Perceived benefits of Human Resource Information System (HRIS) stimulate the efficiency of Human Resource Manager: a study on banking sector of Bangladesh

Sabnam Mostari
Senior Lecturer, Stamford University Bangladesh
Corresponding Author: Sabnam Mostari

Abstract: *Workforce is the bloodline for a business organization. HRIS helps an organization to create information database regarding employee which generate opportunities to ensure sustainability of workforce to achieve goals. This study was aimed to analysis the relationship among perceived benefits of HRIS and managerial efficiency through the usage of HRIS in an organization despite of significant challenges. Data were collected following a quantitative survey by a structured questionnaire conducted among a diverse group of employees (N = 360) who were working in human resource department of 27 different banking organizations of Bangladesh following simple random sampling method. Several statistical techniques consisting of descriptive analysis, Pearson correlations, ANOVA, Coefficient, and regression analysis have been applied using SPSS 23 software to analyze the collected data for taking decisions regarding the hypotheses. The results of the statistical analysis revealed that perceived benefits of human resource information system (HRIS) positively stimulates efficiency of the employees of Human Resource Department.*
Key Words: *HR Managerial Efficiency, HRIS, HRM function, Banking sector, Bangladesh*

I. Introduction

HRIS can help any company to modernize and simplify the way that employee information is obtained, stored, and used to achieve goal of an organization. HRIS works as a tracking devise of employee's information as like- applicant and or employees detailed demographic and qualification related information, recruitment, professional training and development, performance evaluation, payroll, retention to retirement, restoring and analyzing accurately through analytics, retrieving and generating report to enhance decision making criteria of HR employees of each level of organization (Harris and Desimone, 1995; Dery et al., 2009; wiblenet al., 2010; troshani et al., 2010).

Literature Review

Technology has radically altered the practice of traditional human resource management and transformed traditional HRM into E-HRM which generally known as Human Resource Information System (HRIS) as well as expanded scope for small and medium companies to access HRIS capabilities that were available only for the large organization through various software, devise, update system, techniques as like SAAS (Software as a Service), cloud, Web portals, etc. Khairrnar (2011) advocated that changes and identified unique trends of HRIS such as SAAS, SOA, Web-2, enterprise portals to develop smooth HRM practices in organization. HRIS can improve organizational performance, facilitate strategic value generation practices and ensure contribution of human assets to achieve business objectives (Boateng, 2007; De Pablos, 2004).

The usage of HRIS into organization significantly increase to gather, store, analyze, retrieve human resource data all over the world from last two decades (Ball, 2001; Hussain et al., 2007; Ngai et al., 2004; Dery et al., 2006). HRIS ensure integration, cost efficiency, accessibility and user friendliness to an organization to ameliorate human capability of an organization (Troshani et al. 2010; Browning et al., 2009; Colakoglu et al., 2006; Schenk and Holzbach, 1993). HRIS assured dynamic speed on administrative tasks with a minimum number of worker for any organization to achieve competitive advantages (Bhuiyan & Rahman 2014).

Bhuiyan, Chowdhuri & ferdous (2014) uncovered historical development pattern of HRIS from personnel management to evolution of HRM, HRIS and Tech era and SHRM to nourish HRM practices in business world. Gupta (2013) also supported this development period of HIRS and depicted opportunities and threats of HRIS. The usefulness of HRIS in Bangladesh was assessed by Bhuiyan & Rahman (2014). In their study, they have elaborated strategic benefits of HRIS for any organization through an empirical study. They also proved that using pattern and purpose of HRIS in Bangladesh was highly for Recruitment, Selection and

performance appraisal purposes that was different than other countries which contradicted the findings of Kovach and Cathcart (1999) and Groe et al. (1999). They also stated most frequently used software from vendors for both service and manufacturing industries. Such as- Abra Suite, Oracle, People Soft, Vantage etc. Shiri (2012) investigated that adoption of HRIS will enhance the productivity of an organization.

Bhuiyan & Gani (2015) had demonstrated pivotal necessity of HRIS in Bangladesh by using principal Component Analysis method on 1200 respondents from banking sector of Bangladesh. Khera & Gulati (2012) measured pertinent benefits of HRIS on the basis of information which collected from 127 respondents of IT sector of India and also discussed Role and Contribution of HRIS to enhance productivity of HR manager as well as organization. In spite of pivotal benefits HRIS, many organizations couldn't gain optimum development of HR department through this upgrade technology due to some obstacles as such- lack of management commitment, preferences of status quo, improper need assessment, lack of proper knowledge, lack of expertise etc. (Bhuiyan & Rahman,2014; Ngai & Wat, 2004; Rahman Khan, A., Hasan, N., & Rubel, M. 2015). Rahman, Islam & Qi (2017) had conducted an exploratory Factor Analysis on 25 Garments of Bangladesh and also found hindrance factor such as financial, managerial and organizational factors to pause the transformation of HR operation to HRIS in ready-made garments sector of Bangladesh.

Troshani et al. (2010) demonstrated the adoption of HRIS in the public sector depends on environmental, organizational and technological factors in three ways as such demonstrated benefits and usefulness of HRIS, management commitment and regulatory guidance as well as succession rate of HRIS adoption by using TOE framework as analytical tools.

By developing HRIS and providing after sale service, HRIS vendor can support to minimize customization cost and being the bridge to remove the gap of inadequate organizational fit (troshani et al., 2010).

This study had shown that, the higher propensity of perceived benefits of HRIS drives the usage of HRIS in an organization which enhanced the managerial efficiency of HR Managers in banking sector of Bangladesh.

1.2 Research Objectives

The main objective of this study is to examine and analyze effect and effectiveness of perceived benefits of HRIS on the HR function of banking organizations in Bangladesh. Thus this research paper involves following research questions that are:
(1) What are the effect and the effectiveness of perceived benefits of HRIS on managerial efficiency of HR Managers in banking industry of Bangladesh?
(2) Whether benefits of HRIS have created an impact on the efficiency of HR managers?
(3) Has implementation of HRIS brought any changes or development in the working environment of HR department?

II. Theoretical Framework

This research consists of total ten variables, and nine are independent such as Accuracy of Information, Cost Minimization, No Repetitive Administrative Functions, Time Management, Effective Communication, Easiness & Usefulness which have influence or effect on dependent variable HR Managerial Efficiency (Figure 1).{ Troshani, I., Jerram, C., & Rao, S. (2011), Saleem, I. (2012),
Mahmoud Gitari Muriithi Ag, J., Gachunga, H., & Kathoka Mburugu, C. (2014)Al - Shawabkeh, K. (2014), Bhuiyan, F., & Osman Gani, M. (2015), Dery, K. Rahman Khan, A., Hasan, N., & Rubel, M. (2015), Grant, D., & Wiblen, S. (2009), Weeks, K. O. (2013). Buckley, P., Minette, K., Joy, D., & Michaels, J. (2004)}.

Proposed model
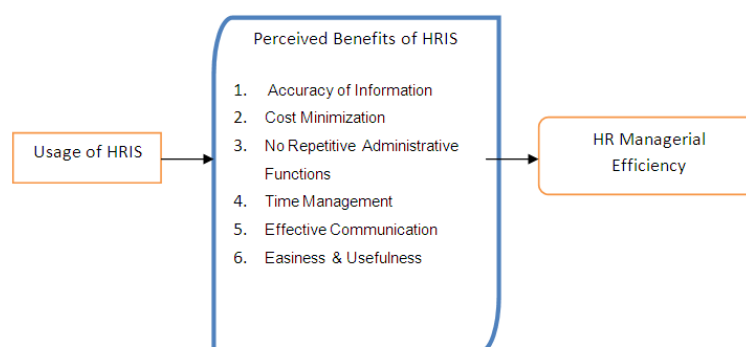
Figure 01: Perceived benefits of HRIS on the efficiency of HR manager

III. Research Methodology

3.1 Research design

The purpose of the research is to test the effects of the perceived benefits of HRIS on human resource management practices on stimulating or enhancing the managerial efficiency of HR employees of the banking sector in Bangladesh. Two sources have been used to collect data for this research.

i) The primary source refers to the collection of quantitative data from the employees of the banking sector in Bangladesh. Structured questionnaire was used to get the sufficient data. ii) The secondary source refers to the collection of different publications of this field.

3.2 Population and sample size

The target sector of this study is the banking sector of Bangladesh. The target population of the study is all the banks in Bangladesh. According to Bangladesh Bank Report 2017, There are total 57 banks in which 48 and 9 are Private and Public banks respectively. There were 54 banks operating its functions in Commercial category and 3 banks in specialized category. In total 9 Foreign commercial banks are currently operating beside of 48 Local banks in Bangladesh. For the purpose of this study, 27 different public and private banks of Bangladesh were selected as sample from the above stated list of the banks.

3.3 Sampling technique

Data was collected from 360 employees working in 27 different public and private banking organizations of Bangladesh. The respondents were picked following simple random sampling method (Zikmund *et al.* 2013). An exploratory analysis was conducted to achieve the desired outcome from this study.

3.4 Instrument

A structured questionnaire was used as the instrument of this study. The questionnaire was divided into two segments: First segment was devised for collecting demographic information of the respondents and second one for measuring the level of perceived benefits(Accuracy of Information, Cost Minimization, No Repetitive Administrative Functions, Time Management, Effective Communication, Easiness & Usefulness) from the usage of HRIS software to strengthen the efficiency of the employees of Human resource department of Bangladesh as independent variables and dependent (efficiency of HR employees) variables under investigation. A 5-point Likert scale was used with an interval scale ranging from 1 (strongly disagree) to 5 (strongly agree).

3.5 Data collection

For collecting the data, survey questionnaires were mostly distributed manually to the target people, and e-mail was also used to reach some of the respondents. Around 400 hundred questionnaires were distributed among the employees of 27 different banks. A total of 378 people returned their answers whereas 360 data were considered usable.

3.6 Data analysis technique

The primary data were analyzed employing SPSS 23 (Statistical Package of Social Science) software. Frequencies, descriptive analysis, correlation coefficient, and regression analysis were applied to analyze the gathered data. The values of Cronbach's alpha coefficient were also calculated to institute the reliability of measures.

3.7 Demographic profile

According to the Table 1, among the 360 randomly selected employees (sample) of 27 different public and private banks, there are 77.8% and 22.2 % are male and female respectively. Regarding the age of respondents, 4.4 %was between the ages of 20-30 years. 52.8 %was between the ages of 31-40 years. 25.6% were between the ages of 41-50 years and rest of the 17.2% was above 51 years old.

Among them 30.3% and 69.7% respondents were from public and private banks respectively.

90.6% employees have Masters Degree and only 9.4% was having Bachelor's Degree in HR departments of banking industry of Bangladesh.

4.7% employees had less than five years work experience. 11.7% employees had experience of 5- 19 years.46.7 % employees had 10-14 years worked experience.22.2% employees had 15-19 years worked experience and 14.7 % employees had working experience of more than 20 years (Table 1). Among the respondents 27.5% were higher level employees, 58.1% were senior-level employees, and 14.4% were junior level employees who worked at HR department of different banks of Bangladesh.

3.8 Usage of HRIS Software: All the respondents of different banks had stated that they had used different types of software in perspective to conduct different Human resource functions as such Job analysis, Recruitment and selection, employee orientation, training and development, compensation and benefits management, performance management, HR database management etc. with the help of different software.

3.9 Tables of Hypothesis:

H01= There is no significant relationship between Accuracy of Information and managerial efficiency.	H1= There is a significant relationship between Accuracy of Information and managerial efficiency.
H02= There is no significant relationship between Cost Minimization and managerial efficiency.	H2 = There is a significant relationship between Cost Minimization and managerial efficiency.
H03= There is no significant relationship between No Repetitive Administrative Functions and managerial efficiency.	H3 = There is a significant relationship between No Repetitive Administrative Functions and managerial efficiency.
H04 = There is no significant relationship between Time Management and managerial efficiency.	H4 = There is a significant relationship between Time Management and managerial efficiency.
H05 = There is no significant relationship between Effective Communication and managerial efficiency.	H5 = There is a significant relationship between Effective Communication and managerial efficiency.
H06 = There is no significant relationship between Easiness & Usefulness and managerial efficiency.	H6 = There is a significant relationship between Easiness & Usefulness and managerial efficiency.

Table 01: Hypothesis List

3.10 Demographic profile:

Categories	Variables	Frequencies	Percentages (%)
Age (in years)	20-30	16	4.4
	31-40	190	52.8
	41-50	92	25.6
	51 and above	62	17.2
	Total	360	100.0
Gender	Male	280	77.8
	Female	80	22.2
	Total	360	100.0
Education	Bachelor's degree	34	9.4
	Masters	326	90.6
	Total	360	100.0
Types of Organization	public Bank	109	30.3
	private Bank	251	69.7
	Total	360	100.0
Respondent's Position	Junior Level	52	14.4
	Senior Level	209	58.1
	Higher Level	99	27.5
	Total	360	100.0
Work Experience	1-4 years	17	4.7
	5-9 years	42	11.7
	10-14 years	168	46.7
	15-19 years	80	22.2
	More than 20 years	53	14.7
	Total	360	100.0
HRIS Software	Yes	360	100.0
	No	0	0
Software Up gradation	Irregular updates	110	30.6
	Regular updates	250	69.4
	Total	360	100.0

Table 02: Demographic Profile

IV. Data Analysis and discussion

4.1 Descriptive analysis and reliability analysis

The following table (Table 2) displays the scores of mean and standard deviation. To check the reliability of the scale and internal consistency of the measure, we use the cronbach's Alpha method. Internal consistency of the measure means that the suggested method gives the same results when we apply the same test

under the same condition again. According to the Cronbach's Alpha, value that is near α=1.0 or α >0.6 is considered more significant, and value that is less than α=0.6 is insignificant. The Alpha of perceived benefits is 0.724 and managerial efficiency is 0.767 which is significant. The internal consistency of the measure is good, and reliable because the Cronbach's alpha value is >0.6.

The statistics in Table 03 further show that the mean scores of all ten dimensions are almost in between 3 to 4. Accuracy of Information (Mean: 3.83, SD: 0.791) has the highest mean score, and Easiness and Usefulness has the lowest mean score (Mean: 3.53, SD: 1.124) among all the dimensions.

Descriptive Statistics		
	Mean	Std. Deviation
	3.83	.791
Accuracy of Information	3.79	.750
Cost Minimization	3.55	.763
No Repetitive Administrative Functions		
Time Management	3.72	.721
Effective Communication	3.65	.701
Easiness & Usefulness	3.53	1.124
Managerial Efficiency	3.54	.771

Table03: Descriptive Analysis

4.2 Correlations

Pearson correlations were tested to determine the typical relationships among variables under investigation. If the value of the correlation is near 1.0 or above 0.5 or nearly 0.5, then we can interpret that there are strong correlations. The results of Pearson correlations on each of the dimensions are displayed in the table below (Table 4).

Correlations							
	1	2	3	4	5	6	7
1. Accuracy of Information	1						
2. Cost Minimization	.428**	1					
3. No Repetitive Administrative Functions	.477**	.382**	1				
4. Time Management	.161**	.070	.351**	1			
5. Effective Communication	.405**	.515**	.279**	-.037	1		
6. Easiness and Usefulness	.423**	.522**	.247**	-.006	.432**	1	
7. Managerial Efficiency	.638**	.312**	.451**	.196**	.341**	.286**	1
**. Correlation is significant at the 0.01 level (2-tailed).							

Table04: Correlations Analysis

According to Table 4, Accuracy of information and HR managerial efficiency are highly and significantly correlated with value of 0.638. It means that an increase in information accuracy leads to enhance efficiency of human resource managers in banking sectors of Bangladesh. So it rejects the null hypothesis that, there is no relationship between Accuracy of information and HR managerial efficiency. So, a positive relationship exists between Accuracy of information and HR managerial efficiency.

4.3 Regression Analysis

The results of multiple regressions presented in Table 5 indicate highly significant impact of perceived benefits of HRIS (Accuracy of Information, Time Management, Effective Communication, Easiness and Usefulness, No Repetitive Administrative Functions, Cost Minimization) on HR managerial efficiency.

Hypothesis	Independent Variables	Dependent Variable	R²	Beta	Sig.	Result
H1	Easiness & Usefulness	Managerial Efficiency		0.286	0.000	Accepted
H2	Accuracy of Information	Managerial Efficiency		0.638	0.000	Accepted
H3	Cost Minimization	Managerial Efficiency		0.312	0.000	Accepted
H4	No Repetitive Administrative Functions	Managerial Efficiency	0.444	0.451	0.000	Accepted
H5	Time Management	Managerial Efficiency		0.196	0.000	Accepted

H6	Effective Communication	Managerial Efficiency		0.341	0.000	Accepted

Table05: Regression Analysis

4.4 Model summary

The model summary of regression analysis consists of the values of R, R square, adjusted R square, standard error of the estimates. R called the Pearson R. Pearson R is equal to the R2. R2 is used to determine the model fitness. The Coefficient of determination is also called R square. R square is used to determine the variation in dependent variable that is explained by independent variables. The standard error of the estimate is a measure of the accuracy of predictions.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.666[a]	.444	.435	.580
a. Predictors: (Constant), Accuracy of Information, Time Management, Effective Communication, Easiness and Usefulness, No Repetitive Administrative Functions, Cost Minimization				

Table06: Model Summary

According to the above table (Table 6), 44% variation in the Managerial Efficiency of Human Resource Manager is due to the predictors (Time Management, Cost Minimization, No Repetitive Administrative Functions, Effective Communication, Easiness and Usefulness, Accuracy of Information,). The rest of the 56% variation of HR managerial efficiency is explained by other factors that are not the part of our study.

4.5 ANOVA

The results of ANOVA test (Table 7) reveal that the model, which analyzed the HRM practices to stimulate efficient employee performance, is statistically significant. According to the table, the level of significance of the model is less than 0.05. This is a sign of approval that there exists a relationship between employee performance and independent variables of the study.

ANOVA[a]					
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	94.807	6	15.801	46.982	.000[b]
	Residual	118.723	353	.336		
	Total	213.531	359			
a. Dependent Variable: Managerial Efficiency					
b. Predictors: (Constant), Accuracy of Information, Time Management, Effective Communication, Easiness and Usefulness, No Repetitive Administrative Functions, Cost Minimization					

Table07: ANOVA Analysis

4.6 Coefficients

The coefficient table (Table 8) includes unstandardized coefficient (beta and std. error) and also include standardized coefficient (beta), t-value and significance. According to table 7, the Beta value is the value of Y. It means when there is one unit change in the independent variables (Time Management, Cost Minimization, No Repetitive Administrative Functions, Effective Communication, Easiness and Usefulness, Accuracy of Information,), how much change it would bring to the value of the dependent variable (HR Managerial Efficiency). T-Value is significant at 95 % confidence level that we are confident Managerial Efficiency is affected by these independent variables.

Coefficients[a]					
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.383	.444		5.364	.000
	Easiness & Usefulness	-.052	.034	-.076	-1.530	.127
	Effective Communication	.040	.053	.036	.753	.452
	Time Management	-.082	.051	-.077	-1.618	.107
	No Repetitive Administrative Functions	.143	.047	.142	3.018	.003
	Cost Minimization	.002	.052	.002	.045	.964
	Accuracy of Information	.170	.073	.175	2.328	.021
a. Dependent Variable: Managerial Efficiency						

Table08: Coefficient Analysis

V. Conclusion

HRIS must be implemented in every functions of human resource department to achieve sustainable workforce. Update techno based training facilities will transform general workforce into sustainable workforce {Weeks, K. O. (2013)}. Henceforth each organization needs to focus on the enhancement of training and development capacity for HRIS implementation. This study had elaborated the significance of positive relationship between perceived benefits and HR managerial efficiency in banking industry Bangladesh. To get highly significant results of HRIS, the recruitment policy of any bank must focus on the technological expertise of the potential candidate to create a sustainable workforce for their organization. HRIS work as a key component of the organization and provide important information about human resources needs and capabilities; this information will assist the management team in establishing the organizational mission and setting goals and objectives in motion. HRIS is now essential and complementary of HR functions which are not limited to the computer hardware and software applications that comprise the technical part of the system: it also includes the people, policies, procedures and data required to manage the HR function effectively and efficiently { Dery, K., Grant, D., & Wiblen, S. (2009) ;Rahman Khan, A., Hasan, N., & Rubel, M. (2015)}.

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