

Original Research Paper

Adoption Factors of Electronic Human Resource Management (e-HRM) in Banking Industry of Bangladesh

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Abstract: The purpose of the study is identifying the important factors that contribute to adoption of e-HRM among banks in Bangladesh. Stratified random sampling technique was used to consider 265 respondents from twenty eight private commercial banks. A pre-tested and close-ended questionnaire adapting five-point Likert scale was used for data collection. In this study, descriptive statistics and exploratory factor analysis are exercised as statistical tools. The result shows that employee's individual attributes, top management support, compatibility, IT infrastructure and industry pressure are important factors that influencing management decision to adopt e-HRM among banks. The practical implication of the findings is discussed at the end of this paper and recommendations for further research are also addressed.

Keywords: Electronic Human Resource Management (e-HRM), Adoption, Factors, Banks, Bangladesh

Introduction

Nowadays, the performance of Human Resource Management (HRM) is directly linked with organizational success (Masum *et al.*, 2015). To achieve organizational goal, traditional HRM tools and techniques have been shifted to strategic HRM through a significant contribution of Information Technology (IT) (Rodríguez and Ventura, 2003). Organizations are increasingly implementing electronic Human Resource Management (e-HRM) as well as Human Resource Information System (HRIS) to meet the needs of HR professionals, managers and employees in HR activities for gaining competitive advantages (Thite *et al.*, 2012). These systems provide a vital link between IT and HRM. Bondarouk *et al.* (2009) have recently claimed that e-HRM has been interchangeably coined with Human Resource Information System (HRIS), virtual HRM, web-based HRM and Intranet-based HRM.

In Bangladesh, large companies have started to implement e-HRM in last 5 years (Jahan, 2014). However, its implementation is still limited within the large companies in Bangladesh. Small companies and public companies have failed to realize the benefits of e-HRM and taken barely any inventiveness to

implement the system. Since the discussion of e-HRM is still in its infancy, there is not much empirical research available glancing at the factors that foster the application of e-HRM (Jahan, 2014; Masum *et al.*, 2013). So, the adoption decision and implementation of e-HRM can thus be seen as an innovation in Bangladesh. As like other countries, there are some factors that influence HR managers for implementing e-HRM in Bangladesh. This research will guide Bangladeshi managers to prepare for a successful shift from traditional HRM towards e-HRM and thus contribute to the economic development of the country.

The main thrust of this paper is identifying the most important factors that are linked to organizational adoption of e-HRM in the private banks of Bangladesh. The structure of this study is divided into seven sections. The second section demonstrated the related factors of e-HRM adoption. The following section includes a conceptual framework for the study. The research methods are discussed in section four. The findings of the study and discussion are addressed in section five and six respectively. In last section, conclusion describes the future research and recommendations with managerial implications.

2. Literature Review

Due to the increasing use of Information System (IS) in the industrial operations, HR professionals became accustomed to use IS for HR activities from the early 1980's (Voermans and van Veldhoven, 2007). E-HRM is an integrated system covers a whole range of HR activities for the HR department. Usually, e-HRM contains some applications of labor force planning, supply and demand forecast, staffing information, applicant qualifications, information on training and development, salary forecast, pay increase, labor/employee relations, promotion-related information and so on (Bamel *et al.*, 2014). Recent studies also confirmed that e-HRM improves the strategy formulation and decision making for HR activities. Therefore, it has been considered as a strategic partner of the firms (Thite *et al.*, 2012; Wiblen *et al.*, 2010).

Previous researchers explored that there are some important factors that influencing decision of e-HRM adoption among firms. In this section, we examined these factors on basis of e-HRM and innovation literature. These factors are categorized into individual level, organizational level, technological level and environmental level. Richter *et al.* (2013) found that the users' perception, attitude, motivation, intentions effect the adoption of IS and technologies. Similarly, past research also shows that users' attributes and their interaction with ISs decide the success or failure of ISs and technologies implementation (Delorme and Arcand, 2010; Troshani *et al.*, 2011). Moreover, It was found in Singaporean SMEs that there is a great impact of top management (such as CEO) attitude towards IS adoption (Thong, 1999). In addition, IT skill of the employees and their familiarization with IT facilitate e-HRM adoption (Ruël *et al.*, 2004; Voermans and van Veldhoven, 2007).

Among organizational factors firm size and skilled workforce are important factors in successful innovation adoption (Troshani *et al.*, 2011). Moreover, numerous studies showed that top management commitment has a positive influence on e-HRM or IT adoption (Altarawneh and Al-Shqairat, 2010; Troshani *et al.*, 2011). Furthermore, successful adoption of e-HRM requires availability of skilled e-HRM professionals in the organization. Because, lack of understanding of the system's functions and features may be a major obstacle in e-HRM adoption (Teo *et al.*, 2007). Some studies identified the sufficient financial support as the key factor in the successful implementation of e-HRM (Parsa, 2007; Reddick, 2009).

To adopt a new technology, organizations encounter some barriers including innovation complexity and its compatibility with organizational technology competency and legacy systems (Rogers, 2003; Thong, 1999). Similarly, Teo *et al.* (2007), in their research in

Singapore, found only relative advantage and compatibility as influencing factors in e-HRM adoption. Moreover, Oliveira and Martins (2010) revealed that technology readiness is depended on organization's technology Infrastructure and IT professionals. They also stated technological readiness as a significant factor that influence IT adoption.

Environmental factors describe the external factors such as industry pressure that influencing adoption of e-HRM (Kittipong, 2009; Troshani *et al.*, 2011). Industry pressure denotes some drivers to adopt technology innovation so as to survive in the industry and keep its competitive advantages. As competitive pressure grows to reduce cost and serve more strategic role as well as to better manage the employees in the organizations, firms have realized that they cannot be competitive if they do not manage their human resources effectively (Teo *et al.*, 2007; Thong, 1999). Thus, this need has driven the organizations to use e-HRM as it can help make more informed decision, more efficient HR processes and better allocate human resources.

Conceptual Framework

A conceptual model of managerial decision to adopt e-HRM among firms in Bangladesh was developed on basis of previous literature (Fig. 1). The conceptual model comprises of seven selected variables such as HR manager's attitude (Delorme and Arcand, 2010; Richter *et al.*, 2013; Troshani *et al.*, 2011), top management support (Altarawneh and Al-Shqairat, 2010; Teo *et al.*, 2007; Troshani *et al.*, 2011), IT infrastructure (Kwon and Zmud, 1987; Oliveira and Martins, 2010), compatibility (Rogers, 2003; Teo *et al.*, 2007), complexity (Rogers, 2003; Thong, 1999), IT expertise (Ruël *et al.*, 2004; Voermans and van Veldhoven, 2007) and competitive pressure (Kittipong, 2009; Teo *et al.*, 2007; Thong, 1999).

Methodologies of the Study

A close-ended structured questionnaire was designed. Employing non-probability sampling technique, three hundred fifty (350) questionnaires were sent to senior HR persons such as HR managers, senior human resource director and IT experts of sample banks in Bangladesh. The response rate was 75.72% with 265 useable questionnaires. A five-point likert scale (where 1 = strongly disagree and 5 = strongly agree) was applied to measure the seven independent variables. Here, decision to adopt e-HRM was considered as a dependent variable. The duration of the survey was 3 months (from 1st August 2014 to 30th October 2014). The collected data was analyzed using Statistical Package for Social Sciences Program (SPSS) version 22.0.

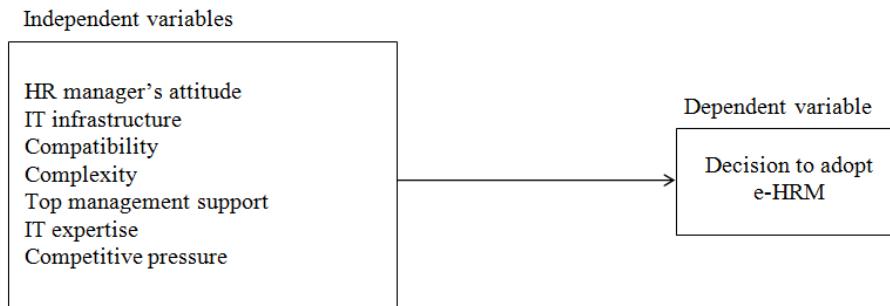


Fig. 1. Research framework

Data Analysis and Findings

Validity and Reliability Analysis

It is discovered most of the multi-item indicators confirmed enough convergent validity expect IT expertise and Complexity in factor analysis. Here, discriminant validity is also adequate as these items more strongly loaded on single factors than other factors. The sample size (265) of this study was statistically significant for factor analysis. The Kaiser-Meyer-Olkin (KMO) value for the overall matrix was 0.856, which indicates sampling adequacy. Bartlett's test of sphericity (Bartlett, 1950) was applied to verify the appropriateness of the data for factor analysis. This test was also found to be significant. We found Cronbach's coefficient (α) for each dimension of the survey ranged from 0.72 to 0.92 (typically 0.6 and above is acceptable). The higher value of Cronbach's coefficient (α) indicates the better reliability (Cronbach, 1951; Malhotra, 2010).

Influential Factor Extraction

Here, Principal Component Analysis (PCA) followed by the varimax rotation was employed to categorize the most important factors that influencing e-HRM adoption. There were 36 items in the study. Table 1 shows item loading values, Cronbach's alpha and Eigen values. The variable loading value of above 0.50 are considered significant variable (Hair *et al.*, 2003). Some variables were dropped from the analysis due to low loading values. The 36 items of e-HRM adoption scale were reduced to 18 items after Exploratory Factor Analysis (EFA) was run. Here, five factors are extracted. Five factors below extracted in the EFA together explained 58.264% of the total variance:

- The first extracted factor is Top management support. This factor is represented by four variables, which accounted for 17.789% of the variance. The factor loadings of the variables range from 0.778 to 0.881. The four items are: Top management is aware of the advantages of e-HRM; top management has a strategic plan for e-HRM; top management has allocated adequate resources for e-HRM

implementation; top management inspires HR personnel to use e-HRM in all HR related issues; top management enthusiastically expenses IT infrastructure; and top management has sufficient financial support for IT infrastructure

- The second extracted factor is HR manager's attitude. This factor is represented by four variables, which accounted for 14.235% of the variance. The factor loadings of the variables range from 0.635 to 0.845. The four items are: I consider adoption of e-HRM as a wise decision for the company; I consider that e-HRM contributes to HRM strategic effectiveness; I consider that e-HRM contributes to HRM technical effectiveness; and HR managers fell comfort with e-HRM applications
- The third extracted factor is IT infrastructure. This factor is represented by four variables, which accounted for 12.783% of the variance. The factor loadings of the variables range from 0.501 to 0.814. The four items are: e-HRM applications are compatible with existing IT infrastructure; the firm has a secure networking system; the firm has speedy internet facility; and the firm has a strong backup plan for network failure
- The fourth extracted factor is Compatibility. This factor is represented by three variables, which accounted for 8.345% of the variance. The factor loadings of the variables range from 0.518 to 0.801. The three items are: e-HRM applications are compatible with existing operating practices; e-HRM applications are compatible with organization's computerized data resources; and e-HRM applications are compatible with existing IT infrastructure
- The fifth extracted factor is Competitive pressure is the extracted fifth factor. This factor is represented by three variables, which accounted for 5.112% of the variance. The factor loadings of the variables range from 0.511 to 0.722. The three items are: The overall operational practices in our industry pressure us to adopt e-HRM; we actively keep track of innovative usage of technology by competitors; and it is becoming strategic need to use e-HRM application to strive in the industry

Table 1. Summary of rotated component matrix, Cronbach's alpha, variance and Eigen values

Factor name	Items	Item loading	% of variance (Cumulative)	Cronbach's reliability coefficient	Eigen value
Factor #1					
Top management support	Top2	0.881	17.789 (17.789)	0.92	10.879
	Top3	0.823			
	Top1	0.791			
	Top4	0.778			
Factor #2					
HR manager's attitude	Att1	0.845	14.235 (32.024)	0.86	6.564
	Att4	0.812			
	Att3	0.765			
	Att2	0.635			
Factor #3					
IT infrastructure	Infr4	0.814	12.783 (44.807)	0.72	4.786
	Infr2	0.745			
	Infr3	0.618			
	Infr1	0.501			
Factor #4					
Compatibility	Comp1	0.801	8.345 (53.152)	0.91	2.887
	Comp4	0.688			
	Comp3	0.518			
Factor #5					
Competitive pressure	Env4	0.722	5.112 (58.264)	0.87	1.234
	Env2	0.574			
	Env3	0.511			

Source: Developed by the authors on the basis of data collected for the present study

IT expertise and Complexity were dropped by PCA as the item loading for the related variables were below 0.5.

Discussion

In the present study, the findings direct that top management support, HR professionals attribute, IT infrastructure, complexity and competitive pressure are important factors for the managerial decision of e-HRM adoption. However, IT expertise and complexity are not extracted as factors that are not influencing for e-HRM adoption among banks in Bangladesh.

Numerous researchers revealed that HR manager's attitude (Delorme and Arcand, 2010; Kittipong, 2009; Richter *et al.*, 2013; Troshani *et al.*, 2011) affect adoption of any technological innovation that is similar to our findings. The results of data analysis demonstrated that top management support is a determinant of e-HRM adoption among banks in Bangladesh. The extracted determinant is identical to the past research. The earlier research identified top management support as a vital issue for the organizational adoption of technology innovation (Altarawneh and Al-Shqairat, 2010; Teo *et al.*, 2007; Troshani *et al.*, 2011). IT Infrastructure is another vital factor to influence the organizational decision to adopt e-HRM. This finding support previous research (Kwon and Zmud, 1987; Oliveira and Martins, 2010). The extracted factor-compatibility supports the previous

research, where it is identified one of the most significant factors to take decision for e-HRM adoption (Rogers, 2003; Thong, 1999). Finally, competitive pressure has influence to adopt e-HRM among firms in Bangladesh. This finding is consistent with earlier studies (Kittipong, 2009; Teo *et al.*, 2007; Thong, 1999).

Conclusion

The intention of this study was to investigate factors influencing e-HRM adoption in private commercial banks of Bangladesh. The findings of the study suggested that top management support, HR managers' attribute, IT infrastructure, compatibility and industry pressure are the important determinants to the adoption of e-HRM. The research has contributed to the body of knowledge in the area of e-HRM research through providing a greater understanding and important insights into the determinants factors that affecting the organizational adoption of e-HRM within Bangladesh context. There are some limitations that exist during the process of this research. The sample size of the study is chosen only 265. It is agreed that the bigger the sample is, the more representative the results are. Moreover, we have chosen seven determinants to investigate the decision of e-HRM adoption, but there are also many other potential determinants that may affect the decision of e-HRM adoption.

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Conflict of Interest

There is no conflict of interest.

Ethics

This article is original and contains unpublished material. The corresponding author confirms that all of the other authors have read and approved the manuscript and no ethical issues involved.

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