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Human Resource Management Practices and Firm Performance Improvement in Dhaka Export Processing Zone (DEPZ)

Md. Zohurul Islam & Sununta Siengthai

ABSTRACT

Changing competitiveness in the global markets has created new challenges for business organisations as well as individuals. To cope with this changing environment, human resource management (HRM) practices are expected to play a more vital role in firm performance improvement especially those in industrial zones in less developed economies like the Dhaka Export Processing Zone (DEPZ) in Bangladesh. This study investigates the impact of HRM practices on firm performance in a sample of 53 DEPZ enterprises with a sample of 216 respondents. Formulated hypotheses on the HRM bundles of practices were analysed using factor analysis and regression analysis. It is found that HRM practices had a significant and positive association with firm performance. Finally, a conclusion is given based on the empirical findings of this study which have implications and consequences for HRM practices in the studied institutions.

INTRODUCTION

Bangladesh, like many other developing economies, is attracting foreign direct investment to accelerate its economic growth in term employment creation and human capital development. The investment from foreign countries is seen as a strategy for combating poverty. The contribution of MNCs is particularly recognised in the increasing number of partnerships, in which expertise and knowledge, usually through best practices, are transferred (Kolk & Van Tulder 2006). To attract such foreign direct investment the country needs to make the facilities of the industrial zones attractive as well as 'building up' the skilled and productive labour force to supply to the industrial sector. Needless to say, as the competition in the global market becomes more fierce, firms in Bangladesh are faced with greater challenges in maintaining their competitiveness. In recent years, manufacturing as well as other business sectors have started giving priorities for firm performance improvement, and consequently, the importance for managing human resources effectively to enhance their overall performance for their competitiveness, has attracted attention. The question is whether and to what extent human resources management practices in firms in developing countries such as those located in Dhaka Export Processing Zone (DEPZ) in Bangladesh can influence firm performance.

The DEPZ enterprises are obliged to increase their productivity to maintain competitiveness. However, this action requires congenial work environments and mutual satisfactory labour management relations to cope with the changing global market environment (Zohir 2007, Murayama & Yokota 2009). In Bangladesh daily newspapers, and some other international daily newspapers as well as working papers have reported that DEPZ workers as well as employees are not satisfied with their welfare in terms of wage, compensation, benefits, working conditions, working hours, and the lack of an employee voice to the top management. Many studies have been done on the HRM impact on firm performance in the developed countries (Huselid 1995, Guest, Michie, Conway & Sheehan 2008). However, literature reviews show that there is a gap for relevant studies in the field of HRM practices in DEPZ enterprises. In addition, none have been undertaken in Bangladesh, and especially, on DEPZ manufacturing enterprises. Thus, this study investigates on how HRM (practiced by middle level managers) is related to or influences firm performance in the special economic zone in Bangladesh DEPZ.

The study has four main parts. The first part describes and discusses human resource management (HRM) practices and firm performance with relevant literature and the formulated research hypotheses. The hypotheses

postulate that HRM practices such as recruitment and selection, performance appraisal, training and development, and compensation and unionisation will be associated with firm performance of DEPZ manufacturing enterprises. The second part of this study describes the research methodology and the measurement of the study variables. The third part of this study describes and discusses the empirical findings related to HRM practices and their implications for firm performance in DEPZ enterprises. Finally, a conclusion is given.

HRM PRACTICES AND FIRM PERFORMANCE

In the globalisation era, the changing global market competitiveness has created new challenges for organisations as well as individuals (Schuler 1992, Cascio 1993, Pfeffer 1994, Stavrou-Costea 2002). For firms to maintain or create competitiveness it is necessary that they build and retain their skilled and talented human resources. Many previous empirical studies have established a linkage between human resource management practices and firm performance (Huselid 1995, Delery & Doty 1996, Huselid & Delaney 1996, Boselie, Paauwe & Jansen 2001, Datta, Guthrie & Wright, 2005, Tzafirir 2005, Guest, et al. 2008). These linkages enhance organisational success in the rapidly changing business environment. Consequently, the role of human resource management becomes strategic and proactive (Brewster & Suutari 2005) to create a more dynamic workplace environments.

Schuler and Jackson (2006) and other social scientists assert that HRM is the main pathway to satisfy shareholders, investors, customers, society and organisational members. Huselid (1995) has identified the link between HRM practices and turnover, productivity and financial performance when he found a negative relationship of employee skills and organisational structure on turnover, and where employee skills and organisational structure and employee motivation have a positive impact on firm performance. Indeed, high performance work practices are likely to have an effect on firm performance. In his study all HRM variables except training and development are reported to have a significant association with firm performance. Earlier, Huselid and Delaney (1996) contended HRM practices, particularly selection and training, are associated with perceived firm performance in profit and nonprofit organisations.

Many studies on HRM as a system (both strategy and processes) have found a positive relationship with firm performance. Youndt, Snell, Dean and Lepak (1996) have examined the impact of HRM strategy on firm performance of 512 manufacturing plants and found a moderate relationship between HR system and plant performance. In addition, Wright, Snell, and Dyer (2005) asserted that firm competitiveness can be enhanced by a high performance work system, and that it has a positive relationship with organisational effectiveness. Similar results are reported by Gooderham, Ringdal, and Parry (2006) who found a positive impact of HRM practices on firm performance of 3,281 firms in Europe.

Recruitment and Selection

To sustain the high level of competitive advantage a firm requires talented and skilled workers (Liao & Chu 2006). Huselid (1995) has found that organisational productivity and high performance depends on the selection of the right person, which is also a pathway to reduced turnover. Michie and Sheehan-Quinn (2001) have identified a positive link between hiring a manager and employees, and the creation of the right culture for organisational growth. Selection is the process of choosing a candidate from a group of applicants who best meets the selection criteria for a particular position. In this process the right person chosen for the requisite qualifications and knowledge is placed in the appropriate job position to decrease the cost, and maximise the profits by means of their merit and talent (Vlachos 2008). Cho, et al. (2006) have identified that there is a positive and significant relationship among HRM practices and staffing (recruitment source, pre selection test, IQ test, structured interview, and biographical information blank of the organisation) for improving financial or profit performance. As a result, organisations are encouraged to attract qualified candidates for survival and growth thus, the proposition presented as Hypothesis 1.

H1: Recruitment and selection practices (HR acquisition) are positively related to firm performance.

Performance Appraisal

Performance appraisal has attracted a great deal of attention. For example, Levin (1986) has identified some uses of performance appraisal, such as assessment of employee training needs, employee merit appraisal, determining of employee salary, feedback and suggestion of employee past performance and employee development. Thang (2004) has shown, that how well employees are performing their jobs, is due to how well a suitable HRM related decision is made.

Performance appraisal is a continuous process rather than a 'once a year' exercise. It is the formal system of periodical assessment and evaluation of an individual's or team's job performance and providing feedback. Stone

(2002) has asserted that in the competitive environment, organisations need to keep improving performance to survive. In addition, in the rapidly changing environment, tighter budget, downsizing and pressure for greater employee accountability result in more emphasis on performance appraisal in relation to organisational objectives. Many studies suggest performance related rewards target those who meet the performance requirements (Stone 2002, Cho, et al. 2006, Chand & Katou 2007). Performance appraisal provides information that is dealt with employee salary, training needs, compensation, promotion as well as employee development, transfer and employee feedback (Huber 1983). These contentions are summarised as Hypothesis 2.

H2: Performance appraisal is positively related to firm performance.

Unionisation

In many well established firms the union may be another factor that can contribute to firm innovation and firm performance. The union has a passive role in HR activities including recruitment, selection, compensation, promotion, training, collective bargaining and dismissal of employees (Zohir 2007, Murayama & Yokota 2009). Empirical research on the union impact on wages and productivity has established that both are higher in unionised than in non unionised firms. The difference between these two types of workplaces is that in the unionised one, bargaining is explicit, and it results in an enforceable agreement, while it is implicit, informal and diffusive in the non unionised workplace. Serious (in good faith), cooperative (integrative, problem solving) bargaining is likely to produce the most efficient outcome. The result is that the unionised workplace adopts innovation which is more conducive to productivity enhancement than what the non unionised workplace adopts. Siengthai and Bechter (2001) argue that the union may first have a negative impact on the organisation's performance, but it is then likely to lead to the management's initiatives to bring in new technology, and hence, innovation and productivity. In the empirical study, conducted by Siengthai and Bechter, they found that the union (defined by percentage of unionised employees within the firm) had a positive though a non significant relationship with firm innovation. While the direction of the relationship between unionisation and firm innovation is unclear, Hypothesis 3 is presented on conventional wisdom.

H3: Unionisation is positively related to firm performance.

Training and Development

Training and development (T&D) is a very important element of HRM (Vlachos 2008). Training refers to some activities which equip employees with needed skills to perform better in their current jobs (Li, et al. 2008). In the competitive business era technologies and innovations are needed to cope with these pressures, while employees are required to learn new knowledge and skills for performing their tasks and jobs with quality. Tai (2006) asserts that training and development plays a crucial role for increasing work adaptability, ability, flexibility, maintaining necessary competence, and motivates employees. This variable influences employee productivity. Some studies have shown that there is an indirect relationship between training and firm performance (Vlachos 2008). In actuality, unstructured on the job training programmes are prevailing in manufacturing enterprises. Bartel (1994) found a significant positive relationship between training and labour productivity in her study while Guidetti and Mazzanti (2007) found that training activities are positively associated with high performance practices, innovative labour demand features, work force skill level, firm size, and are affected by labour flexibility in various directions. More recently, Apospori, et al. (2008) conducted a study in southern European countries and found that training had a significant impact on firm performance. These findings provide foundation for Hypothesis 4.

H4: Training and development practices are positively related to firm performance.

Compensation

Huselid (1995) asserts that the compensation system is recognised as employee merit and it is widely linked with firm outcomes. Compensation refers to all monetary payments and all commodities used instead of monetary to reward employees. The expectancy theory (Vroom 1964) suggests that rewards, that can be understood as a form of direct and indirect compensation packages, have potential to influence employee work motivation. Thang (2004) posits that compensation and reward can be powerful tools for getting efforts from the employees to fulfill the organisational goals. In the same vein, Wan (2008) asserted that compensation should be considered based on performance, not on the basis of seniority or length of service in organisation. From these notions Hypothesis 5 was developed.

H5: Compensation/reward practices are positively related to firm performance.

METHODOLOGY

Participants and Site

This study was conducted in the DEPZ, Bangladesh. In this survey, indepth interview and questionnaire survey methods have been used to collect data. The full scale survey was conducted with a total of 103 firms in this industrial estate. In this study, 53 enterprises participated. The sites are presented as Appendix 1.

Procedure

Pilot Survey

To collect the data, the fieldwork was conducted in three stages: a) pilot survey, b) indepth interviews and c) full scale questionnaire survey. The objectives of the pilot study were to pretest the items and to fine tune the items and construct measurement. This stage identified the weakness and potential of this research in regards to instrument clarity, wording and formatting of questionnaire. The research instrument (questionnaire) was developed for a pilot survey. Vogt (1999) emphasised the essence for questionnaire testing before administering it to the entire sample. Thus, a pilot survey was undertaken to detect for error, validity and scale reliability. The five point Likert scale was used (where 1 is for 'strongly disagree' and 5 is for 'strongly agree'). The pilot survey was conducted in the months of January to February 2008. The English version questionnaires were distributed to the managerial level with 30 respondents from six enterprises. The sample respondents had been selected at random basis from the list of enterprises in the DEPZ. The HRM practices with 21 items were tested with 30 managers to obtain feedback, and assess the scale validity of the survey.

Indepth Interviews

This second stage of the research was the indepth interviews with 12 executives which were conducted along with the pilot survey. The objectives of indepth interviews were to investigate personal, sensitive and confidential information related to human resource management practices and their implications for DEPZ for improving firm performance. This method validates the construct, variables and concepts. Simple random sampling method was used to generate the sampling frame of enterprises in this study. The appointments for the indepth interviews were made through telephone. The questionnaires were distributed to the executives and feedback on the survey instrument with respect to the construct validity was obtained. The face to face interviews were conducted and the completed questionnaires were collected from the executives after the interviews. On the basis of pilot survey findings, one HRM item was deleted, and hence, only 20 items of HRM have been used in the full scale questionnaire survey.

Full Scale Survey

A full scale questionnaire survey was conducted during the months of April through June 15 2008 within 53 manufacturing organisations out of 103 organisations in the DEPZ. The survey engaged 216 respondent managers from the total of 512 in the 53 sample enterprises and with the response rate of 42.2 per cent. A simple random sampling method was used for selecting the enterprises based on the company list. The researchers distributed and collected the questionnaires in person, which allowed the researchers to ask relevant questions to the sample respondents to complete the questionnaires while they were present. The response rate was satisfactory and statistically acceptable (Babbie 2004). Data and information were collected from the managerial level by distributing the English version of questionnaire. Each respondent spent about 25 minutes to complete the questionnaire. For the survey within the factories, a prior permission letter had been issued for the entire operational 103 enterprises, and the industrial relations manager gave a telephonic approval from each factory authority where the field survey was conducted everyday during office hours.

Measurement

HRM Practices

Huselid (1995), Youndt, et al. (1996), Becker and Huselid (1998), and Datta, et al. (2005) have developed HRM practices items for their questionnaire survey research. From various previous studies, 20 HRM practices items are

adopted for this study. These include employee recruitment and selection, training and development, performance appraisal, compensation/reward benefits, and trade union as employee welfare in term of collective bargaining regarding their labour welfare and employee training and development. The coefficient alpha was 0.85.

Employee Recruitment and Selection Inventory

Recruitment and selection of employees is the process that firms will need to take into account the variation of external labor market conditions. In this study, recruitment and selection are considered as one construct for 'acquisition of firm employees'. This inventory has four items. These are 'hiring employee with specialised skills', 'hiring people with creative thinking skills', 'recruitment and selection process fit the candidates with the jobs', and 'organisation prefers promotion from within (as opposed to external) when filling vacant position'. These items have been developed and used earlier by many researchers (Huselid 1995, Siengthai & Bechter 2001, Dechawattanapaisal 2005, Minbaeva 2005, Purcell & Hutchinson 2007).

Employee Performance Appraisal Inventory

This inventory has five items. These are: 'employee evaluation criteria are clear', 'performance appraisal is result oriented', 'feedback is provided on a regular basis by the management', 'employees satisfied with performance appraisal result', and 'employees commitment towards their work performance'. These items were developed and used by several authors (Huselid (1995), Pfeffer (1998), Ngo, et al. (1998), Paul & Anantharaman (2003), Shah & Ward (2003)).

Employee Training and Development Inventory

This inventory has four items. These are: 'new employees familiarise with organisational norms and values (orientation)', 'organisation provides continuous training for updating employee skills and knowledge', 'training programmes are constantly revised or updated to fit with present requirement', and 'all training programmes are of high quality'. These items are used by Huselid (1995), Becker and Huselid (1998), Siengthai and Bechter (2001), and Dechawatanapaisal (2005).

Employee Compensation/Reward Inventory

This inventory has four items. These are: 'compensation system level with employees' knowledge and skill', 'compensation system is rewarded by innovative idea', 'good job performance is noticed and rewarded', and 'top management prefers participation in decision making with all levels of jobs'. The construct/item developed by Huselid (1995), Ngo, et al. (1998), Paul and Anantharaman (2003), Collins and Smith (2003) and Minbaeva (2005).

Employee Unionisation Inventory

This inventory has two items. These are: 'employee union is part of management', and 'union has an important role for productivity'.

Firm Performance Inventory

In this study firm performance is measured by 16 items. Some of these are 'employee turnover', 'adoption of new technology', 'organisational goal achievement', 'HRM practices', 'customer satisfaction', 'employee incentives', 'workplace environment', and 'non financial benefits'. The response format was a five point interval scale (Stroh, et al. 1996) ranging from '1' not at all, '2' To some extent, '3' Average, '4' Well, and '5' Very Well. The Cronbach alpha value for this scale was 0.83.

This questionnaire is attached as Appendix 2.

Analysis

Data was analysed using descriptive statistics to project the respondents' profiles as well as the general patterns of the variations in the HRM variables and organisational performance. Then, the KMO-Bartlett test, factor analysis

and regression analysis was conducted to investigate the relationship between HRM practices and firm performance in this study. The KMO and Bartlett Test was performed with the dataset to evaluate the pattern of correlations in the data that indicate that the factor analysis is suitable for this study. The KMO ranges from 0 to 1 where greater value indicates high level of suitability and a value greater than 0.7 is statistically acceptable. For this study the KMO value 0.839 and Bartlett Test is significant (Chi-square 1,314.501 with 190 degree of freedom). Therefore, factor analysis is considered as an appropriate technique for analysing factor loading. Moreover, the approximate Chi-square statistics is 1,314.501 with 190 degree of freedom, which is significant at the 0.05 level.

RESULTS

The profile of the sample respondents of this study is shown in the Table 1. There are more males (86.1 per cent) than females (13.9 per cent). The employment statistics of Dhaka EPZ suggest that about 64 per cent of the total non managerial workforces are female, while the reverse is true for managerial level. The majority of the sample (i.e., 71.3 per cent) is above 35 years old and about 16.7 per cent and 12.0 per cent are for the groups below 35 years old and the above 40 years old group, respectively. It was found that the majority (i.e., 78.7 per cent) hold general Master's degrees and about 19.9 per cent are MBA graduates. However, the entrepreneurs are nowadays recruiting MBA graduates to help improve their business performance a fact that motivates many more to pursue Executive MBA's. Thus, even though the enterprises are not investing much (The Daily Star 2008) in training for managers they are doing well in production performance. It is found that 43.1 per cent of respondents have never received any formal job training. Based on the survey results, 64.4 per cent are managers and 35.6 per cent are assistant managerial level officers.

Table 1 Demographic characteristics of the respondents % (N = 216)

Gender	Males	86.1	
	Females	13.9	
Education	Bachelor	1.4	
	MBA	19.9	
	Master's	78.7	
Position	Manager	64.4	
	Assistant manager	35.6	
Training	Home:	Yes	56.9
		No	43.1
	Foreign:	Yes	13.9
		No	86.1
		Foreign	62.3
	Enterprise ownership (N = 53)	Joint venture	13.2
Local		24.5	
Yes		58.5	
Trade union	No	41.5	

Table 2 shows the correlation matrix among the HRM items. The Pearson two tailed correlation coefficient was

used to ascertain the degree of association among the variables. The pattern of results reveals that the variables have positive relationship and are significantly correlated. Therefore, all the variables indicate that HRM variables are related to firm performance.

Table 2 Descriptive statistics

	M	S.D.	1	2	3	4	5	6
1 Recruitment & selection	4.3935	.42161	0.60					
2 Training & development	1.5382	.47677	-.307**	0.73				
3 Unionisation	3.4190	.48624	-.108	-.107	0.68			
4 Performance appraisal	4.1750	.45313	.519**	-.287**	.086	0.75		
5 Reward/Compensation	3.9572	.54417	.527**	-.223**	.022	.683**	0.71	
6 Productivity	4.2063	.33409	.522**	-.093	-.073	.556**	.564**	0.83

Notes: a. M = Mean, SD = Standard deviation. b. ** p < 0.01 level (2-tailed). c. The bold values on the diagonal are the reliabilities.

Table 3 presents the factor analysis results. Principal component analysis (PCA) reduced the 19 variables into five main factors which explain about 57.5 per cent of the total variance. Each factor was dominated by at least two variables. Factor component 1 (PC1) has high significant loading which is related to performance appraisal and compensation. This includes 'employee commitment towards job performance' (.719); 'compensation system rewards innovative ideas' (.719); 'performance feedback provides regularly by management' (.672); 'employee satisfaction with performance appraisal result' (.612); 'performance appraisal criteria clear to all' (.644); 'Clear criteria for measuring performance' (.510); 'top management receives union voice for decision making' (.576); 'knowledge and skill based compensation' (.543); 'performance appraisal is given emphasis on getting results' (.512); and 'good job is noticed and rewarded' (.510). Factor Component 2 was related to training and development (PC2). It accounts for about 11.5 per cent of the total variance. This factor includes items such as 'new employees familiarised with company norms and values' (.782); 'continuous training programme by organisation' (.774); 'high quality training programme' (.735); and 'updated training programme according to requirement' (.581). Factor component 3 (PC3) was related to unionisation. The magnitude loading values of PC 3 are of .705 and .651, respectively which includes the following items: 'union is part of management', and 'unionisation is playing an important role on productivity'. This factor accounts for about 10.2 per cent of the total variance. Factor component 4 (PC4) was related to hiring criteria (Head Hunting) which includes 'hire people with specialised skill' (.813) and 'hire people with creative thinking skills' (.746). PC 4 accounts for about 8.50 per cent of the total variance. Factor component 5 (PC5) was related to recruitment and selection and promotion which includes 'recruitment and selection process fits with candidates and job' (.730), and 'organisation prefers promotion from within' (.566). The PC 5 accounts for about 8.3 per cent of the total variance.

Table 3 Principal component analysis (PCA)

HRM variable descriptions	Factors				
	1	2	3	4	5
Eigenvalues	5.736	2.087	1.453	1.125	1.105
Percentage of total variance explained	19.040	11.533	10.200	8.506	8.257
Cumulative percentage of variance explained	19.040	30.573	40.773	49.278	57.535
Cronbach Alpha	0.60	0.73	0.68	0.75	0.61

Factor 1: Performance appraisal and compensation

Employees are committed to their work/job	.721	-.008	.134	.215	.077
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HRM variable descriptions	Factors				
	1	2	3	4	5
Compensation system rewards innovative ideas	.719	-.015	.131	.142	.017
Performance feedback given on regular basis	.672	.054	.300	-.054	.135
Satisfied with performance appraisal results	.644	.145	.192	.037	.138
Clear criteria for measuring performance	.610	.242	-.317	.059	.171
Top management receives union voice for decision making	.576	.016	.537	.091	.012
Compensation relates with knowledge and skills	.543	.098	.227	.210	-.148
Performance appraisal for getting results	.512	.105	.187	.205	.247
Good job is noticed and rewarded	.510	.081	.035	.419	.118
Factor 2: Training and development					
Orientation program for new employees	.153	.782	-.093	.078	.111
Continuous program for updating knowledge and skills	-.011	.774	.140	.189	.034
High quality training program	.011	.735	.013	-.032	.209
Updated training program	.058	.581	.432	-.045	.013
Factor 3: Unionisation					
Union is a part of management	.313	.085	.705	.091	.051
Union role is important for productivity	.185	.102	.651	.251	.066
Factor 4: Hiring criteria					
Hire people with specialized skills	.113	.013	.209	.813	.029
Hire people with creative thinking skills	.335	.161	.087	.746	.112
Factor 5: Recruitment and selection					
Recruitment and selection fit with candidates' jobs	.209	.117	.334	.150	.730
Promotion from within	.172	.222	.148	.028	.566

Note: Factor 1 = PA & Compensation , Factor 2 = Training & Development, Factor 3 = Unionisation, Factor 4 = Hiring Criteria, and Factor 5 = Recruitment and Selection and Promotion

To test the proposed hypotheses, regression analyses were conducted. It was found that HRM practices have significant relationship with the overall performance of DEPZ. The HRM practices are found to explain about 42.3 per cent of total variance in the firm performance, which suggests that they are important factors which are positively related to DEPZ firm performance.

Table 4 reports all the HRM variables as being statistically significant except unionisation. Thus, all but one of the formulated hypotheses are accepted at the 0.05 level of significance. The recruitment and selection accounts for 27.2 per cent of the total variance in firm productivity and is significantly related to organisational performance. Training and development is also positively and significantly related to firm performance (productivity). This variable accounts for 12.2 per cent of total variation. Moreover, performance appraisal is significant and it accounts for 27.6 per cent of total variance, whereas compensation/ reward is significant and accounts for 26.1 per cent of total variance. However, unionisation (UNION) has a negative, but non significant relationship with firm performance.

Table 4 Regression analysis of HRM practices and firm productivity

Independent variable	Unstandardised coefficients		Standardised coefficients		t	Sig. p <
	B	SE	B			
F Test	32.376***					
R Square adjusted	.423	.25386				
N = 216						
Constant	1.81	.279	—		8.023	.000
Recruitment & selection (RS)	.216	.052	.272***		4.160	.000
Training & development (T&D)	.008	.039	.122*		2.189	.030
Performance appraisal (PA)	.204	.055	.276***		3.698	.000
Compensation (COMPEN)	.160	.045	.261**		3.533	.001
Unionisation (UNION)	-.004	.037	-.060		-1.121	.263

Notes: a. Dependent variable is productivity, and Sig = significance level. b. * p < 0.05, ** p < 0.01, and *** p < 0.001.

DISCUSSION

The objective of this study was to investigate on the relationship between HRM practices and firm performance in the DEPZ in Dhaka, Bangladesh. The demographic data of this study indicates that male employees are dominating at the higher position in all of the enterprises in the DEPZ. The field study results reveal that all levels of managers have not undergone either home or foreign training. Moreover, the majority of the surveyed enterprises are unionised.

Most of the HRM variables have the high value of means, approaching the highest possible score of five, suggesting that all variables are perceived by sample respondent managers to have strong influence on organisational performance. The KMO and Bartlett's' Kaiser-Meyer-Olkin test results also supported this finding and all the variables are found to have consistent high level of significance.

All factors were found to have significant loadings. For example, Factor 1 (PC1 – Performance and Compensation) had a high significant loadings especially on the following three items, namely, 'employee commitment towards job performance', 'employee compensation reward innovative idea', and 'performance feedback provided regularly by management'. This observation suggests that firms in the DEPZ should improve their performance appraisal system and compensation to enhance employee performance. Factor 2 (Training & Development) also had highly significant loadings to suggest that firms are likely to benefit by providing orientation for new employees, continuous training programmes, and high quality relevant training programmes. Factor 3 (Unionisation) had reasonably significant loading on 'union role as part of management' and 'unionisation is playing for productivity'. Thus, even though the relationship between unionisation and firm performance was non significant, management of the DEPZ enterprises are obliged to pay more attention to developing good human resource management and industrial relations practices as strategies to improve their firm performance. Factor 4 had significant loadings on

'hire people with specialised skills' and 'hire people with creative thinking'. Factor 5 had reasonably high factor loading on 'recruitment and selection process which fits with candidates' job' and 'organisation prefers employee promotion from within'. In short, it was found that recruitment and selection practices have significant loadings on firm performance similar to the performance appraisal, compensation system, and training and development activities. That the impact of the training and development factor is not so high as other HRM factors could be due to the fact that the existing training and development activities are not very effective. This study's empirical results obviously suggest that these HRM practices are to be further improved, and it is particularly noted that the priority should be given to the improvement of performance appraisal and compensation practices (PC1), which received highest significant loading.

The regression analysis results demonstrate that HRM practices have a strong significant relationship to overall improvement of firm performance in DEPZ. In this study five human resource management practices were hypothesised to influence the firm performance in DEPZ. The hypotheses focus on 'recruitment and selection', 'training and development', 'performance appraisal', 'compensation' and 'unionisation'. They posited that these variables have a positive relationship or impact on DEPZ firm performance. Computed HRM items accounted for 43.6 per cent of total variance of firm performance in the DEPZ. The results suggest that HRM practices, namely recruitment and selection, training and development, performance appraisal, compensation/reward, and unionisation are related to perceived firm performance. Thus, empirical results of this study generally support the hypotheses and are in line with those found by other researchers (i.e., Arthur 1994, Huselid 1995, Huselid & Delaney, 1996).

The first hypothesis (H1) states that effective recruitment and selection practice will increase firm performance in DEPZ manufacturing enterprises. It was found in this study that recruitment and selection practices in the DEPZ manufacturing enterprises had a positive effect on DEPZ firm performance with a standardised coefficient of .272 ($p < .01$). The DEPZ enterprises recruit people with skills and abilities. This result also is in line with those of previous studies (i.e., Huselid 1995, Michie & Sheehan-Quinn 2001, Cho, et al. 2006) which found a positive link between hiring and staffing management for organisational growth. In this study, 'recruitment and selection' has strong impact on firm performance, and by itself, it explained 27.2 per cent of the total variance. In addition, the findings of this study are also in line with the findings by Koch and McGrath (1996) who found that there was a positive and significant link between HR staffing (planning, recruitment and selection) and labour productivity at firm level performance within the sample 319 business units.

The second hypothesis (H2) posited that effective performance appraisal practice is positively related with firm performance. The study results substantiates the hypothesis showing that performance appraisal is positively associated with DEPZ firm performance with a coefficient of .276 ($p < .01$). This result is in line with the findings of the previous studies undertaken by Huselid (1995), and Marshall (1998). This finding suggests that performance appraisal practice has an impact on firm performance and it explains 27.6 per cent of total variance. The DEPZ enterprises are putting more emphases on skills and qualified managers, and management evaluates managers' performance.

In this study, unionisation (H3) was hypothesised to be directly related to firm performance in the DEPZ enterprises. Although some empirical results have asserted that trade unions or welfare associations have a positive impact on firm performance (Hara & Sato 2004, Murayama & Yokota 2009), it was found in this study that unionisation in the DEPZ manufacturing enterprises was non significantly linked with firm performance.

The fourth hypothesis (H4) stated that training and development (HRD) would be related to firm performance. In this study it was found that effective training and development practice in DEPZ manufacturing enterprises had a positive effect on firm performance with a coefficient of .122 ($p < .05$). These results support previous empirical results (Vlachos 2008), which have found that training and development has an indirect relationship with firm performance. Partially, the study results support the findings of Gabriella (2005), and Apospori, et al. (2008) who found that training programmes can have a positive impact on labour productivity, and hence, firm performance. The result of this study indicates that training and development practice had an impact on firm performance as it explained 12.2 per cent of total variance. It was also observed from the field work that the DEPZ enterprises are putting more emphasis on skills oriented training programmes to improve their managerial performance.

The fifth hypothesis (H5) stated that compensation/reward practices, that are linked to employee skills, knowledge and performance, are likely to be positively related to firm performance. It was found that compensation practice in DEPZ enterprises had a positive effect on firm performance with a coefficient of .221 ($p < .05$). The result of this study supports the previous studies by Huselid (1995), and Youndt, et al. (1996) who found a positive relationship between compensation/ reward practice and firm performance.

All the formulated hypotheses are accepted at the significance level of .05 except for unionisation. Many employees tend to think that the union is a part of management and that the union has an important role for productivity improvement. The results of this study suggest that the top management is encouraged to increase more employee participation in decision making that affects the quality of work life of employees. More importantly, all the HRM system components are highly and significantly related to firm performance in DEPZ manufacturing enterprises. Thus, the results of this study have several implications for firms in the DEPZ.

In the DEPZ most of the enterprises are regulated and invested by foreign investors. In order to better understand and develop more effective strategic HRM practices there is potential for HRM to be incorporated as a system within the DEPZ enterprises. HRM practices are the concern for investors, buyers as well as entrepreneurs and managers. The study findings provide some guidance for future direction to all of stakeholders for their business sustainability in the competitive business environment. Salient managerial implications especially, for DEPZ enterprises operating in Bangladesh, are that by understanding and adopting good HRM practices, firms have potential to significantly improve their performance.

CONCLUSION

This study investigated the relationship between HRM practices and firm performance in the DEPZ. Based on the empirical findings, most of the core processes of HRM, namely, recruitment and selection, performance appraisal, training and development, compensation, except unionisation were found to have a significant and positive impact on firm performance. This observation implies that firms should be encouraged to invest more in HRM system improvement to enhance their performance. For example, it is observed that there are certain HRM practices that are not satisfying the needs of employee respondents in this study as the mean scores of the perceptual scale are much lower than the average.

The data collected and statistical results suggest that these sample firms would benefit by establishing some orientation programmes for new employees. These introduced programmes would provide continuous training for updating employee skills and knowledge. Managers may be rewarded by revising and updating training programmes to cope with the changing environment initiatives to improve the quality of training. Clearly, if these sample firms increase their human capital investment both by off the job and on the job training, they should be able to improve their performance. In particular, firms should pay more attention to the training programmes for upgrading their managers' capabilities. Whilst, the study finds that unionisation has no significant impact on firm performance, DEPZ enterprise managers have to realise that the driving force for improving firm performance is to have robust HRM and industrial relations.

The competition in the global market is becoming fiercer in countries like Bangladesh. Indeed, there is ongoing economic development and employment generation, which is to a large extent dependent on foreign direct investment. The DEPZ is playing a vital role in Bangladesh's economic development in terms of attracting investment from both local and foreign sources, export growth, and employment generation in the manufacturing sector. In recent years, manufacturing as well as other business sectors has given priorities for firm performance improvement. It is important that firms manage their human resources well to enhance their overall performance for their competitiveness.

AUTHORS

Md. Zohurul Islam is a Ph.D candidate working towards his Doctorate at the School of Management, Asian Institute of Technology (AIT) in Thailand. Mr. Islam has been a full time faculty of Bangladesh Public Administration Training Centre (BPATC), Savar, Dhaka.

Email: zohur68@gmail.com

Dr. Sununta Siengthai is an Associate Professor at the School of Management, Asian Institute of Technology (AIT) in Thailand. She earned her doctorate in Labour and Industrial Relations from the University of Illinois at Urbana-Champaign in 1984. Her research interests and publications are in the areas of Human Resource Management, Industrial Relations and Organisational Behaviour and Knowledge Management for productivity improvement in the public and private institutions.

Email: s.siengthai@ait.ac.th

ENDNOTES

[1] BEPZA Act, 1980 is composed of two parts of instructional manual related to service matters concerning workers and officers employed in the companies operating within the export processing zones of Bangladesh. Instruction manual I is for workers, officers and apprentices of the companies/enterprises related to service terms and conditions; definition of some terms; classification of employees; service record; leave and holidays; termination/resignation of employment; welfare; social security; and payment of wages. Instruction manual II is about minimum wages and other related benefits in respect of workers/employees engaged in export processing zones of Bangladesh. This part is mainly concerned with grade of workers on the basis of category of industries;

determination of minimum wages and other benefits (canteen facilities, festival bonus, attendance bonus, transport facilities, yearly wage increment).

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REFERENCES

- Apospori, E., Nikandeou, I., Brewster, C., & Papalexandris, N. (2008). HRM and organisational performance in northern and southern Europe. *International Journal of Human Resource Management*, 19(7), 1187-1207.
- Arthur, J. B. (1994). Effects of human resource systems on manufacturing performance and turnover. *Academy of Management Journal*, 37(3), 670-687.
- Bartel, A. P. (1994). Productivity gains from the implementation of employee training programs. *Industrial Relations*, 33(4), 411-425.
- Becker, B. E., & Huselid, M. A. (1998). Strategic human resources: Where do we go from here? *Journal of Management*, 32(6), 898-925.
- Boselie, P., Paauwe, J., & Jansen, P. (2001). Human resource management and performance: Lesson from the Netherlands. *International Journal of Human Resource Management*, 12(7), 1107-1125.
- Brewster, C., & Suutari, V. (2005). Global HRM: aspects of a research agenda, *Personnel Review*, 34(1), 5-21.
- Cascio, W. F. (1993). Downsizing: what do we know? What have we learned? *Academy of Management Executive*, 7(1), 95-104.
- Chand, M., & Katou, A. A. (2007). The impact of HRM practices on organisational performance in the Indian hotel industry. *Employee Relations*, 29(6), 576-594.
- Cho, S., Woods, R.H., Jang, S.C., & Erdem, M. (2006). Measuring the impact of human resource management practices on hospitality firms' performance. *International Journal of Hospitality Management*, 25(2), 262-277.
- Collins, C., & Smith, K. (2003). Strategic human resource practices, top management team social network and firm performance: the role of human resource practices in creating organisational competitive advantages. *Academy of Management Journal*, 46(6), 740-751.
- Datta, D.K., Guthrie, P.J., & Wright, P.M. (2005). Human resource management and labour productivity: Does industry matter? *Academy of Management Journal*, 48(1), 135-145.
- Dechawatanapaisal, D. (2005). *The effect of cognitive dissonance and human resource management on learning work behavior for performance improvement: An empirical investigation of Thai corporations*, Asian Institute Technology, Thailand, Dissertation: No. SM-05-03.
- Delery, E. J., & Doty, H. D. (1996). Modes of theorising in strategic human resource management: Tests of universalistic, contingency, and configurational performance predictions. *Academy of Management Journal*, 39(4), 802-35.
- Gabriella, C. (2005). Training, wage and labour productivity in Italy. *Labour Economics*, 12(4), 557-576.
- Gooderham, P., Ringdal, K., & Parry, E. (2006). The impact of human resource management practices on the performance of European firms. *Paper presented at Copenhagen Business School, Conference on HRM and Knowledge Related Performance*, September, 21-22, 2006.
- Guest, D., Michie J., Conway N., & Sheehan, M. (2008). Human resource management and corporate performance in the UK. *British Journal of Industrial Relations*, 41(2), 291-31.
- Guidetti, G., & Massimiliano, M. (2007). Firm level training in local economic systems complementarities in

- production and firm innovation strategies. *The Journal of Socio-Economics*, 36(6), 875-894.
- Hara, H., & Sato, H. (2004). What influences a non union worker to support unions? Focusing on a worker's knowledge of his employment rights. *Japanese Journal of Labour Studies*, 46(11), 54-70.
- Huber, V. L. (1983). An analysis of performance appraisal practices in the public sector: A review and recommendation. *Public Personnel Management*, 12(3), 258-267.
- Huselid, M. A. (1995). The impact of human resource management practices on turnover productivity, and corporate financial performance. *Academy of Management Journal*, 38(3), 636-72.
- Huselid, M. A., & Delaney, J. T. (1996). The impact of human resource management on perceptions of organisational performance. *Academy of Management Journal*, 39(4), 949-969.
- Levin, H. Z. (1986). Performance appraisal at work. *Personnel*, 63(6), 63-71.
- Li, J., Liao, S., & Chu, C. (2006). The HRM practice of multinational enterprises in China. Hong Kong Baptist University. Working Paper, Series No. 200610.
- Li J., Qian, G., Liao, S., & Chu, C. W. L. (2008). Human resource management and the globalness of firms: An empirical study in China. *The International Journal of Human Resource Management*, 19(5), 828-839.
- Marshall, N. (1998). Pay for performance systems: Experiences in Australia. *Public Productivity and Management Review*, 21(4), 403-418.
- Michie, J., & Sheehan-Quinn, M. (2001). Labour market flexibility, human resource management and corporate performance. *British Journal of Management*, 12(4), 287-306.
- Minbaeva, D. B. (2005). HRM practices and MNC knowledge transfer. *Personnel Review*, 34(1), 1245-144.
- Murayama, M., & Yokota, N. (2009). Review of labour. *Economic & Political Weekly*, 44(22), 73.
- Ngo, H., Truban, D., Lau, C., & Lui, S. (1998). Human resource practices and firm performance of multinational corporations: Influences of country origin. *International Journal of Human Resource Management*, 9(4), 632-652.
- Paul, A.K., & Anantharaman, R. N. (2003). Impact of people management practices on organisational performance: Analysis of a causal model. *International Journal of Human Resource Management*, 14(7), 1246-1266.
- Pfeffer, J. (1994). Competitive advantages through people. *California Management Review*, 36(2), 9-29.
- Pfeffer, J. (1998). Seven practices of successful organisations. *California Management Review*, 40(2), 96-124.
- Purcell, J., & Hutchinson, S. (2007). Front line managers as agents in the HRM performance causal chain: Theory, analysis and evidence. *Human Resource Management Journal*, 17(1), 3-20.
- Schuler, R.S. (1992). Strategic human resource management: Linking the people with the strategic needs of the business. *Organisational Dynamics*, 21(3), 18-32.
- Schuler, R. S., & Jackson, S. E. (2006). *Human Resource Management: International Perspectives*, Ohio, USA: Thompson South-Western.
- Shah, R., & Ward, P. T. (2003). Lean manufacturing: Context, practice bundles and performance. *Journal of Operations Management*, 21(2), 129-149.
- Siengthai, S., & Bechter, C. (2001). [Strategic human resource management and firm innovation](#). *Research and Practice in Human Resource Management*, 9(1), 35-57.
- Stavrou-Costea, E. (2002). The role of human resource management in today's organisations: The case of Cyprus in comparison with the European Union. *Journal of European Industrial Training*, 26(6), 261-268.
- Stone, J. R. (2002). *Human Resource Management*. (4th ed.). Australia: John Wiley & Sons.
- Stroh, L. K., Brett, J. M., Baumann, J. P., & Reilly, A. H. (1996). Agency theory and variable pay compensation

strategies. *Academy of Management Journal*, 39(3), 751-767.

Tai, W. T. (2006). Effects of training framing, general self efficacy and training motivation on trainees' effectiveness. *Personnel Review*, 35(1), 51-65.

Thang, L.C. (2004). Managing human resources in Vietnam: An empirical study of an economy in transition. Dissertation, No. SM-04-07, School of Management, Asian Institute of Technology, Thailand.

The Daily Star. (2008). Dhaka, Bangladesh. 2 September, 1.

Tzafirir, S. S. (2005). The relationship between trust, HRM practices and firm performance. *International Journal of Human Resource Management*, 16(9), 1600-1622.

Vlachos, I. (2008). The effect of human resource practices on organisational performance: evidence from Greece. *The International Journal of Human Resource Management*, 19(1), 74-79.

Vogt, W. P. (1999). *Dictionary of statistics and methodology*. Thousand Oaks, CA: Sage.

Vroom, V. H. (1964). *Work and motivation*. San Francisco, CA: Jossey-Bass.

Wan, H. I. (2008). [Current remuneration practices in the multinational companies in Malaysia: A case study analysis](#). *Research and Practice in Human Resource Management*, 16(1), 78-103.

Wright, P. M., Snell, S. A., & Dyer, L. (2005). New models of strategic HRM in a global context. *International Journal of Human Resource Management*, 16(6), 875-881.

Youndt, M. A., Snell, S. A., Dean Jr., J. W., & Lepak, D. P. (1996). Human resource management, manufacturing strategy, and firm performance. *Academy of Management Journal*, 39(4), 838-866.

Zohir, S. C. (2007). Role of Dhaka Export Processing Zone: Employment and empowerment. Research Report, 181, *Bangladesh Institute of Development Studies*, Dhaka.

APPENDICES

Appendix 1 Zone wise performance in investment, export and employment

EPZ	Investment volume (\$m) Jan 2008	Export (\$m) 2006	Employment (number) 2006
Chittagong	607.40	7,266.58	111,523
Dhaka	556.26	5,155.62	75,769
Comilla	68.62	66.56	6,375
Mongla	3.37	22.75	504
Uttra	2.84	0.00	1,390
Ishwardi	2.14	4.58	127
Adamjee	30.88	1.19	1943
Karnaphuli	15.08	—	—
Total	1,286.60		

Source: Barua, BPATC, Dhaka, 2008. Bangladesh Economic Review, 2008.

Appendix 2 Research Instruments Final Full Scale Questionnaire (on HRM practices)

The following statements deal with Human Resource Management (HRM) Practices in your organisation. Please circle (O) only one number that best reflects your opinion on the following five point scale: (1 = Strongly disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly agree)

HRM Practices in my organisation		Strongly disagree					Strongly agree				
1.	Duties and responsibilities are clearly defined in my organisation.	1	2	3	4	5					
2.	My organisation tries to hire people with specialised skills.	1	2	3	4	5					
3.	My organisation tries to hire people with creative thinking skills.	1	2	3	4	5					
4.	To me, recruiting and selecting process is appropriately fit with the jobs.	1	2	3	4	5					
5.	To me, my organisation prefers to promote internally (as opposed to external) when filling vacant position.	1	2	3	4	5					
6.	My organization, exposed extensive orientation programmes for all new employees to familiarise themselves with the norms and values.	1	2	3	4	5					
7.	To me, my organisation provides continuous training programmes to update existing employee skills and knowledge.	1	2	3	4	5					
8.	To me, training programmes are constantly revised or updated to fit with the changing environment.	1	2	3	4	5					
9.	All the training programmes run by organisation are of high quality.	1	2	3	4	5					
10.	To me, criteria used to evaluate my performance are clear.	1	2	3	4	5					
11.	To me, performance appraisals put more emphasis on getting results.	1	2	3	4	5					
12.	To me, performance feedback is regularly provided by management.	1	2	3	4	5					
13.	I am satisfied with my performance appraisal result.	1	2	3	4	5					
14.	My organisation relates to compensation system with the level of knowledge and skill acquired by employees.	1	2	3	4	5					
15.	To me, compensation systems reward innovative idea.	1	2	3	4	5					
16.	When I do a good job, my performance is noticed and rewarded.	1	2	3	4	5					
17.	To me, top management is participative with decision making.	1	2	3	4	5					
18.	To me, the employee union is the part of management.	1	2	3	4	5					
19.	To me, unionisation is playing an important role for productivity.	1	2	3	4	5					
20.	To me, employees are committed to their work performance	1	2	3	4	5					

The following statements ask you for information about productivity in your organisation. Please circle (O) only one number that best reflect your opinion on the following five point scale: (1 = Not at all, 2 = To some extent, 3 =

Average, 4 = Well, 5 = Very well)

Productivity factors	Not at all					Very well				
1. Employee turnover in this organisation is very high	1	2	3	4	5					
2. To me, this organisation adopts new technology for productivity improvement.	1	2	3	4	5					
3. To me, productivity is measured by organisational goal achievement	1	2	3	4	5					
4. To me, HRM practices influence organisational productivity	1	2	3	4	5					
5. To me, employees are aware of productivity tools and techniques	1	2	3	4	5					
6. To me, customer satisfaction (on quality product, lower price, efficient delivery time and after sales service) is our main objective	1	2	3	4	5					
7. To me, incentive (monetary and non monetary) influence productivity	1	2	3	4	5					
8. To me, training is necessary to improve productivity	1	2	3	4	5					
9. To me, workplace environment influence productivity	1	2	3	4	5					

Please mention Main Raw material per unit price in (Kg/Pound/Yard):

2005 2007

Please mention Unit Price (mill gate) of Main product:

2005 2007

Please mention Daily /Monthly/ /Yearly use of Main Raw material:

2005 2007

Please mention Total Production (Daily/Monthly/Yearly):

2005 2007

Please mention other input cost:

Items	2005	2007
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Water

Gas

Electricity

Phone/Fax

Others ... (specify)

The following statements ask you for information about yourself and your company.

1. Would you please mention your age? _____
2. Gender: Male Female
3. Educational level (Please tick Highest) HSC Bachelor MBA Master's PhD Other ...
4. Please mention your length of service in this company. _____ Company information

5. Number of employees in this company, Please mention:
Male

Female
6. Have you had any formal training since joining this company? Yes No
7. Have you ever had any overseas training? Yes No
8. Does the factory have the DEPZA authorised Trade Union? Yes No
9. If yes, which type does management prefer Trade Union? By election By selection
10. Does the factory have ETP (water treatment plan)? Yes No
11. Please mention your organisational type. Type A – 100% foreign ownership Type B – Joint venture ownership Type C – Local ownership company

Thank you very much for your patient cooperation.