



## **E-HRM Practices and Operational Efficiency: Evidence from Bangladeshi Garment Industry**

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### **Authors' contributions**

*This work was carried out in collaboration between both authors. Author NM designed the study and wrote the first draft. Author MSH collected primary data and performed statistical analysis. Both authors read and approved the final manuscript.*

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### **ABSTRACT**

This empirical study is an attempt to reveal the role of some chosen electronic human resource management (E-HRM) practices on the operational efficiency (OE) in Bangladeshi garment sector. The authors selected six such E-HRM practices (e-job analysis, e-recruitment & selection, e-compensation & benefit, HRIS & e-communication, e-personal profile and e-performance appraisal) as the independent variables and OE as the single dependent variable. The research was carried out with a valid sample size of 299 mid & supervisor level managers and 228 top level managers of 54 garment factories of Bangladesh using convenience technique. A structured measurement instrument was used to collect primary data from those respondents. Pearson's correlation coefficient and multiple linear regression analysis were utilized (using SPSS 24) to test the hypothesized relationships. Results after a vigilant and comprehensive statistical analysis exposed that all the selected independent variables have positive relationships with the dependent variable (OE). However, such positive relationships are stronger (significant) in case of e-compensation & benefit, HRIS & e-communication, e-personal profile and e-performance appraisal whereas such positive relationships are comparatively weaker (insignificant) in case of e-recruitment & selection and e-job analysis. The authors are optimistic that the conclusion of this empirical study will be

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helpful for academicians having intention to further explore the relationship between E-HRM practices and operational efficiency. They also believe that this study will be proven valuable for managerial decision makers of different manufacturing firms desire to reduce costs and adopt environment friendliness to gain competitive advantages over the rivals.

*Keywords: Human resources; human resource management; E-HRM; operational efficiency; garment factories; Bangladesh.*

## 1. INTRODUCTION

Unquestionably, human resources (HR) or human capital has been proved to be one of the key competitive advantages for any organization. Organizations, irrespective of nature and size, are eager to manage such competitive advantage in an effective and competent manner in order to receive the optimum benefit out of it. This is the motive possibly why human resource management (HRM) has become one of the most discussed topics in contemporary managerial and organizational domains of academic world. With the employment of information technology (IT), HRM has lately been transformed into information and web-based layout prevalently known as electronic human resource management (E-HRM). The practice of E-HRM is the conversion of the system & technology supported by the HR base at the organizations. In course of time, E-HRM has become an important and key element to run organizations in Bangladesh irrespective of the nature and the size of businesses. The key prominence of E-HRM has adopted executive practices in the field of handling manpower, sourcing database management, human resources planning & recruitment control, employee support activities and so many other issues connected to HRM [1]. Therefore, E-HRM is noticeably grounded as well as established on diversely embedded potential and constructive circumstances of functional HRM process, such as reduction in training and development costs, speeding up HR planning, enhancing manpower value & competence, maintaining employee e-database and having a stronger strategic partnering function for HRM activities inside organizations and stakeholders [2].

With the assistance of IT and World Wide Web, the world has more or less turned into a universal community on continuous innovation making the working life comfortable, faster and competent [3]. At present, the modern HRM departments are not longer doing the conventional manual file work. Rather, with the progression of IT, the

HRM functions have become comfortable, competent, faster and cost-saving. In this regard, Human Resource Information System (HRIS) has been by now recognized as the key means in Electronic Human Resource Management (E-HRM). However, E-HRM is a reasonably fresh idea for a least developed country like Bangladesh. The concept of E-HRM (also known as paperless HRM) characteristically includes using less manual paperwork for all HRM functions to create a sustainable, environmentally friendly and competitive advantage through engaging the existing HR base [4]. Organizations are shifting the conventional HRM tools and techniques to strategic HRM through a considerable contribution of IT and HRIS to gain preferred competitive advantages. Bondarouk et al. [5] and Rodriguez & Ventura [6] claimed that E-HRM had been interchangeably linked with HRIS, virtual HRM and web & internet-based HRM.

In Bangladesh, a small number of large organizations have started to implement E-HRM in the last decade [7]. The majority of the firms are still failing to understand the benefits of E-HRM and have taken no or a very few initiatives to materialize such an environment. The commencement and execution of E-HRM in Bangladesh can be considered as pioneering since it is still in its formative years. However, in this era of tough competition, businesses are persistently trying to decrease costs and gain competitiveness over the rivals [1]. E-HRM can be a successful tool in this regard for achieving such objectives. It is also environment-friendly which, in turn, helps the management to meet a few social and environmental obligations. Hence, this methodical study will be optimistically of help for managers, researchers and academicians who have different aims of investigating E-HRM practices and it is an understandable necessity in today's highly competitive corporate world and the natural environment that is particularly in danger.

As the key source of export revenue, the readymade garment (RMG) industry is the most

booming manufacturing sector with superior contribution to the national economy of Bangladesh. RMG is the major source of export for the last 25 years; and this sector employs more than 3 billion people in Bangladesh of whom 90% are poor and disadvantaged women [8]. This sector has become significant in terms of generating employment, foreign exchange earnings and contribution to gross domestic product (GDP) [8]. The industry commenced its journey in the late 1970s, expanded heavily in the 1980s and boomed in the 1990s [9,10]. The rapid development of RMG has been possible due to less complex technology (easy to transfer), cheap pieces of machineries, a large number of jobless poor female workers and reasonably inexpensive labor cost [10]. However, poor working environment and labor practices (like irregular pay) in the factories and an absence of social compliance are grave concerns and such causes frequently lead to recurring labor turmoil mostly due to the acute lack of proper HRM practices [10].

A foremost advantage offered by E-HRM is its contribution to the competence of control functions is the effectiveness in operation. It brings operational and strategic benefits through appropriate and suitable information allocation, formation of an organizational database, speed up decision-making process and establishment of a culture of cohesion. Furthermore, a few other support received by the use of E-HRM towards HRM operations can be counted as saving stationary expenses and dropping the costs of looking for job applicants, risk management, financial planning & control, position control (personnel requirement), attendance reports and their analysis, personnel planning, promotion planning, accident reporting and prevention; and hazardous material disclosure reports. With amplified utilization of electronic and web-based HRM, the jobs of HR professionals have become more convenient, providing them opportunity to employ additional time on other core strategic HRM actions. With an additional approach, it is argued that HR professionals add value to the organizations while at the same time intensifying their influence and status [11]. Sergio et al. [12] believe that when HRM functions are loaded into computers or sharing networks, faster decision making is achieved in development, planning and management due to much easier and quicker storing, updating, classifying and analyzing of the data. Therefore, it can be argued that E-HRM

can fetch or augment operational efficiency (OE) for firms.

The intention of this empirical study is to identify the relationships between six E-HRM practices and organizational efficiency. This is one of the initial attempts made to discover such a relationship in the Bangladeshi RMG sector. The study puts forward the following research question:

**RQ:** What is the overall relationship between the selective E-HRM practices and operational efficiency in Bangladeshi RMG sector?

## 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### 2.1 Operational Efficiency: The Point of Interest

The opinion of operational efficiency (OE) in organizations can be defined in a number of ways such as effectiveness or competency that may range from deployment of the rules and procedures with which they have been governed by to enduring that all possible stakeholders have the chance to participate in the policy process. The size of the organization and operational technology employed by the organization has also been considered as an important factor of operational efficiency [2]. OE can also be termed as the proficient use of human and material resources such as the resourceful employment of human resources, equipment, tools & equipment, and materials. Superior utilization of any or a combination of such resources can augment production of goods and services and decrease costs. OE is the deliberate planning of an organization to maintain a vigorous balance between cost and productivity. It identifies the inefficient processes that contribute to unnecessary waste of resources and profits. It deals with minimizing waste and maximizing the benefits of resources to offer improved services to the customers. To face tough competition, reducing costs is the best option as interior expenditure contributes to superior cost. Any input that is not processed through system into constructive output is called waste. There are several indicators for operational efficiency in literature. However, for this particular study, the authors selected 10 indicators based on earlier findings for OE as highlighted in Table 1.

**Table 1. Selected indicators for OE**

Serial number	Indicator	Author(s)
1	Information processing management	Fugate et al. [13]
2	Organizational learning and innovativeness	Yeung et al. [14]
3	Technological knowledge	McEvily & Chakravarthy [15]
4	Integration of knowledge	McEvily & Chakravarthy [15]
5	Information and communication infrastructure	Argote & Ingram [16]
6	Skill of managing information	Gold et al. [17]
7	Creating value	Bulbul [18]
8	Sustainable competitive advantage	Bulbul [18]
9	Prevent costly errors	Johnson & Guental [19]
10	Decrease in organizational costs through automation	Wiblen et al. [20]

Source: Literature survey

Therefore, OE convincingly can be indicated as the production of more goods and services utilizing equal amount of resources or maintaining the similar level of production using less resources.

## 2.2 E-HRM: Concept and Definitions

In the current knowledge-based economy, the performance of HRM functions is undeniably connected to organizational accomplishment [21]. Lately, conventional HRM has been shifted its concentration to the strategic management of organizations through a noteworthy contribution in strategic workforce analysis and knowledge sharing to attain the organizational triumph [11]. This shift is reasonably accredited to HRM technologies such as E-HRM and HRIS. Several researchers now claim that E-HRM has been interchangeably coined with Intranet-based HRM, virtual HRM, web-based HRM and HRIS [21]. Characteristically, E-HRM is defined as an incorporated information system that comprises some applications of HR supply and demand forecast, HR planning, staffing information, recruitment & selection, information on training & development, pay increase, compensation forecast, promotion-related information, employee relations, and so on [22]. Due to its easiness of quick access to information linked to employees, E-HRM can improve the strategic decision making process; and therefore it is considered as a strategic partner of the firms [6].

The practice of E-HRM adhered to convert the system & technology supported by the HR base at the organizations. In course of time, E-HRM becomes an essential and key element to run organizations irrespective of the nature and size of businesses. In current years of global transformation and infusion of cutting edge

technology in business organizations, corporations in Bangladesh have exposed a marvelous growth and change in adopting latest technology to provide their businesses and support business partnering activities. In the last few decades, such changes necessitate a enormous demand for efficient, competent, knowledgeable, energetic and enthusiastic HR staffs to make sure stronger strategic function for HRM assumptions inside the organizations. As a result, HRM departments are no longer doing manual tasks; rather the invention of computer-based information systems as well as the progression of electronic tools has made the jobs easier and well-organized to manage the activities [21]. The utilization of E-HRM and its fundamental technology, as a pathway to carry out strategies, guidelines, practices as well as regulations pertaining to managing HR is ought to incorporate an impact on how HRM functions operating in the long run across the organizations in Bangladesh that excelled with technology [22].

The major emphasis of E-HRM adopted organizational practices in the field of manpower handling, sourcing database management, HR planning, recruitment control and employee supports activities. So, E-HRM is evidently stranded as well as recognized on diversely rooted expectations and constructive circumstances of functional HRM process such as decrease in training & development expenses, speeding up HR planning, improving manpower quality & efficiency, maintaining e-database of employees and having a stronger strategic partnering function for HRM activities inside organizations. The utilization of E-HRM as well as its underlying technology as a pathway to execute strategies, guidelines, practices and regulations pertaining to managing HR, have to

incorporate an impact on how HRM roles and functions operate within the organization to reinforce and partner in the long run.

Likewise, E-HRM uses web-based and data archiving technology to make available HRM functions more significant, methodical, result-oriented as well as cost-effective towards the organizations. From this foundation, E-HRM has prolonged to hold close the liberation of virtually every functional HRM guiding principles. They access these roles typically with intranet or further web technology guides and tools.

### **2.3 E-HRM and Operational Efficiency (OE)**

A good number of research works had been conducted in the field of contribution of IT into HRM. In the early 1960s, personnel management was early to be used for office automation in payroll, benefit administration and maintaining employee records [23]. Growth in strategically focused HRM later produced demands for information and communication developments in HRIS [24]. Since then, the use of HRIS was confined mainly to administrative purposes focusing on the growing sophistication of IT. In this context, studies kept their focus mostly on qualities of IT, necessary for the use of its users by HRM departments [25,26]. A quantitative study conducted by Ball [23] with 115 organizations using HRIS revealed that the organization size is a clear determinant of, first, whether it is using HRIS at all, and second, whether it adopts certain modules (e.g. core personal administration) over others such as training and competence management. More recent studies regarding the implementation of E-HRM have made a shift towards addressing the dynamic nature of implementation and using such concepts as innovation, implementation, learning and change management [26].

Ruel et al. [27] highlighted a situation that is quite well covered like the varying nature of the employment relationship. In their view, a move towards E-HRM can provide the tools to sustain such development and the quick growth in IT and its limitless possibilities for HRM have been led to a new academic era, mainly focused on the incorporation of these areas. Adding or creating a value or improving the performance of the organization leads to organizational success. The value can be created by "the people" of an organization being the most important resource which should be appropriately managed in terms

of attraction, recruitment, retention and development for organization growth. All the researchers indeed decided that HRM should add value to the organization. One such contribution can be done with the boost in operational efficiency (OE). There are many channels through which HRM can contribute towards OE. HRM has to deem both the external and internal environment in which an organization operates. It has to plan out its strategies considering the desired outcomes for external and internal stakeholders. OE can be measured in terms of internal stakeholders (all the employees) and external stakeholders (owners/investors, customers, external partner organizations and members of the society). With the inclusion of numerous stakeholders, HRM is coming across a wide range of challenges.

Organizations are concentrating on developing efficient and flexible HRM systems which can easily adjust to vibrant changes taking place in the external environment without going into a state of mismanagement and confusion. Today, HRM requires assimilating with diverse facets of business to achieve OE as a strategic partner [28,29]. HRM departments require focusing on talent management through E-HRM. By attracting the finest labor, developing the strategies for retaining, training and development can lead the organizations towards OE. Linking E-HRM to OE can play a major role in formulating strategies. It cannot be denied that HRM plays a significant role concerning decisions linked to recruitment, selection, development and organization of human resources. These factors play a major role in accessing OE for firms. HRM requires expanding and improving its functions, developing and implementing innovative skills and competencies to sustain. HRM experts and professionals need to grasp all opportunities towards OE and thus, moving the firms towards sustainable competitive advantage (SCA).

To meet up the international business challenges, organizations need to achieve a sustainable model in which they can operate. Referring to the nature of the volatile dynamic external environment, it is necessary for organizations to develop a sustainable model for the future. It can be considered as the last stage in HRM (E-HRM) development. A multidimensional model is required to attain high performance by addressing multiple external and internal environmental stakeholders and moving HRM to central organizational sustainability. In

the contemporary era, E-HRM competencies have been recognized for incorporating sustainable efficiency at various organizational levels.

Organizations need to develop E-HRM strategies incorporating the key policies and practices with a strong structure for attaining SCA over the competitors. To be a pre-dominant element of OE (and SCA), E-HRM needs to be in parallel alliance with the organization's mission, goals, formulation and development of strategies related to human capital. E-HRM needs to be in combination with top management to embed the changes in the corporate strategies related to change management, talent management, training & development, leadership development and employees' engagement by keeping them rationalized with business process with new strategies and developing business ethics as new foundation to attain competitive perimeter. With such practices, E-HRM can work to move towards a sustainable environment for an organization by achieving OE with a sense of balance among economic, social and environmental integrity. For this, organizations need to move from physical technology to information technology for efficient and competent E-HRM functions.

### 2.3.1 E-job analysis and OE

Internet based job analysis or e-job analysis is a sort of software that aids the HR managers to carry out job analysis activities based on the obtainable online information. This is, therefore, generally refers to obtaining information from different stakeholders by means of an online survey. The software provides a systematic result known as job description for each and every job that was surveyed through online opinion poll. Afterward, these job descriptions are utilized as the source of job assessment [30].

**H<sub>1</sub>:** There is a significant positive relationship between e-job analysis and operational efficiency.

### 2.3.2 E-recruitment & selection and OE

Generally defined, recruitment is the procedure of identifying and searching possible candidates while selection is the procedure of making concluding decisions to choose the best one(s) from the applicant pool through a few selection tests [1]. The potential proficiency of labor forces mostly depends on the finest recruitment

practices. In addition, with the application of recommended codes of practices to make sure fairness and reasonable dealing for all the applicants, it is anticipated that the organizations fulfill with lawful requirements concerning fair employment practices and equal employment opportunities [31].

Recruitment application records the details of recruitment & selection such as cost, process or method and time to fill each job position thus providing the significant information in time to the users [32]. Conversely, selection is the process of choosing competent individuals to fill each position [33]. For any organization, recruitment & selection process should be appropriately planned to recognize the top fit candidates who best match the job requirements. Hence, whether an individual best match the job to be filled in, mostly relied upon the appropriate pre-designed selection process.

Additionally, all the hiring managers are responsible should try to evade negligent hiring. According to Mina et al. [31], when finest people are hired, productivity generally increases and cost decreases. HR managers should recognize the objectives, policies and practices used in selection to be concerned in this vital HR function. In this part, e-recruitment & selection can assist the managers by providing the essential information from the preceding record and they can make the correct decision most possibly with assistance of those information.

**H<sub>2</sub>:** There is a significant positive relationship between e-recruitment & selection and operational efficiency.

### 2.3.3 E-compensation & benefit and OE

Compensation and benefit package is the overall reward an employee receives in exchange of his/her services performed for the organization. Such package can include both direct pay (salary & bonus) and indirect pay (benefits). E-compensation & benefit system is a software package that is bought/created and maintained by an organization and is reachable by organization Intranet or external Internet which the individual employee be able to reach in his/her respective account through company browsers.

E-compensation & benefit is a official management tool by which the staffs can see their compensation & benefit records according

to the performance [1,2]. In addition, the managers are able to control the cost of compensation creating a win-win situation both for employers and employees.

**H<sub>3</sub>:** There is a significant positive relationship between e-compensation & benefit and operational efficiency.

**2.3.4 HRIS & e-communication and OE**

E-communication can be termed as the authorized intra-organizational contacts to synchronize different aspects of managerial functions and changes [34]. In this noteworthy function, HRIS involves a fundamental responsibility to bring all the essential information from the stakeholders and vice versa [35,36].

**H<sub>4</sub>:** There is a significant positive relationship between e-communication and operational efficiency.

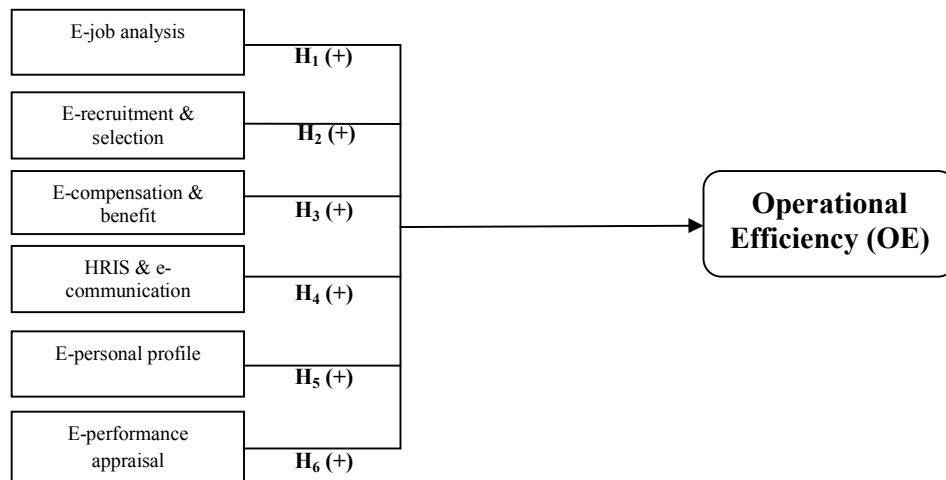
**2.3.5 E-personal profile and OE**

An electronic or e-profile consists an electronic individual records stored in organizational database and can be retrieved or accessed at anytime if needed. Arefin & Hosain [35] argue that such e-profiles of the employees can save time, effort and cost of searching which increase operational efficiency and performance of organizations. The authors assume that e-profile can positively influence OE.

**H<sub>5</sub>:** There is a significant positive relationship between e-personal profile and operational efficiency.

**2.3.6 E-performance appraisal and OE**

Performance appraisal or management is the procedure of assessing the performance of individuals or departments in a regular basis in order to develop upcoming performance and to boost prospective future career progression. Performance appraisal concerned with benchmark is a set of particular task to identify and assess the present performance against pre-established standard. This process requires input and output such as compensation, pay increase, expectation level, promotional strategy, managerial planning and so on [37]. According to Rosemond & Ernesticia [38], employees ought to be informed precisely what is anticipated from them, how their performance will be measured and the outcome will be utilized. Performance is required to be evaluated regularly stressing possible identification of training and development required with the aid of formal and organized format. An effectual performance evaluation format can shape the base for a successful analysis of financial rewards and career progression. A well prepared, efficient and resourceful electronic performance appraisal system can offer individual performance data such as outstanding appraisal date, scores, scale of measurement etc. [1].



**Fig. 1. Theoretical model**  
 Source: Authors' elaboration

H<sub>6</sub>: There is a significant positive relationship between e-performance appraisal and operational efficiency.

## 2.4 Theoretical Framework

There are six independent factors and single dependent factor involved in this empirical investigation. The authors developed the following theoretical framework based on the discussions and pre-assumed hypotheses (Fig. 1).

## 3. RESEARCH METHOD AND METHODOLOGY

### 3.1 Research Approach: Deductive or Inductive

It is essential to relate to the research with existing literature and the theoretical framework as it concerns about how to plan a research project. Commonly, the deductive approach is used when we attempt to develop a theory or hypothesis (or hypotheses) and research strategy to test those hypothesis (or hypotheses). On the other hand, if we collect data and develop a theory as a result of data analysis, we require employing the inductive approach [39]. Creswell [40] argued that whether the research should be based on deductive or inductive approach depends mostly on the nature of research and the research theme. If there are a number of literature and theoretical frameworks available in the academia regarding the topic, the deductive approach will be the option. Conversely, if there is no or very few existing literature found related the topic, it may work well with inductive approach that can generalize a theory by analyzing data.

After considering the research topic and the nature of the present study, the authors decided to take the deductive approach for this study as there are a number of hypotheses to be tested.

### 3.2 Research Design and Data Collection Method

The study was carried out adopting the quantitative method. The prime difference between quantitative and qualitative methods is that quantitative methods depend on acquiring data that is typically numerical in nature and can be statistically interpreted, while qualitative methods focus on gathering data in a non-numeric way (e. g. case study), which is concerned with in-depth study of human

phenomena so that individuals' nature and the meanings can be understood [41]. Regarding the present study, the authors followed the quantitative method. The authors utilized both the primary data in this case.

Primary data were collected through a detailed structured survey questionnaire from the respondents. The respondents were selected using convenience sampling method from two big cities of Bangladesh: Dhaka (the capital) and Chittagong where the major garment factories are situated.

### 3.3 Sampling Design and Survey Instrument

Although garment sector is one of the most promising and offers highest employment in Bangladeshi job sector, those are the technical workers or sewing operators. Such employees are not the chief concern of this study. Rather, the authors included the management level employees (supervisors, mid-level and top level managers) as the respondents. According to Bangladesh Garment Manufacturers' and Exporters' Association (BGMEA), there are around 4000 garment factories active in Bangladesh and around 500000 employees work there in different management levels [42]. To determine the sample size of the employers, the formula published by University of Florida was used as a reference. This study used formula for taking sample data from population suggested by Yamane [43]:

$$n = \frac{N}{(1 + Ne^2)}$$

Where, n=Sample size, N= Population, e=Level of precision. In calculating number of sample, the following assumptions were made to determine:

n=430, if Population size is 500000; Level of precision is 5%.

However, the authors primarily intended to conduct the study on a sample size of 600 respondents working on different managerial job levels of 54 garment firms. Convenience sampling method was used to choose the respondents. The reason for choosing this sampling method was to select the respondents according to the knowledge of E-HRM and operational efficiency. Although 560 survey instruments were returned (with a response rate of 93.33%), 527 samples were taken as valid after deducting 33 due to incompleteness and improper filling.



**Table 2. Distribution of items according to the variables/factors**

Factors	Number of items	Internal consistency (Cronbach's alpha)
E-job analysis	3	0.6854
E-recruitment & selection	3	0.7321
E-compensation & benefit	3	0.7344
HRIS & e-communication	3	0.6546
E-personal profile	3	0.7791
E-performance management	3	0.7101
Operational efficiency	5	0.8931
Total number of items	23	

Source: Measurement instrument and descriptive statistics (SPSS 24)

Survey strategy is a well-accepted and frequently used strategy in business and management research which includes questionnaires and personal interviews that are created for the specific investigation connected to the research objectives [44]. A questionnaire is a printed list of items used to collect factual information, beliefs or attitudes about an issue, a product or service [45] and the items that are included in the questionnaire can be open or closed; or a combination of both [46].

### 3.4 Questionnaire Design, Factor Items and Internal Consistency

The questionnaire was checked carefully to decide whether it was understandable and if there was any further improvement necessary. The survey questionnaire had 23 items in total. A 7-point Likert scale was used to measure E-HRM practices and organizational sustainability where 7 was regarded as strongly disagree while 1 was regarded as strongly agree. The categorical allocation of the items on the questionnaire has been highlighted on the following table (Table 2).

Cronbach's coefficient was used to examine the inter-item consistency and reliability [47].

According to tab. 2, all the alpha values are higher than 0.60 which satisfies the cutoff level as suggested by Nunnally & Bernstein [48]. Therefore, it is apparent that each instrument's internal reliability and validity was satisfactory.

## 4. RESULTS

### 4.1 Demographic Profile of the Respondents

All the respondents (N=527) in this study were supervisors, mid-level and top-level managers of 54 garment firms. Therefore, it was expected that they have adequate knowledge about E-HRM practices and operational efficiency. The demographic information of the respondents based on the organizations under survey is highlighted below (Table 3).

The respondents are directly concerned with diverse management and decision-making levels (from top to bottom) and have adequate knowledge regarding the application of E-HRM practices and its contribution to the operational efficiency which is the key concern of this study.

**Table 3. Demographic profile of the respondents**

Job rank	Number of respondents (Supervisor and mid-level managers)		Number of respondents (Top-level managers)		Total respondents (N)
	<b>299</b>		<b>228</b>		<b>527</b>
Gender	Male 440		Female 87		N 527
Length of service	Less than 2 years 12	2 to 5 years 89	6 to 10 years 133	More than 10 years 293	N 527
Knowledge about E-HRM	Not at all 0	Little 12	Good 203	Excellent 312	N 527

Source: Demographic components on the questionnaire

### 4.2 Pearson’s Correlation for Selected Independent Variables and Operational Efficiency

To examine the direction (positive or negative) and the strength (strong or weak) of the relationship between each independent and dependent variables, Pearson’s correlation coefficient was applied. The results have been highlighted in Table 4 and subsequently in Fig. 2.

Table 4 indicates that all the six E-HRM practices have positive relationships with OE. However, four of them (E-compensation & benefit, HRIS & e-communication, E-personal profile and E-

performance management) have significant relationships with OE while the two other E-HRM practices have comparatively insignificant relationships with OE. Therefore, we can declare that the first two hypotheses (H<sub>1</sub> and H<sub>2</sub>) have been rejected while the remaining four hypotheses have been accepted.

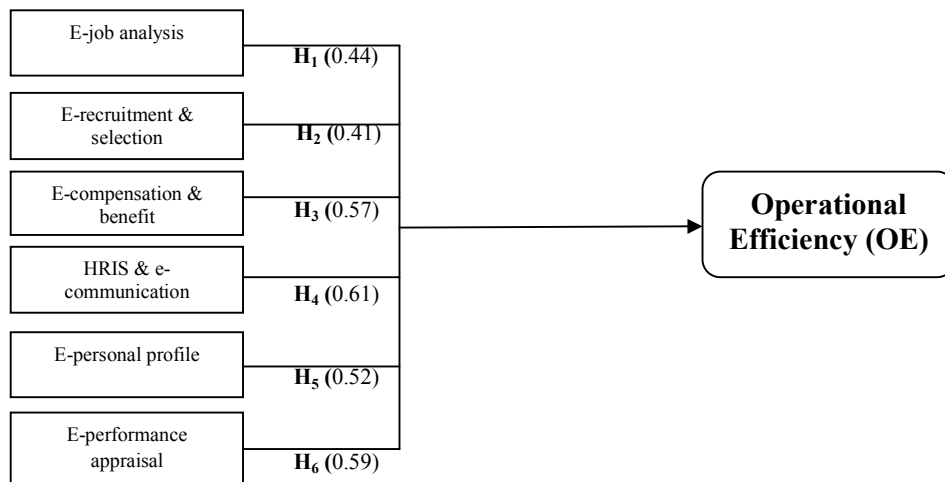
### 4.3 Aggregate Impact of E-HRM Practices on Operational Efficiency

The subsequent table (Table 5) explains the overall relationship of E-HRM practices (Independent variables) with operational efficiency (Dependent variable).

**Table 4. Pearson’s correlation between selected E-HRM practices and OE**

Independent variables	Dependent variable
E-job analysis	0.44
E-recruitment & selection	0.41
E-compensation & benefit	0.57
HRIS & e-communication	0.61
E-personal profile	0.52
E-performance management	0.59

Note: All the values were significant at 95% confidence (5% significance) level; Source: Pearson’s correlation coefficient (SPSS 24)



**Fig. 2. Hypotheses testing results**

Source: Pearson’s correlation coefficient (SPSS 24)

**Table 5. Aggregate impact of E-HRM practices on OE**

R Square	Adjusted R Square	Standard error of estimate	Change				Significance of F Change
			R Square change	F Change	Df1	Df2	
0.676	0.63	0.6132	0.632	5.8193	5	232	0.0005

Note: Predictors (constant), E-job analysis, E-recruitment & selection, E-compensation & benefit, HRIS & e-communication, E-personal profile and E-performance appraisal; Source: Descriptive statistics (SPSS 24)

The square of the multiple R was 0.676 highlighting that 67% of the variance in operational efficiency can be explained by six independent variables together. The F value was 5.8193 indicating that it is significant at  $P=0.0005$  suggesting six independent variables significantly explained 67% of the variance in operational efficiency.

## 5. DISCUSSION

The results exposed in this study are well-consistent with the preceding findings of Hosain et al. [29]; Hosain & Arefin [28]; Arefin & Hosain [35]; Hosain [1]; Khashman & Khashman [32] Mina et al. [31]; and Tesi [30]. The positive association of E-HRM with operational efficiency was reflected by the viewpoint of the sample respondents. To support the development regarding the operations within the organizations, proper E-HRM practices should be adopted and executed as such practices offer a clear representation of operational efficiency and can be concurrently used with other computerized applications to boost the performance. The authors emphasize that manufacturing firms such as garment factors should be more cognizant regarding the operational efficiency in order to attain sustainable competitive advantage in increasingly competitive national and international markets.

## 6. RATIONALE, SIGNIFICANCE AND CONTRIBUTIONS

The nature of conducting businesses today is quickly shifting due to amplified competition, novel technological development, changing expectations of diverse stakeholders' needs and other industry, micro and macro environmental changes. As a critical factor of production and operation, HR is playing an important role for the organizations in achieving the organizational goal and sustainable development. The current decades have experienced several notable developments in this area that can be termed as the conversion from manual or traditional HRM practices to E-HRM practices. E-HRM is an Internet-based formation that is developed to implement HRM policies, practices and tactics to attain the organizational goals. Adopting E-HRM for managing HR is a rising trend in the business, industrial and management domains. Whereas, the superior part of E-HRM studies were conducted in developed country perspectives, a little focus so far has been given in developing or

least developed countries. Moreover, reasonably a small number of studies have been carried out in several developing countries, particularly in Bangladesh.

Therefore, it is hoped and anticipated that this very initial and empirical study on this priority sector will be very helpful for the managers and other stakeholders to execute the required E-HRM practices based on the findings. E-HRM can be advantageous as it can put away unnecessary costs, augment efficiency and reduce the waste of working hours. In addition, such a study might also be practical for the academicians, practitioners and analysts who wish to conduct some researches on E-HRM application in this sector in upcoming times. As pointed, it is one of the initial attempts to investigate the application of E-HRM on operational efficiency in the garment industry; the findings can be used as yardsticks for further research investigations in this very important field.

## 7. LIMITATIONS AND FURTHER SCOPE OF STUDY

In conducting this study, the researchers observed some limitations. Firstly, the study was conducted based on one particular industry in one particular country. Secondly, the study considered only six E-HRM practices. Cross-industry and cross-country investigations in a wider length involving more E-HRM practices are suggested for future interested researchers that might provide more exciting and concrete results to the academicians and practitioners.

## 8. CONCLUSION

E-HRM is a web-based tool to automate and support HRM processes. The implementation of E-HRM is an opportunity to entrust the data entry to the employee. It facilitates the usages of HR marketplace and offers more self-service to the employees. It is a sophisticated business solution that provides total on-line support in the management of all processes, activities, data and information required to manage HRM functions in a contemporary organization. It is a well-organized, dependable, easy to use tool, accessible to a broad group of different users. E-HRM is a high-tech way of performing HRM functions. Having top management support and HRM at a strategic position towards operational efficiency, E-HRM can perform as an ICT tool to

attain sustainable management through constant operational efficiency. Organizations are recognizing the significance of operational efficiency in terms of competition, selection and retention of brilliant employees and the reputation of the company. To stand with dynamic economic, social and environmental forces; and keeping in mind both internal and external stakeholders; organizations are trying to achieve sustainable and long-term growth for the businesses. With multiple advantages, it can be suggested that all the organizations use E-HRM technology that promises to offer a useful, efficient and increased performance in spite of all barriers it has to face. E-HRM is a system of implementing HRM strategies, policies and practices in organizations through conscious and directed support of the full use of web-technology-based channels. It covers all aspects of HRM functions like personnel administration, education & training, career development, corporate organization, job descriptions, hiring process, employee's personal records and annual interviews with employees. Therefore E-HRM is an enhanced way of conducting HRM functions more effectively and efficiently for the organizations.

#### **DISCLAIMER**

The products used for this research are common and predominant in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

#### **CONSENT**

As per international standard or university standard, respondents' written consent was collected and preserved by the author(s).

#### **COMPETING INTERESTS**

The authors declared that no competing interests exist.

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## APPENDIX

### SURVEY QUESTIONNAIRE:

This questionnaire is prepared as the part of investigation to write empirical paper “The Impact of Selected E-HRM Practices on the Operational Efficiency: Evidence from Bangladeshi Garment Industry”. The information and the responses will be kept secret and it will be used for only this project.

**Name:**

**Sex:** (1) Male (2) Female

**Position:**

**Department:**

**Length of service in years:** (1) Less than 2 (2) 2-5 (3) 6-10 (4) More than 10

**Knowledge about E-HRM:** (1) Not at all (2) Little (3) Good (4) Excellent

**Scale:** 7=Strongly Disagree, 6= Moderately Disagree, 5= Slightly Disagree, 4= Undecided or No Comment, 3= Slightly Agree, 2= Moderately Agree and 1= Strongly Agree

No.	Statements	1	2	3	4	5	6	7
<b>E-job analysis</b>								
1	Electronic job analysis can save time and cost							
2	E-job analysis is fair and accurate than manual job analysis							
3	E-job analysis is an integrated part of overall E-HRM							
<b>E-recruitment &amp; selection</b>								
1	E-recruitment & selection saves time and cost; and it is reliable							
2	The best candidates are recruited by the system							
3	The e-recruitment & selection process of the company is fair and unbiased							
<b>E-compensation &amp; benefit</b>								
1	All the payment made to all the parties through electronic system to the connected bank account							
2	The system is easy, user friendly and effective							
3	The system can maintain privacy of the personal information							
<b>HRIS and e-communication</b>								
1	The company maintains a proper and integrated human resource information system for electronic communication internally							
2	The system is maintained and updated when necessary							
3	The HRIS is east to use, effective and time saving							
<b>E-personal profile</b>								
1	My organization has a e-database							
2	E-personal profile helps the management to search any employee information quickly and efficiently that saves time							
3	Only the authorized personnel can access to e-personal database							
<b>E-performance management</b>								
1	The e-performance management system is unbiased, cost effective and clear							
2	The e-performance management system includes feedback to the employees							
3	E-performance management is more systematic and transparent							

No.	Statements	1	2	3	4	5	6	7
	than the traditional performance							
<b>Operational efficiency</b>								
1	The electronic HRM is maintained and updated regularly							
2	The E-HRM system is contributing towards positive development of the firm							
3	The E-HRM is more advantageous than paper based traditional administration							
4	The return from the investment on E-HRM is getting increased							
5	There are proper backups if the system crashes suddenly due to unexpected reason (s)							

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