



# Performance Efficiency Evaluation of Information and Communication Technology (ICT) Application in Human Resource Management during COVID-19 Pandemic: A Study on Banking Industry of Bangladesh

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## Authors' contributions

This work was carried out in collaboration among all authors. Author MHR designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Author PM managed grammatical correction and revised the manuscript after the first draft. Authors SKR and FJ managed the analyses of the study. Author MAA managed the literature searches. All authors read and approved the final manuscript.

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## ABSTRACT

With the things that go towards the efficiency of ICT usage in HRM, measuring and evaluating have become one of the key goals for researchers and practitioners. When it is related to crisis moments like the COVID-19 pandemic whereas considering the performance of organizations it becomes practically important to examine the level of performance efficiency in HRM. Therefore, in this study, some aspects are explored to know the efficiency of HRM performance with the application of Information and Communication Technology (ICT) in its functions maintaining social distance during the COVID-19 pandemic. While using the regression model, people management, regular HR activities, HR payroll and rewards, and performance evaluation and promotion are taken as independent variables while the HR performance efficiency is taken as a dependent variable. Correlation and regression analyses were conducted to examine the efficiency of HR functions during the pandemic following principal component analysis. The use of ICT assures Human resource management performance efficiency without taking face-to-face interaction during the pandemic. Further, the findings will help practitioners to adopt ICT in the HRM perspective of all organizations and to make the decision about how much modification needs to be done to maximize overall efficiency within the limited resources during any pandemic.

*Keywords: Banking sector; ICT; HR functions; pandemic; performance efficiency.*

## 1. INTRODUCTION

Coronavirus pandemic originated from the Wuhan province of China in November 2019. With the introduction of Web 2.0 technology, the banking sector is showing remarkable success in human resource management activities despite the country's widespread COVID-19. In the 1980s, the automation of business processes and the reduction of business time were the primary role of technology. The impact of Information and Communication Technology (ICT) has become an essential issue in managerial literature between the last decade of the 20<sup>th</sup> and the first two decades of the 21<sup>st</sup> century [1,2]. The problem in technological changes come so fast that people and technology do not meet the specific requirement of the organization mutually. a clear and precise organizational strategy is needed to reach performance efficiency with the main focus on leadership style [3]. Further, research has shown that ICT has generated new competencies and nomenclature of positions [4]. The rise in uncertainty due to the COVID-19 pandemic relates not only to the production and service of the organizations but also to the performance of human resource management. Important research questions to consider are how are positive and negative feelings and thoughts about the efficiency of human resource management conveyed and constructed using information technology? The greatest challenge in the organization is the human resources to be handled by employers with new technologies. ICT is both a system and a mechanism that

enables, without limiting space or time, the exchange, redirection, and receipt of information on a global scale [5,6]. To generate new modes of power constellation and dissemination, distance is made irrelevant allowing immediate, parallel, decentralized, and expanding ties of cooperation, activism, exchange, development, and innovation [7]. The key factor which determines the success of applying ICT is the knowledge, skill and abilities of human resources [8]. ICT has strategic significance due to numerous indirect effects included in new possibilities that may help to achieve significant advantages. Organizations must go through innovations in business practices or else, they have to change the existing practices and processes to make technology investment effective [9]. Computers and ICT have significantly enabled organizations to overcome the problem of human mind limitations in terms of storing and processing vast human resource information.

These significant issues in the interconnected environment can pose an immediate threat to the vitality and sustainability of organizations, enabling organizations to remain responsive and agile as they organize and manage their workforce [10,11]. But organizations face a great challenge of unparalleled proportions with the recent outbreak of COVID-19, one that forces them to dive into the unprecedented territory and directly manage it as they change their workforce in technical, physical, and socio-psychological ways not seen before. Because of the digital revolution in the world, the adoption of information and communication technology (ICT)

in the delivery of human resources management functions is such a tool that companies have adopted to manipulate the performance and actions of the people on which they depend to achieve business success [12]. ICT increases a shared sense of experience for people beyond the confinement of geographical pace. We can now experience “timeliness in a given task” the capacity to function in real-time across the world without delay and at our convenience with a blurred distinction between physical and digital experiences [7]. Besides, ICT in the banking industry of Bangladesh is worth exploring because it can help to reduce the cost of recruitment, selection, training, performance evaluation, and rewards, etc. During the COVID-19 pandemic, ICT is adopting almost all activities of HRM of banking organizations.

The current challenges of the COVID-19 pandemic provide opportunities for the management scholars to coordinate research efforts and turn them into actionable insights to support organizations in tackling the situation. It also gives scholars the exciting opportunity to search for guidance and inspiration across disciplines so that the unique HRM challenges currently facing organizations can be managed in an integrative manner.

The goals are to form a complex efficiency evaluation framework of adopting ICT in commercial banks by applying principal component analysis (PCA), correlations and regressions to analyze the effect of ICT usage in the performance efficiency of HRM during the COVID-19 pandemic and to analyze the contribution in each area. In this study, general recommendations have been placed for banks to develop technologically strong workforce regarding the efficiency of ICT adaptation of human resource management and apply ICT during the pandemic. The efficiency evaluation of ICT application in HRM is based on the PCA method.

## 2. LITERATURE REVIEW

The efficiency of Human Resource Management (HRM) in this study refers to the ability of an organization to effectuate its activities faster at a lower cost. Perhaps one of the most important HRM challenges resulting from the COVID-19 pandemic includes adapting new and existing workers to dramatically changed working conditions, such as moving to remote work environments or introducing new policies and

procedures in the workplace to restrict human interaction. Traditional HRM was characterized by too much paperwork and a long administrative procedure, which made the whole process slow. To meet the demand of today's need, there is an increasing pressure on HRM to support strategic objectives and to focus on value-adding activities, the job content, and the expectations of Human Resource (HR) professionals tend to a drastic change. However, when the work environment that supports the fulfillment of these needs and desires are drastically altered for the response to the COVID-19 pandemic, the significance of the growing difference between the needs of a person and the current work environment is likely to contribute to misfit experiences in different situation which may be the result of the inclusion of different technology [13]. Table 1 shows some of the technologies and their impact on HRM activities.

ICT strategy must include the connections and relationships between technology and business activities to support the strategic aim of the organization [14]. The application of ICT in HRM or Electronic HRM (E-HRM) implies the development and introduction of new technologies in the HRM applied policies and practices of the organization [15]. Recruitment and selection of potential candidates via the internet, social networks, and the intranet by applying contemporary quantitative methods and information systems are just some of the forms of HRM activities. However, most of the existing studies have focused on the use of IT in general [16]. The previous studies do not cover the application of ICT in the context of HR to achieve organizational efficiency during a pandemic situation. So, the study attempted to find out the implication of ICT to achieve the organizational efficiency of the banking industry of Bangladesh during the COVID-19 situation. During the pandemic, the banking industry mainly focuses on regular HR activities keeping recruitment and selection activities inactive.

### 2.1 Positive Effect of ICT in HRM during Pandemic

Research on the impact of technology on employees found that top management came from technical science backgrounds or had substantial ICT [17]. ICT has enabled managers to leave the office and do fieldwork helping to get more time for activity planning [17]. Human capital and the labor market consist of individuals who have expectations, needs, and desires but

**Table 1. The impact of ICT on HRM activities [13]**

<b>Technology</b>	<b>Impact on HRM</b>
Web portals	Employees can independently update their data, follow and manage their benefits package.
Mobile web and wireless access to the Internet	Used to help employees access the organization’s HR activities.
Software for following activities on the Internet	Enables the following employees to use the Internet for private purposes or monitors their work performance.
Data storage and analytical software	Assists HRM in monitoring HR systems and keep data accurate and updated.

ICT experts have different motivation factors and needs in comparison with other experts [18]. Research has shown that in practice ICT has a positive impact on employee productivity, as well as satisfaction, efficiency, autonomy, and flexibility [19]. Accordingly, it is hypothesized as follows:

**Hypothesis 1:** The use of ICT has a positive effect on managing people in the banking industry during the pandemic.

**2.2 Working at Home**

Enterprise applications tend to push organizations towards HR and IT infrastructures that are more centralized and integrated. Organizations continue to adapt their HR practices in the face of COVID-19, it will therefore be critical to understanding how these unprecedented changes affect the P-E (Performance-Evaluation) fit the experience of employees and how to resolve potential misfits. For instance, organizations need to be transformed from face-to-face interactions to virtual forms of recruitment, selection, and training [20]. So, it is necessary to understand how these new practices will impact an organization’s values and culture, as these practices could certainly attract and retain individuals differently than traditional face-to-face approaches. Comparatively, there has been very little research in this field in developing countries. This study is conducted to verify how ICT affects the performance of HRM in the private commercial banks of Bangladesh. The uses and benefits of ICT tools are gradually exposed to more and more people of the world as a result of easy access to digital devices [21]. COVID-19 pandemic limits people to go out of the home due to risk involved in losing life. Thus, the hypothesis as follows:

**Hypothesis 2:** ICT can help management to conduct regular HRM activities staying at home.

**2.3 Rewards and Compensations**

Online communications can travel between the physical and virtual worlds both in developed and developing countries [22]. Recent empirical evidence from developing countries suggested that increased investment in ICTs does not necessarily lead to higher HR performance [23, 24]. Human resource processes should be focused on strategies that led to prepare an IT strategic plan that in turn translates into an appropriate human resource strategic plan in the field of IT [25]. Thus, Human Resource Information System (HRIS) can support long-term planning with information on labor force planning, staffing with information on equal employment, separations and applicant qualifications, and development with information on the cost of a training program and trainee work performance. It can also support compensation programs, salary forecasts, pay budgets, labor/employee relations with information to contract negotiations, and employee assistance needs [12].

ICT usage in HRM practice has received little attention [26]. In particular, there are three new areas of development that need more empirical research and application: the information technology innovation and E-HRM developmental approaches, the globally distributed engineering and international technology entrepreneurship, professional service, and customer relations management modeling [27]. This is further supported by [28] observations that, despite evidence of increasing use of HR-related technology by an individual firms, there has been little theory development in this area. Similar observations demonstrate that the existing literature has paid little attention to assess the impact of IT on HRM in various organizations of different sectors systematically. Studies conducted by [29,30] represent that IT activates significantly influence the operation of organizations of different sectors. Banking

organizations almost completely rely on ICT during the COVID-19 pandemic. Therefore, the proposed hypotheses are as follows:

**Hypothesis 3:** ICT makes it possible to continue the HR payroll and rewards systems without going to the work station.

**Hypothesis 4:** ICT makes it possible to evaluate HR performance and give promotion without face to face communication.

### 3. MATERIALS AND METHODS

#### 3.1 Methodology of the Study

This study is based on data was collected from 300 employees using non-probability (purposive sampling) while 1130 questionnaires were distributed to them, working in different commercial banks operating in Bangladesh through a structured questionnaire. In the questionnaire, each of the elements of HRM and efficiency of HRM was asked to capture, the Likert scale was used (1=strongly disagree to 5=strongly agree). The choice of the industry is justified by the fact that this sector is concerned with the use of information and communication technology to perform its activities. The sample was selected to get information from all the categories of the workforce of the selected banks having involvement in HRM activities of those banks were interviewed. The research framework is briefly presented in Fig. 1. The paper explores the main trends and areas of ICT adaptation in HRM activities from a theoretical perspective. However, to what extent do ICT adaptation in HRM enhance the performance efficiency of human resource management of commercial banks during a pandemic? To answer this question, the study is conducted using random

item arrangement, anonymity, and concealing the purpose of the study [31].

#### 3.2 Questionnaire Development

Different literature has defined the relationship between human resource management functions and the performance of enterprises, the questionnaire of the study may help us to provide a precise and authentic evaluation of the concepts. We then administered our questionnaire which is an instrument of investigation according to [31,32] that rigorously standardized with its text as well as its order, containing questions posed in the same manner to guarantee the compatibility of the responses in the research.

An online-based questionnaire survey was administrated due to the COVID-19 pandemic. The survey was conducted at the human resource management levels who are using information and communication technology (ICT) and have an internet connection. The validity of the questionnaires in the study has been assured by assessing questions through various professionals in this field. Before data were collected from the final sample, a prior analysis was conducted to verify the reliability of the survey that was finally used.

The questionnaire was recorded on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The second part of the questionnaire was recorded from 1 (very low) to 5 (very high). The last part of the questionnaire indicates performance evaluation and promotion of existing manpower in the organization taking into consideration about COVID-19 issue and enhance the performance of using ICT in HRM of banking organizations ranging Likert scale from 1 (Very irrelevant) to 5 (Very relevant).

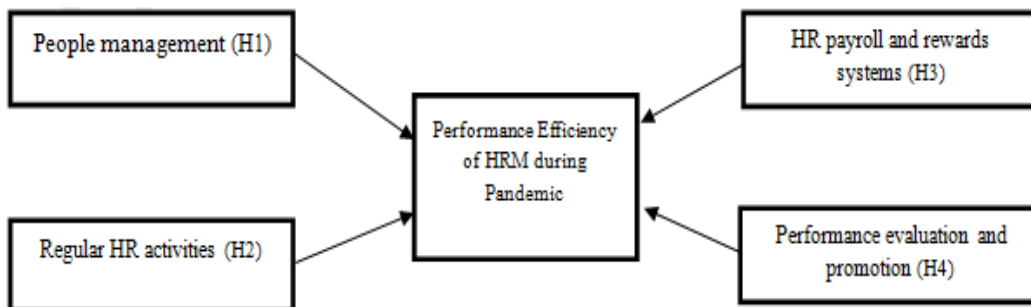


Fig. 1. The research framework

To verify the suitability of data and the measurement scales, an exploratory analysis of validity was performed. Validity is the magnitude to which the questions measure the presence of the variable one aims to measure in that area relevant to study. The validity of the data in the research study has been assured by assessing questions in the questionnaires for their clarity through various professionals in this field of study.

### 3.3 Data Processing and Analysis

This research includes independent and dependent variables. The independent variables also known as predictor variables are assumed to be constants for a given individual. Table 2 provides a detailed explanation of dependent and independent variables.

A regression model is stated in terms of a connection between the predictors (Independent variables) X and the response (Efficiency) Y. The linear regression model has two major components; transformation of Y is  $C'(Y|X)$  and  $X\beta$  is the linear predictor part. When  $C'(Y|X) = E(Y|X)$ , the least-squares method can sometimes be used to fit the model.  $C'(Y|X)$  [33]. Thus, the following equation was used to estimate performance efficiency using the linear regression model.

$$Y = \alpha + \beta x_1 + \beta x_2 + \beta x_3 + \beta x_4 + \epsilon.$$

The equation can also be written as follows; Efficiency =  $\alpha + \beta$  People management +  $\beta$  regular HR activities +  $\beta$  payroll and reward systems +  $\beta$  HR performance evaluation and promotion +  $\epsilon$

Where  $\beta$ s are coefficients and  $\epsilon$  is the error term

## 4. RESULTS AND DISCUSSION

It is important to know the main tools used at different levels of human resource management in various banks. Pearson correlation test was employed to examine the relationship between the variables and then regression analysis was conducted to present the results.

A confirmatory factor analysis with Varimax rotation was conducted to test whether the questionnaire items produced the expected number of factors and whether each item was loaded on its appropriate factor in Table 3. All factor loadings below the suggested 0.7 thresholds were removed from data analysis [34]. All items show high communality values, indicating that the total amount of variance and

original variable shared with all other variables in the analysis is high. Results have shown in Table 4 validated that construct measures were valid and, thus, could be used to measure the constructs in the research model.

To ensure that the model is free from common method bias, which is a measurement error that threatens the validity of a conclusion drawn upon statistical results [31] the Harman's single factor test, which is most widely used in the literature, [31,32] was conducted. The result is obtained by running unrotated, a single-factor constraint of factor analysis in SPSS. As shown in Table 4, 29.056% variance explained by a single factor shows that common method bias is not a major concern in this study (less than 50% cut-off point) [32].

As shown in Table 5, correlation analysis was conducted to test the relationships between variables. The correlation between the impact of ICT on performance efficiency of HRM (PEHrm) during COVID-19 and its determinants ranged from 0.125 to 0.627, indicating a high likelihood that these factors influence performance efficiency. The relationship between people management (PMs) with performance efficiency of human resource management (PEHrms) shows 0.627 (the strongest relationship), between Human resource payroll and rewards (HRPRRs) performance efficiency of human resource management (PEHrms) shows 0.127 (the weakest relationship), between regular Hr activities implementation (RHRAs) with performance efficiency of human resource management (PEHrms) of using information technology shows 0.157 (comparatively weak relationship) and between performance evaluation and promotion (PEP) with performance efficiency of human resource management (PEHrms) of using information and communication technology shows 0.290 (Comparatively strong relationship) to use ICT in human resource activities during the CODIV-19 pandemic. So, banks should extensively use ICT to continue their human resource management activities during the pandemic. COVID-19 pandemic has deterred banking organizations from resorting to normal Human resource activities performed going to work stations. Results show a weak relationship between Human resource payroll and rewards with the performance efficiency of human resource management of using ICT. Therefore, Information and communication technology can lead to achieving performance efficiency despite Pandemic.

**Table 2. The different variables of human resources efficiency in the selected banks**

Variable	Type of variable	Description
Performance Efficiency of HRM during Pandemic (PEHrm)	Dependent variable (Y)	Performance of HRM during Covid-19 pandemic
The use of ICT assures people management in using schedule (PMS)	Independent variable ( $x_1$ )	Indicator of effectiveness in managing people in a different schedule
ICT usage ensures its regular HR activities implementation (RHRAs)	Independent variable ( $x_2$ )	Indicator of the efficiency of ICT tools in Regular HR activities
The use of ICT assures HR payroll and reward management (HRPRRs)	Independent variable ( $x_3$ )	Indicator of the efficiency of ICT tools in HR payroll and reward systems
ICT involvement assures performance evaluation and promotion (PEP)	Independent variable ( $x_4$ )	Indicator of the efficiency of ICT in HR performance evaluation and promotion

**Table 3. Factor loading\***

Measurement items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
PEHrm1	<b>.799</b>	.168	-.072	.130	-.218
PEHrm3	<b>.740</b>	.058	.100	.128	-.107
PMS1	.126	<b>.803</b>	.122	-.110	.423
PMS3	.055	<b>.835</b>	.215	-.011	.032
PMS 4	.020	<b>.749</b>	-.098	.253	.085
RHRAs2	.089	.450	<b>.789</b>	.122	.125
RHRAs3	.024	.310	<b>.756</b>	.101	-.086
RHRAs4	.109	.240	<b>.780</b>	.082	.130
HRPRRs1	-.016	.324	-.062	.169	<b>.814</b>
HRPRRs2	.140	.160	.210	-.102	<b>.725</b>
HRPRRs4	.019	.130	.111	.140	<b>.745</b>
PEP2	.170	-.118	.108	<b>.780</b>	.111
PEP4	.146	.265	.186	<b>.750</b>	.175

Extraction Method: Principal Component Analysis,  
Rotation Method: Varimax with Kaiser Normalization

**Table 4. Total variance explained\***

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
PEHrm1	5.280	29.056	29.056	5.280	29.056	29.056
PEHrm3	3.346	12.651	31.467			
PMS1	1.904	11.900	53.366			
PMS3	.612	3.823	82.213			
PMS4	.760	4.751	69.970			
RHRAs2	.703	4.394	74.364			
RHRAs3	.450	2.811	91.863			
RHRAs4	.336	2.103	96.633			
HRPRRs1	.644	4.027	78.391			
HRPRRs2	.512	4.823	72.213			
HRPRRs4	.319	1.996	98.629			
PEP2	.508	3.175	89.053			
PEP4	.219	1.371	100.000			

Extraction Method: Principal Component Analysis

**Table 5. Correlation matrix and average variance extracted (AVE)**

Variables	Average Variance Extracted (AVE)	The square root of AVE/CR	PRHrm	PMs	RHRAs	HRPRRs	PEP
PEHrm	0.661205	0.72267	1				
PMs	0.592845	0.855368	.627**	1			
RHRAs	0.580665	0.852375	.157**	.177**	1		
HRPRRs	0.524560	0.778321	.125*	.255**	.620**	1	
PEP	0.586545	0.756782	.290**	.182**	.456**	.465**	1

\*\*Correlation is significant at the 0.01 \*Correlation is significant at the 0.05

**Table 6. Multiple regression analysis-relationship between factors and performance efficiency of HRM**

Model	Unstandardized coefficient		Standardized coefficients			Correlations			Collinearity statistics	
	Beta	St. error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	.815	.338		4.011	.003					
PMs	.336	.038	.157	.947	.004	.172	.065	.046	.599	1.771
RHRAs	.219	.045	.127	.436	.013	.172	.035	.020	.589	1.797
HRPRRs	.454	.070	.364	6.492	.000	.535	.372	.304	.696	1.537
PEP	.302	.060	.283	5.023	.000	.592	.379	.245	.691	1.466
N	303									
R Square	.447									
Adjusted R square	.438									
F-stat	52.47									

Correlation is significant at the 0.01 level

The construct validity was also assessed by testing the discriminant validity. Discriminant validity is the extent to which items do not correlate with other items of a different construct [32]. To test for discriminant validity, the average variance extracted (AVE) for all constructs was calculated to ensure that they are >0.5, meaning that the convergent validities were acceptable. The square root of AVE was also compared with the inter-construct correlations. The results in Table 5 demonstrate that the discriminant validity is supported, as the square root of the constructs' AVE/CR is between 0.72267 to 0.855368; all composite reliability (CR) is greater than the correlations of the construct with all other constructs [32].

Results from Table 6 show the R2 and Adjusted R2 of 44.7% and 43.8%, respectively, indicating that the factors investigated are suitable to explain Performance efficiency of HRM during COVID-19 using ICT. The F-stat was reported to be at 52.47 and was significant at a 1% significance level. This also indicates that the combined factors can simultaneously explain the performance efficacy of human resource

management activities quite well despite pandemic.

Regarding each variable factor, results from the multiple regression analysis demonstrated that four constructs of the study were key determinants for whether ICT intends to achieve performance efficiency. These factors are people management systems (PMs;  $\beta = 0.157$ ) and regular HR activities (RHRAs;  $\beta = 0.127$ ). Besides, the results show that the null hypotheses on the relationship between the HR payroll and reward systems (HRPRRs;  $\beta = 0.364$ ) and performance evaluation and promotion (PEP;  $\beta = 0.283$ ) and performance efficiency of human resource management cannot be rejected, implying that this factor has a positive influence on performance efficiency (PE) human resource management with the impact of ICT. The Variance Inflation Factors (VIF) for all factors range between 1.466 and 1.997, which are not greater than 10, indicating that there is no problem of multicollinearity [34]. So, all hypotheses of the study are supported by the findings. ICT adaptation helps management to accomplish its activities



human resource activities effectively during any pandemic.

Therefore, the application of ICT in human resource management activities can help the management to achieve performance efficiency of HRM despite the worldwide spread of COVID-19 pandemic maintaining intrinsic job satisfaction of workers which is influential to organizational performance [35]. The emergence of ICT and its introduction to HRM have had divergent results on HR performance efficiency which was not very clear. Although all variables related to efficiency measurement of ICT adaption is important and understanding are the most relevant since they imply the ability to enhance performance efficiency of human resource management focusing on specific activities namely Human resource activities of commercial banks during the pandemic.

## 5. CONCLUSIONS AND IMPLICATIONS

This paper explores the performance efficiency of ICT focusing mainly on the HRM of commercial banks during the COVID-19 pandemic. Based on the analysis, the following conclusions are summarized:

1. Conventional HRM in the banking industry of Bangladesh can be executed using information communication technology and it does not create difficulty in the process. So, the adaptation of ICT in HRM can help management to perform day to day activities and manage people.
2. This study investigated the impact of ICT on HRM efficiency using the banking industry of Bangladesh as a case. It was supported that the use of ICT tools in HR management leads to efficient payroll, rewards, and performance evaluation despite the pandemic.
3. In the research, findings of correlation showed that there is a significant positive correlation of ICT tools used on the efficiency of HRM performance during the pandemic. The findings of regression analysis showed that there has a significant positive correlation between people management, regular HR activities, payroll and rewards, and performance evaluation and promotion during pandemic.

This study is conducted using logical statistical methods to see the performance excellency of adoption ICT in HRM functions during the

COVID-19 pandemic to make research convincible. Moreover, principal component analysis, correlations, regression, etc. also increase persuasiveness.

The findings of the study can be helpful for human resource managers of all types of organizations to execute its human resource management functions during pandemic like COVID-19 but sufficient training and development environment should exist in the environment to make it effective. This study has contributed to the existing literature by evaluating the excellence of performing HRM activities focusing mainly on banking sectors. Extending this research to other sectors of Bangladesh to verify the applicability of the finding will be a source of further research during a crisis moment. So, banking organization can invest more to use information and communication technology in human resource management activities to get its works done despite crisis or enhance HRM's overall performance to stay competitive in the industry.

## 6. LIMITATIONS OF THE STUDY

Every research has some limitations. This study is not beyond that limitation. The first limitation of this study was the lack of funds. Due to a lack of funding, it was difficult to administer questionnaires to a very large sample. The banking industry of Bangladesh constitutes a large number of samples but the study considered only 300 samples (300 observations). This is however small when comparing or looking at similar studies of [36] whose observation was based on 1400 samples. The research is also limited in terms of usage of ICT by different banking activities like recruitment, selection, training, and development, etc. in Bangladesh.

## CONSENT

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

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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