotra, 2002). The range of Cronbach's alpha is in between "0" to "1" but to be reliable it required to be more than 0.6 (Cronbach, 1951; Malhotra, 2002). However, the Cronbach's alpha of this study is 0.876 which indicate that the survey instrument used for data collection is highly reliable (Hair et al., 1998). The reliability of the components of HC and Organizational performance.

Table 2: Reliability statistics of variables

Variables	Cronbach's Alpha	Number of Items
Skills	0.779	5
Education and Training	0.674	4
Knowledge and Competencies	0.799	7
Attitudes	0.744	4
Organizational Performance	0.779	6
All variable together	0.876	26

5.5. Data analysis

All collected raw data was reviewed, edited and recorded by using SPSS 20 software to carry out statistical analysis. IBM SPSS AMOS software has been used to develop structural equation model (SEM) and interpret standard multivariate analysis including correlation, Variance analysis factor analysis, and regression. Structural equation modelling (path analysis) used to gain additional insight into causal models and explore the interaction effects and pathways between observed and/or latent variables. Skills, education and training, knowledge and competencies and attitudes have been considered as exogenous variables and Organizational performance has been considered as an endogenous variable. All the items or observed variables under each latent variable have been used to form measured model.

6. RESULTS AND DISCUSSION

The research findings have been elaborated under the following sub-heads.

6.1. Structural equation model of HC and organizational performance

In this section, the structural model has been used to show the overall impact of HC on organizational performance. It explains the relationship between HC and organizational performance with various independent and dependent variables.
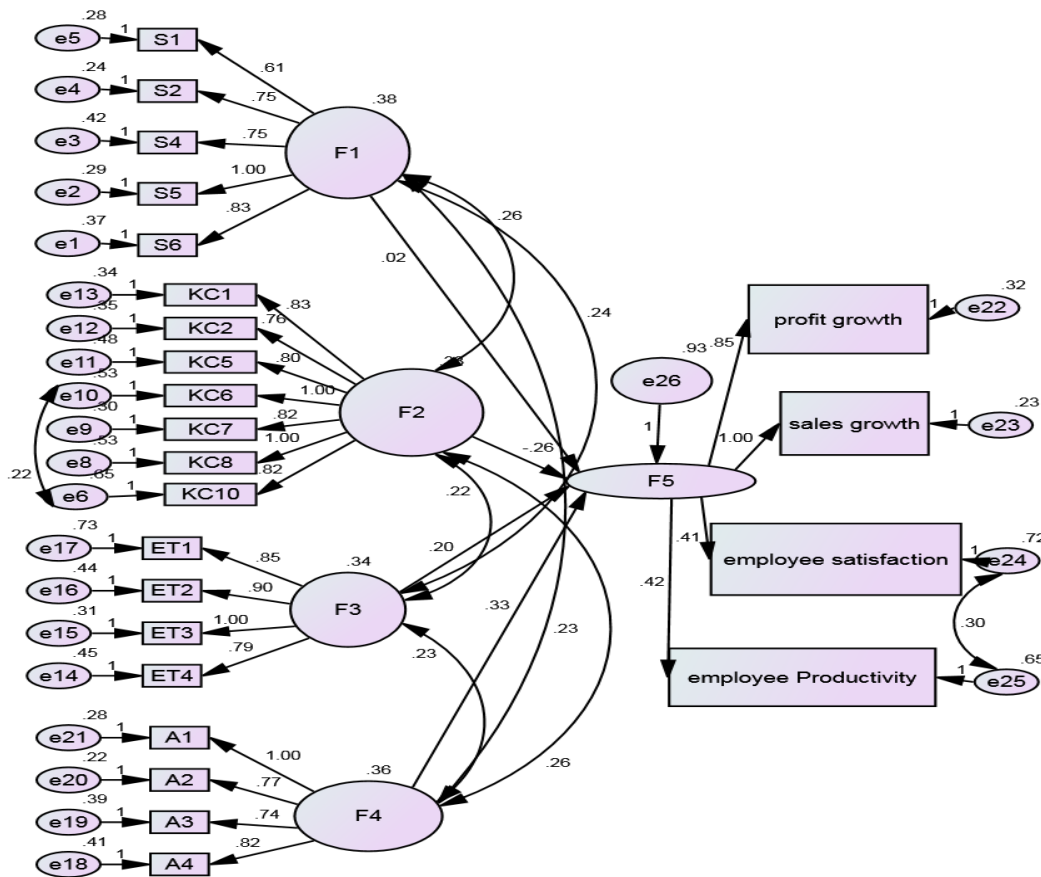
Figure 2: Un-standardized estimates human capital and organizational performance

Notes: F1=Skills, F2= Knowledge and Competencies, F3= Education and Training, F4= Attitudes, F5= Organizational Performance

Table 3: Model summary of GFI

Index	Acceptance Level	Result	Note
AFI			
RMSEA	<0.08	0.058	Less than 0.05 is considered for a perfect fit, whereas 0.05 to 0.08 is considered as acceptable fit.
IFI			
Goodness Fit Index (GFI)		0.861	
Normal Fit Index (NFI)		0.79	
Relative Fit Index (RFI)		0.76	A value 0 indicates a poor fit value 1 indicates a perfect fit.
Incremental Fit Index (IFI)	0.90>	0.901	
Tucker-Lewis Index (TLI)		0.884	
Comparative Fit Index (CFI)		0.899	
Parsimonious Fit Index (NFI)			
Normed Chi-square	1.00-5.00	1.690	Less than 3 is preferred up to 5 is acceptable.

To verify the structural model, it is required to test the goodness of fit indices. It prescribed whether structural model fit the data or not. The outcome of the model demonstrates that the hypothesized model fit the data absolutely. The fit index values are Chi-square = 1.690, GFI = 0.861, NFI = 0.79, RFI = 0.76, IFI = 0.901, TLI = 0.884, CFI = 0.899, and RMSEA = 0.058. These results demonstrate that the proposed model is the best fit for the data.

Table 4: Regression weights

			Estimate	S.E.	C.R.	P	Label
F5	<---	F1	0.023	0.277	0.085	0.932	par_20
F5	<---	F2	-0.261	0.372	-0.702	0.483	par_21
F5	<---	F3	0.205	0.271	0.756	0.450	par_22
F5	<---	F4	0.328	0.299	1.098	0.272	par_23
Problem-solving skills	<---	F1	0.832	0.098	8.531	***	par_1
Decision-making skills	<---	F1	1.000				
Communication skills	<---	F1	0.753	0.098	7.687	***	par_2
Analytical skills	<---	F1	0.753	0.083	9.065	***	par_3
Technical skills	<---	F1	0.612	0.080	7.648	***	par_4
Entrepreneurial zeal	<---	F2	0.823	0.109	7.560	***	par_5
Aware of global trend	<---	F2	1.000	0.140	7.139	***	par_6
Competency	<---	F2	0.820	0.110	7.425	***	par_7
New idea	<---	F2	1.000				
Share knowledge	<---	F2	0.804	0.123	6.556	***	par_8
Information	<---	F2	0.761	0.111	6.884	***	par_9
Work as a team	<---	F2	0.826	0.114	7.237	***	par_10
Access training	<---	F3	0.786	0.117	6.712	***	par_11
Well trained	<---	F3	1.000				
Attract and retain talent	<---	F3	0.900	0.124	7.261	***	par_12
Educational profile	<---	F3	0.849	0.140	6.065	***	par_13
Self-motivated	<---	F4	0.823	0.105	7.845	***	par_14
Satisfaction	<---	F4	0.737	0.099	7.414	***	par_15
Committed	<---	F4	0.769	0.087	8.863	***	par_16
Loyal	<---	F4	1.000				
Profit	<---	F5	0.851	0.094	9.009	***	par_17
Sales growth	<---	F5	1.000				
Employee satisfaction	<---	F5	0.407	0.071	5.748	***	par_18
Productivity	<---	F5	0.421	0.069	6.134	***	par_19

Notes: F1 = Skills, F2 = Knowledge and Competencies, F3 = Education and Training, F4 = Attitudes, F5 = Organizational Performance

Regression weights indicate unstandardized loadings of the model where SE stands for standard errors, CR stands for critical ratio P stands for P-value. P-value less than 0.05 or a critical value more than 1.96 means statistically significant. In this case, the impact of skills, knowledge and competencies, education and training and attitudes of employee on organizational performance is insignificant as p-value is more than 0.05 and critical value is less than 1.96. All the other estimates are significant as p-value is less than 0.001 and CR is more than 1.96 ranging from 0.407 to 1.

Table 5: Standardized regression (SR)

			Estimate
F5(OP)	<---	F1	0.015
F5(OP)	<---	F2	-0.151
F5(OP)	<---	F3	0.120
F5(OP)	<---	F4	0.199
Problem-solving skills	<---	F1	0.646
Decision-making skills	<---	F1	0.753
Communication skills	<---	F1	0.581
Analytical skills	<---	F1	0.688
Technical skills	<---	F1	0.578
Entrepreneurial zeal	<---	F2	0.503
Aware of global trend	<---	F2	0.618
Competency	<---	F2	0.651
New idea	<---	F2	0.615
Share knowledge	<---	F2	0.554
Information	<---	F2	0.589
Work as a team	<---	F2	0.629
Access training	<---	F3	0.562
Well trained	<---	F3	0.721
Attract and retain talent	<---	F3	0.618
Educational profile	<---	F3	0.500
Self-motivated	<---	F4	0.610
Satisfaction	<---	F4	0.575
Committed	<---	F4	0.698
Loyal	<---	F4	0.747
Profit	<---	F5	0.831
Sales growth	<---	F5	0.898
Employee satisfaction	<---	F5	0.429
Productivity	<---	F5	0.457

Notes: F1 = Skills, F2 = Knowledge and Competencies, F3 = Education and Training, F4 = Attitudes, F5 = Organizational Performance

Standardized regression weight (SRW) indicates the relationship observed variable with corresponding common factor. The above table displays SRW (factor loadings) for the common factors along with the indicators. Here, latent variable of skills, knowledge and competencies, education and training and attitudes of employee with organizational performance indicate weak relations. Other variables have moderate to strongly standardized loading ranging from 0.429 to 0.898.

Table 6: Covariances among the latent variables

			Estimate	S.E.	C.R.	P	Label
F1	<-->	F2	0.265	0.046	5.781	***	par_24
F2	<-->	F3	0.218	0.042	5.205	***	par_25
F3	<-->	F4	0.227	0.041	5.526	***	par_26
F1	<-->	F4	0.231	0.041	5.632	***	par_27
F1	<-->	F3	0.243	0.042	5.731	***	par_28
F2	<-->	F4	0.263	0.045	5.783	***	par_29

Notes: F1 = Skills, F2 = Knowledge and Competencies, F3 = Education and Training, F4 = Attitudes, F5 = Organizational Performance

The covariance among the common factors of skills, education and training, knowledge and competencies and attitudes are in between 0.218 to 0.265. The covariance among the item is statistically significant as p-value is 0.000 and CR is more than 1.96.

Table 7: Correlations of the latent variables

			Estimate
F1	<-->	F2	0.755
F2	<-->	F3	0.658
F3	<-->	F4	0.655
F1	<-->	F4	0.629
F1	<-->	F3	0.681
F2	<-->	F4	0.771

Notes: F1 = Skills, F2 = Knowledge and Competencies, F3 = Education and Training, F4 = Attitudes, F5 = Organizational Performance

The above table shows a strong correlation between the common factors of human capital. The highest correlation exists between Knowledge and Competencies and Attitudes of the employee (0.711), whereas there is least correlation exists between skills and attitudes of the employee (0.629).

Table 8: Multiple squared correlations

	Estimate
F5(OP)	0.041
Productivity	0.209
Employee satisfaction	0.184
Sales growth	0.807
Profit	0.690
Loyal	0.558
Committed	0.488
Satisfaction	0.331
Self-motivated	0.373
Educational profile	0.250
Attract and retain talent	0.382
Well Trained	0.520
Access training	0.315
Work as a team	0.396
Information	0.347
Share knowledge	0.306
New idea	0.378
Competency	0.424
Aware of global trend	0.382
Entrepreneurial zeal	0.253
Technical skills	0.334
Analytical skills	0.473
Communication skills	0.338
Decision-making skills	0.567
Problem-solving skills	0.417

The squared multiple correlation coefficients (R^2), describing the amount of variance the common factor accounts for in the observed variables, are displayed in the above table. The R^2 of corresponding to 24 of the 25 observed variable indicate that the respective factors explain a respectable portion of the variance (between 18.4% and 80.9%). Only organizational performance (F5) has negligible R^2 (4%).

7. DISCUSSIONS

In this study, the researcher develops and tests a model that explores the effect of HC on organizational performance. The result provides evidence that HC has a positive and statistically significant relationship with organizational outcome. That means skills, education and training, knowledge and competencies, and attitudes of employees are very important elements to increases organizational performance. RMG sector is the backbone of Bangladesh. Bangladesh has a strong position in world's apparel market. The vision Bangladesh is to increase global market share from 5.0 percent to 8.0 percent by 2021, which needs growing exports to about US\$ 50 billion. This can only be the achievable goal if the owner can ensure sufficient amount of human capital in this sector. So, emphasis should be given to developing human capital in the organizations. For that reasons, the employer should attract and retain skilled and talented people in this sector. Training and development of employee should be increased to develop knowledge and competencies level of employees. The organization also need to facilitate the capabilities and skills of its employees by inspiring organizational and individual learning and making a helpful atmosphere where knowledge can be created, shared and applied. In addition, collaboration should be made between organizations and educational institutions to match skills requirement of the job. Moreover, as attitudes, loyalty or commitment of the employees is important to increase performance sound work environment, fair remunerations and incentive should be given to increase employee's motivation level.

8. POLICY IMPLICATIONS

The propositions of this study are: Firstly, it is the empirical evidence on the impact of human capital in RMG industry of Bangladesh. Secondly, this study recommended the BGMEA, BKMEA, entrepreneurs, policy maker and investors to concentrate on key variables that are influencing the development of human capital in RMG industry of Bangladesh. Finally, the outcome of this investigation will assist the upcoming investigator in the field of HC development.

This study is not free from following drawback: Firstly, the data is collected from only RMG sector of Bangladesh. Secondly, data is collected from only one country. Thirdly, the questionnaire is constructed with Likert scale; so there could be the chance of acquiescence bias, central tendency bias and social desirability bias. Fourthly, some confidential data was provided based on CEOs assumption. Therefore the measurement is not based on raw data. Finally, this study composed of only 208 respondents of RMG sector, Bangladesh and therefore it may not be representative. In spite of having above weakness, the result of this investigation will reflect the situation of human capital and organizational performance.

Current study was conducted on the worker of RMG sector of Bangladesh. Further investigation can broaden the possibility of the study firstly, by expanding more data from other sectors like pharmaceutical, education, information technology etc. Data can be collected from developed countries. Moreover Secondly, human capital covers other elements like the health of people, so another study can be done to add health variable. Thirdly, research can also be done to find out the factors affecting human capital development in developing country like Bangladesh. Finally, another study is suggested to measure the role of human capital in organizational and economic development in the county as well.

9. CONCLUDING REMARKS

Conceptualizing human capital is basics of the organizational and economic performance. Literature shows strong witnesses to display infusion of HC improvement in organizations and progress innovativeness and superior firm outcome. The study revealed that financial performance like profit and sales growth and nonfinancial performance like employee satisfaction and employee productivity are positively and significantly influenced through the contemplation of human capital. In addition to this, organizational outcome in relative to human capital should not be considered as incidents which add zeros in organization's profit. Essentially it is altering the entire workforce in the organization for superior accomplishments through creativity and innovativeness. Therefore, enterprises should take effective and appropriate plans for investing the various aspects of human capital. It will not only direct organizations to attain superior performance but also make organizations remain competitive for long-term survival.

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Appendix

Appendix 1: Model Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
DM	60	405.575	240	0.000	1.690
SM	300	0.000	0		
IM	24	1911.234	276	0.000	6.925

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
DM	0.061	0.861	0.826	0.689
SM	0.000	1.000		
IM	0.186	0.353	0.297	0.325

Baseline comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
DM	0.788	0.756	0.901	0.884	0.899
SM	1.000		1.000		1.000
IM	0.000	0.000	0.000	0.000	0.000

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
DM	0.058	0.048	0.067	0.096
IM	0.169	0.162	0.176	0.000

Appendix 2: Variances

	Estimate	S.E.	C.R.	P	Label
F1	0.379	0.065	5.852	***	par_32
F2	0.325	0.072	4.526	***	par_33
F3	0.336	0.065	5.173	***	par_34
F4	0.357	0.063	5.683	***	par_35
e26	0.931	0.146	6.358	***	par_36
e1	0.367	0.042	8.723	***	par_37
e2	0.290	0.039	7.497	***	par_38
e3	0.421	0.046	9.145	***	par_39

e4	0.239	0.029	8.345	***	par_40
e5	0.283	0.031	9.161	***	par_41
e6	0.651	0.069	9.479	***	par_42
e8	0.526	0.059	8.987	***	par_43
e9	0.297	0.034	8.752	***	par_44
e10	0.534	0.059	8.980	***	par_45
e11	0.475	0.051	9.328	***	par_46
e12	0.354	0.039	9.154	***	par_47
e13	0.339	0.038	8.913	***	par_48
e14	0.451	0.051	8.794	***	par_49
e15	0.310	0.045	6.854	***	par_50
e16	0.441	0.053	8.305	***	par_51
e17	0.726	0.079	9.181	***	par_52
e18	0.407	0.046	8.808	***	par_53
e19	0.391	0.043	9.041	***	par_54
e20	0.222	0.028	7.955	***	par_55
e21	0.283	0.039	7.217	***	par_56
e22	0.316	0.075	4.200	***	par_57
e23	0.233	0.097	2.388	.017	par_58
e24	0.715	0.073	9.803	***	par_59
e25	0.650	0.067	9.736	***	par_60

Notes: F1=Skills, F2= Knowledge and Competencies, F3= Education and Training, F4= Attitudes, F5= Organizational Performance

Appendix 3: Acronym

AFI= Absolute Fit Index
GFI=Goodness-of-fit index
HC=Human Capital
IFI= Incremental Fit Index
RMSEA=Root Mean Square Error of Approximation
SPSS=Statistical Package for the Social Sciences

Appendix 4: Survey instrument

Impact of human capital on organizational performance-a study on RMG sector in Bangladesh

Respondents Profile	
1. Name of Organization:	2. Address
3. Number of employees:	4. Operational age of Organization:
5. Name of respondent:	6. Designation:
7. Age:	8. Year of Experience:
9. Marital Status:	

Part A: The degree of human capital available in organization

i. Skills

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)

Employees have adequate technical skills to do their specific assigned job.
Employees can analyze and face a critical situation.
Employees have enough communication skills.
Employees have good decision-making skills.
Employees have the skills to solve the problem.

ii. Education and training

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Employees' educational profile matches with their job requirement.					
The organization is able to attract and retain talented human resources.					
Employees are well trained on their job.					
Procedures in place that enable employees to access training when they need it.					

iii. Knowledge and competencies

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Employees have the ability to work as a team.					
Employees have the information they need to do their jobs.					
Employees are well experienced on their job.					
Most of the employees have a long tenure in the organization					
Employees share knowledge with each other.					
Employees generate new innovative ideas.					
The competence of Employees as a whole is equal to the ideal level (matching with their work requirements and responsibilities).					
Our Employees are aware of global trends in their respective areas.					
Employees are creative.					
Employees have an entrepreneurial zeal in them while doing the job in the organization.					

Employees are proactive in approach and highly adaptable to change.	
Employees' trustworthiness and credibility cannot be doubted.	

iv. Attitudes

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
Employees are loyal toward the organization.					
Employees are committed to the organizational strategy.					
Employees are satisfied with the organization.					
Employees are self-motivated toward their job.					

Part B: Measuring organizational performance through financial measures

i. Market share

Please tick mark (√) from the scale of 5, the most appropriate matching scale	Not improved (1)	Improved to a moderate extent (2)	Improved to some extent by 3%-5% (3)	Improved to a large extent by 5%-10% (4)	Improved to a great extent by 10%-15% (5)
Market share of my organization in the past 3 years have…					

ii. Profit growth
Please provide figures of your organizational performance. If no figure is available please fill in the estimated figures
The net profit in the year 2013 was… (Taka in cr.)
The net profit in the year 2014 was… (Taka in cr.)
The net profit in the year 2015 was… (Taka in cr.)
The net profit in the year 2016 was… (Taka in cr.)

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Not improved (1)	Improved to a moderate extent (2)	Improved to some extent by 3%-5% (3)	Improved to a large extent by 5%-10% (4)	Improved to a great extent by 10%-15% (5)
The net profit of my organization in the past 3 years has…					

iii. Sales growth
Please provide figures of your organizational performance. If no figure is available please fill in the estimated figures
The sales in the year 2013 was… (Taka in cr.)
The sales in the year 2014 was… (Taka in cr.)

The sales in the year 2015 was… (Taka in cr.)
The sales in the year 2016 was… (Taka in cr.)

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Not improved (1)	Improved to a moderate extent (2)	Improved to some extent by 3%-5% (3)	Improved to a large extent by 5%-10% (4)	Improved to a great extent by 10%-15% (5)
The growth in the sales of my organization in the past 3 years has…					

Part C: Measuring organizational performance through non-financial measures

iv. Employee satisfaction

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Very low Extend (1)	To a moderate extent (2)	To some extent (3)	To a large extent (4)	To a great extent (5)
The employee satisfaction level of my organization has improved over last 3 years					

v. Employee productivity level

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Very low Extend (1)	To a moderate extent (2)	To some extent (3)	To a large extent (4)	To a great extent (5)
The Productivity level of my employee has improved over last 3 years					

vi. Employee turnover rate

Please tick mark(√) from the scale of 5, the most appropriate matching scale	Not decreased (1)	Decreased to a moderate extent 1%-3% (2)	Decreased to some extent by 3%-5% (3)	Decreased to a large extent by 5%-10% (5)	Decreased to a great extent by 10%-15% (6)
The employee turnover rate of my organization has decreased over past 3 years					

I sincerely appreciate your time and cooperation. Please check to make sure that you have not skipped any questions unintentionally.