# The Impact of Human Resource Information Systems on Organization's Performance: A Comparative Study on Bangladeshi Companies Using HRIS

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***Abstract**– Across so many topics available for doing research in Bangladesh, the topic– impact of HRIS on organization's performance has been taken as employees using HRIS faced so many problems while doing work with human resource management with the implementation of Information Systems in Bangladesh. HRIS is a growing field of technology as integrated service. Every company can use HRIS to increase the productivity & competitiveness with the help of increased HR operations. All these aspects along with future trends of HRIS and its implications in Bangladesh have been demonstrated on this paper. It is anticipated that the paper will cover mentionable aspects associated with both Human Resources and Information Systems implementation not only in Bangladesh but also in many other developing countries. And the outcomes of this paper will help an organization to improve their performance using HRIS for sustainable development. The data has been collected and analyzed here are primary in nature and such data will also be used for the appropriate application of hypothesis. The design of this research is descriptive and through different data tables, the frequencies for each of the hypothesis-based questions have been considered which would directly represent the respondent's opinion on different perspectives of HRIS. Nowadays many companies in Bangladesh are using the HRIS for some basic administrative activities like making salary sheets, attendance counting etc. Most of them do not use HRIS by its full operational capabilities like HR planning, controlling, recruitment and selection procedure, giving training to employees and performing activities for self-development. In this paper, the hypothesis formed on the contribution of HRIS in many sectors may provide some usage guide for the effective development of fully operational HRIS in majority of the organizations like Bangladesh.*
***Keywords** - HRIS, Information Systems, Performance, Sustainable development.*
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## I. INTRODUCTION

Nowadays, organizations are making a strong move toward human resource management. The adoption of HRIS in human resource management process can put a company into competitive advantage. As a very crucial sector, HRM often collaborates with information systems for better performance. Together they make Human Resource Information Systems (HRIS). Human Resource Information Systems is an integrated system for gathering data related to the human resource; array them to preserve and transforming data into information that facilitatesinformation user to identify the patterns of human resources and to make improved decisions. As HRIS deals with the employees' information, it includes things like personnel administration, salary counting, leave management, performance, attendance, development and training, HR plan, recruitment etc. This research will include HRIS impact on organization's performance along with various aspects and requirements of it in Bangladeshi companies. The main objective of this study is identifying the scope of HRIS in various business field, investigating the corporate perception on application of HRIS and identifying the advantages and problems faced by the users of HRIS. There has been some research about the impact and usage of HRIS on the context of Bangladesh, but most of them considered any particular industry. In this research we will demonstrate how fully operational HRIS can contribute more effectively to the organization's performance in Bangladesh by the theoretical framework that has been developed and with an overall view of all type of industries. It has been found that, in Bangladesh, very few companies used HRIS in their organization [1]. Even though some companies use HRIS, most of them use it partially for basic administrative activities like making salary sheets, attendance counting for the employees. They do not use the HRIS by its full operational capabilities such as HR planning, controlling, recruitment, training, and self-development, and for this reason the impact of HRIS on the organizational performance is less significant than the expectations, it needs more development by itself [2]. The use of HRIS in Bangladesh is still rising and there is a large scope of conducting extensive research on the

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subject. Our study being descriptive research leads to a scope towards extensive experimental research based on the results of our study. There is also scope for longitudinal study which might contribute to the knowledge base broadly. The report has been organized in a very clean manner. There will be usage of theory, research, and recommendation along with analysis and findings. The report will be ended with a conclusion in it.

## II. LITERATURE REVIEW

Businesses are facing new challenges in which HRM of the business has a vital role to play and in order to coping with that HRM is undergoing significant transformation. ICT and its usage in the organizational management influences the transformation of the strategies of HRM by influencing the collection, storage, processing, and dissemination procedure of organizational information through HRIS. Organizational performance and HRIS implementation have a strong relationship and the higher the number of HR functions performed through HRIS, the higher the overall profitability of that organization [3].Even though there have been many studies on the IT behavior aspect but the factors that influenced the adoption of these IT innovations, especially HRIS, in the organizations. The relationship between organizational performance and HRIS can provide an insight on this trend of IT adoption [4].

A study on the impact of HRIS on organizational performance with the perspective of Bangladesh was conducted but it only targeted pharmaceuticals in particular, which is one of the research gaps leaving a scope of this study on overall industry. They also focused on the impact of integration of HRIS with HR managers decision making power on the organizational performance and referred that HRIS provides with reports and information and the organizations can achieve competitive advantage if HR can use those properly [5].The relationship between HRIS and organizational performance along with its subdimensions, such as- HR-function, time management and cost management were researched where they found a strong positive impact of HRIS. They stated that HRIS, by relieving HR stuff from administrative task, provides more opportunity for engaging in strategic decision making. Consequently, organizations can achieve more competitive advantage and organizational efficiency. HRIS can also help in ensuring authenticity of the service systems of an organization [6].

According to many researchers, the number and quantity of information technology user for the mean of collecting, storing, monitoring and analyzing from the organizational perspective have risen vigorously in last few years. Many companies are using information technology for regular use of data [7].HRIS is basically a procedure that abides by some rules for gathering, storing and maintaining the data to recover in time of needs. These data are about various human resource data that a company usually stores for retrieving those later. An integrated HRIS system has plenty of spreadsheet that has the ability of doing critical calculations at any time [8].

HRIS is one of the most accepted tools of E-HRM which has a strongly positive relationship with the strategical performances of the organizations. His study shows adoption of HRIS can lead to excellency in strategic as well as financial performance of the respective organization, but this is also the research gap that the study only focused on the strategic and financial performances in the context of Bangladeshi firms [9].

A study describing the usage of HRIS states that HRIS can help a company for increasing the relationship with employees and also to motivate them. Other companies use this as a way of cost reduction as it eases the recruitment process that saves money, time, and effort. HRIS provides information about the organization and that improve the communication among them. Different use of HRIS makes organization more perfect on their state along with increasing the feasibility [10].

## III. THEORETICAL FRAMEWORK AND HYPOTHESIS

In the study of vehicle tracking by the implementation of RFID and designing such technology in Bangladesh; functionality, cost effectiveness, Efficacy and corporate communication has been used as variables to determine the performance of RFID implementation for vehicle tracking in Bangladesh [11], from that study, we have used the same variables while formulating hypotheses to determine organization's performance through HRIS in our study.

The hypotheses formed on the contribution of HRIS in many sectors may provide some usage guide for the effective development of fully operational HRIS in majority of the organizations like Bangladesh. Questions like How the HRIS can manage the functionality in an organization according to its needs, how HRIS plan for the development of efficacy and efficiency in the HRM practice and at the same time reducing cost etc. can help for making investigation of the contribution that HRIS can make through effective HR planning, forecasting the human resource supply and demand, finding the need of employees and thereby motivating them through proper training and development which could possibly develop skill for them. The research work will contribute on the knowledge base of impact of HRIS on organizational performance from Bangladeshi perspective by theoretical framework and the hypotheses which will then be analyzed quantitatively through the questionnaire developed for data collection

This research will work with these hypotheses,

TABLE I
HYPOTHESIS OF THE RESEARCH [11]

| $H_n$ | Hypothesis | Definition |
|---|---|---|
| H1: | "HRIS role in functionality" | Many large companies nowadays find HRIS as important function. The current situation and the scenario of the organizations using HRIS shows major impact on the other functions of their business. Therefore, HRIS has become important to be institutionalized and fit with the organization working in Bangladesh. |
| H2: | "HRIS Role in Cost Effectiveness" | The connection of HRIS with the human resource management and Management Information systems has become interdependent. It has reduced the costs associated with the use of HRIS using the concept of more IT effect and less human effort to analyze data and communicate information in real time. |
| H3: | "HRIS Role in Efficacy" | The reporting system of HRM has been made automated using HRIS. Errors and fraudulence are reduced and the workload of employees and thereby make them satisfied. |
| H4: | "HRIS Role in Corporate Communication" | The corporate communication has become much more real time based. Advanced system of employee management, suggestion and feedback pathways all have made the HRM practice smooth. |
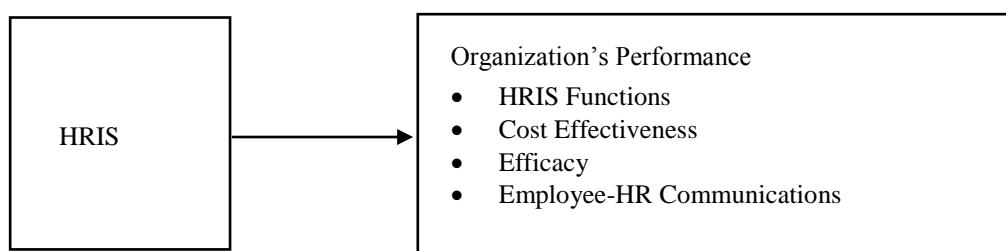


Fig. 1. Conceptual Framework

## IV. METHODOLOGY

There are a lot of scopes of HRIS in many organizations in Bangladesh. HRIS has the capability to work with every data regarding human resource management of an organization. So, they can easily provide an idea about the HR by analyzing those data. Besides, it also assures all the departments having enough human resources in each department. If there is any shortage, it will appear soon and HRIS will advise respective department to solve it in real time. Leave and absence management is also a very imperative issue for human resources. In case of HRIS, it makes everything count that help to analyze data later.

Our research on the impact of HRIS in organizational performance is a descriptive study. Both primary and secondary data has been used in this study. Relevant research [12] has been used for some reference of the structures as well as the research design and methodology in this study.

According to our literature study and the gaps we identified, this descriptive study will address the factors such as- the extent of support how the HRIS provides for the operational activities like planning, managing and controlling HR functions, the effectiveness of HRIS in reducing cost of HRM and HRIS impact on the corporate communication for improved decision making. This research on the implementation of HRIS in practice is quantitative with descriptive research design as the data that has been collected and analyzed are primary in nature and such data will also be used for the appropriate application of hypothesis [13].

For the development of sample for data collection from large number of populations related with the HRIS practice in Bangladesh, the sampling technique that has been used is quota or stratified sampling. The characteristics of this quota sampling is that it divides large population into some groups where people from same characteristics linked together in the same group and sample is selected by selecting respondents from each of the group randomly. For this research work on Bangladesh perspective, all the stakeholders of HRIS like, Human Resource employees, HRIS related IT specialists and employees working with HRIS etc. are taken into the sample group.

In Bangladesh, a vast number of people are using HRIS in many organizations including banking and other financial industry, electronics industry, national organizations, pharmaceutical industry, e-commerce industry, IT industry, telecommunication industry, MNCs serving in Bangladesh. The sample for this research will be developed from this population positioned in various levels of these organizations who use HRIS either partially or fully for supporting the HR functions. For selecting the sample size from this population 235 respondents from more than 25 organizations were approached. These sample were selected through the stratified or quota sampling methods and the final number of responses collected after data cleansing were 200. So, 200 respondent is the sample size for this study.

The design of the questionnaire is close ended which is constructed on the basis of Likert Scale. The question structure was developed by the study of several research, journal, and websites on the basis of the four hypotheses [11].

Our hypotheses are developed based on the variables that impacts organizational performance through HRIS. The variables and their measurement scale are declared below in a tabular form:

TABLE II
VARIABLE DECLARATION AND BREAKDOWNS

| Independent Variable | Dependent Variable |
|---|---|
| HRIS | Organization's Performance<br>• HRIS Functions<br>• Cost Effectiveness<br>• Efficacy<br>• Employee-HR Communications |

(Ordinal scale has been used here as measurement scale)

So, all the variables used in our study will be measured in an ordinal scale as our study will be focusing on the quantitative and particularly on the descriptive method of analysis.

# V. DATA ANALYSIS AND EXPLANATION

The data for this research was collected from 200 respondents who were selected by quota or stratified sampling technique. For analysis of the data collected through the questionnaire, Microsoft Excel has been used as data analysis tool. Data tables are used to demonstrate the response given by the respondents on the five-point Likert Scale, which provides comparative idea about their opinions.

TABLE III
HRIS ROLE IN FUNCTIONALITY DISTRIBUTION

| H1: HRIS Functions | Convenient Recruitment & Selection | | Forecasting Requirement of HRM | | On-time HR Services for Employees | |
|---|---|---|---|---|---|---|
| | Number of respondents | (%) | Number of respondents | (%) | Number of respondents | (%) |
| Strongly Disagree | 21 | 10.5 | 24 | 12 | 28 | 14 |
| Disagree | 25 | 12.5 | 29 | 14.5 | 31 | 15.5 |
| Neutral | 22 | 11 | 27 | 13.5 | 35 | 17.5 |
| Agree | 69 | 34.5 | 66 | 33 | 56 | 28 |
| Strongly Agree | 63 | 31.5 | 54 | 27 | 50 | 25 |
| Total | 200 | 100 | 200 | 100 | 200 | 100 |

***Comment on H1:***

In Table III, all the three questions regarding functionality of HRIS 53% to 66% of the total respondents were agreeing on the positive impacts of HRIS on organization's functionality for improving the overall performance and 11% to 17.5% of the respondents were neutral, besides, 23% to 29.5% of the respondents were disagreeing in their opinion. In all the questions regarding convenience of recruitment, forecasting in demand and supply of employees and timeliness of HRIS, most respondents provided positive response. This supports the hypothesis that HRIS plays significant role in better functionality and organizational performance. The recruitment process will be much more convenient, timely and the forecast of supply and demand will be pin pointly accurate with the initiation of HRIS in the organization. Thus, HRIS functions (H1) have positive impact on organization's performance.

TABLE IV
HRIS ROLE IN COST-EFFECTIVENESS DISTRIBUTION

| H2: Cost Effectiveness | Reduced cost of hiring and selection | | Driving employees for self-care | | Automation of procedure | |
|---|---|---|---|---|---|---|
| | Number of respondents | (%) | Number of respondents | (%) | Number of respondents | (%) |
| Strongly Disagree | 27 | 13.5 | 30 | 15 | 27 | 13.5 |
| Disagree | 32 | 16 | 34 | 17 | 30 | 15 |
| Neutral | 25 | 12.5 | 37 | 18.5 | 17 | 8.5 |
| Agree | 59 | 29.5 | 52 | 26 | 59 | 29.5 |

| | | | | | |
|---|---|---|---|---|---|
| Strongly Agree | 57 | 28.5 | 47 | 23.5 | 67 | 33.5 |
| Total | 200 | 100 | 200 | 100 | 200 | 100 |

### Comment on H2:

Here, in table IV we can see that the contributing factors of Cost Effectiveness of HRIS is deriving a positive response from employees. In all the questions regarding reduced cost of hiring and selection, driving employees for self-care and automation of procedure of HRIS, 49.5% to 63% or above of the total respondents responded positively and 8.5% to 18.5% of the respondents were neutral, besides, 28.5% to 32% of the respondents were disagreeing in their opinion. This means, according to the opinion of the existing employees the HRM process will be much more cost effective and automated with the fully operational HRIS in the organization. So, cost effectiveness (H2) has positive influence on organization's performance through HRIS.

TABLE V
HRIS ROLE IN EFFICACY DISTRIBUTION

| H3: Efficacy | Appointment of right person at right position | | HR requirements are done on situational basis | | Optimum level through appropriate reporting and tracking | |
|---|---|---|---|---|---|---|
| | Number of respondents | (%) | Number of respondents | (%) | Number of respondents | (%) |
| Strongly Disagree | 23 | 11.5 | 34 | 17 | 31 | 15.5 |
| Disagree | 28 | 14 | 37 | 18.5 | 37 | 18.5 |
| Neutral | 20 | 10 | 40 | 20 | 23 | 11.5 |
| Agree | 66 | 33 | 46 | 23 | 61 | 30.5 |
| Strongly Agree | 63 | 31.5 | 43 | 21.5 | 48 | 24 |
| Total | 200 | 100 | 200 | 100 | 200 | 100 |

### Comment on H3:

Again, in the table V, questions regarding appointment of right person at right position, HR requirements are done on situational basis and optimum level through appropriate reporting and tracking through HRIS, a range of 44.5% to 64.5% of the total respondents demonstrated positive response and 10% to 20% of the respondents were neutral, besides, 25.5% to 35.5% of the respondents were disagreeing in their opinion. This means, according to the opinion of the existing employees the HRM process will be much more efficient and will help to put the right employee on the right place and bring the best out of them with initiation of HRIS in the organization. Thus, efficacy (H3) has positive impact on organization's performance through HRIS.

TABLE VI
HRIS ROLE IN CORPORATE COMMUNICATION DISTRIBUTION

| H4: Employee-HR Communication | Supportive communication environment | | Payroll system transparently communicated | | Created a friendly environment | |
|---|---|---|---|---|---|---|
| | Number of respondents | (%) | Number of respondents | (%) | Number of respondents | (%) |
| Strongly Disagree | 29 | 14.5 | 27 | 13.5 | 31 | 15.5 |
| Disagree | 33 | 16.5 | 34 | 17 | 38 | 19 |
| Neutral | 21 | 10.5 | 17 | 8.5 | 26 | 10 |
| Agree | 63 | 31.5 | 68 | 34 | 58 | 29 |
| Strongly Agree | 54 | 27 | 54 | 27 | 53 | 26.5 |
| Total | 200 | 100 | 200 | 100 | 200 | 100 |

### Comment on H4:

Regarding the contributing factors of HRIS role in corporate communications in the table VI, in all the questions regarding supportive communication environment, payroll system transparency and creation of friendly environment through HRIS, 55.5% to 61% of the total respondents responded positively and 8.5% to 10.5% of the respondents were neutral, besides, 30.5% to 34.5% of the respondents were disagreeing in their opinion. This means, according to the opinion of the existing employees, the HRIS role in corporate communications is more real time based and significantly effective in the organization. So, employee-HR communication (H4) has positive impact on organization's performance through HRIS.

## VI. RECOMMENDATION

After making analysis of the current scenario of HRIS and its impact on organizational performance in Bangladesh, some recommendations are being proposed on fully operational HRIS, HRIS applications, scopes of HRIS and on the improvement of organization's performance. For getting the proper outcome of HRIS, companies need to develop relevant expertise like IT infrastructure, HRIS software, HRIS expert team and

technical solutions. Besides, the Transaction Processing Systems (TPS), Decision Support Systems (DSS) and Executive Support Systems (ESS) in HRIS need to be properly segmented with job tasks and responsibilities according to the level of management to get improved performance through HRIS in an organization. For getting competitive advantage in organizational performance through HRM a firm needs to install and execute the fully operational and contemporarily featured HRIS for that firm. Through this study seven steps are being proposed to develop the fully operational HRIS and to improve performance in the organizations which are currently operating in Bangladesh.

Step 1: In this very first step, the organization's top-level management must be agreed upon for either development of HRIS of their own or purchasing the software from outside vendors directly. This step will work as an investment.

Step 2: After making agreement on either development or purchase, the organization's management team must perform some feasibility analysis like assessment of the future benefits, cost advantages, scopes of the software and most importantly, calculation on the return of the investment which will help the team to understand and make the feasibility decisions based on data and facts.

Step 3: This step requires the development of an expert team who are highly specialist in IT sectors. The team of experts will provide suggestions on the implementation of HRIS with the valid data of budget estimates and time schedule to be followed.

Step 4: Organizations implementing the HRIS must develop a scope for their HRIS. As HRIS can be implemented for various purposes for example, recruitment and selection module, payroll module or any other modules, organizations need to define their necessities.

Step 5: Now the step comes with the selection time of appropriate vendors or developers. If the organizations want to develop their HRIS by their own, they should select a well reputed developer of HRIS. But if the organizations go for purchasing, vendors with goodwill needs to be selected. No matter whether developer or vendor selected, organizations must share their requirements clearly enough without any vagueness.

Step 6: After selecting the appropriate developer or vendor, finalizing the installation of the HRIS, and starting to train individuals by a team of experts that have already been developed for selection of HRIS. Then the organizations should tailor the system according to the needs of employees and management team.

Step 7: In the final step, regular maintenance and evaluations needs to be done by the appointment of appropriate team or developer company.

By following these steps, Human Resource Information Systems can be fully operational and thus will have a great positive impact on the organization's performance from the perspective of Bangladesh.

## VII. CONCLUSION

The main purpose of this research was to explore the usage of HRIS on the context of Bangladesh and the contribution of HRIS on the performance of the organizations. With this study we have provided support on the knowledge that the usage of HRIS with its full potential strongly helps in the betterment of the overall organizational performance. This descriptive study provided quantitative results that organization's employees accept HRIS for improving organization's performance by developing the functionality of HR, cost effectiveness, efficacy and the corporate communication through HRIS. This study leaves scope for the future researchers to conduct longitudinal and experimental study on the impact of HRIS on organization's performance. Another significant insight on the impact is that HRIS provides more advantages to the companies when it is used in its full potential. So, it is recommended that in Bangladesh, HRIS should be implemented in the organizations with full functionality. By making all the HR functions efficient, real-time and cost-effective, HRIS ensures competitive advantage and sustainability for the organizations.

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