

# Effectiveness of Human Resource Information System (HRIS) in Banking Industry in India

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**Abstract.** Human Resource Information Systems (HRIS) plays an important part in banking industry. Due to this, the main objective of this study is to examine the effectiveness of determining factors across HRIS effectiveness in chosen commercial banks in India. In five dimensions HRIS was measured (Human Resource, Environmental, Technological, Organizational, and Security Factors). Likert scale which has five points of 28 statements is used by the whole HR department. The data was evaluated and analyzed with the help of package of statistical data analysis, SPSS (Statistical Package for the Social Sciences version 23.0) along with the single variant and bi-variant methods. The investigations of the survey declares that 91.7% of HRM (Human Resource Management) effectiveness variance is explained by HRIS and investigated the significant difference between determining factors across HRIS of the bank employees concluded that human resource, technological, organizational, environmental and security factors significantly difference with HIRS of bank employees.

**Keywords:** HRIS, Human Resource, Environmental, Technological, Organizational, Security Factors and Banking Industry.

## 1 Introduction

The HRIS is described as an "incorporated framework which is used to break down, assemble, and store data in correspond to an association's HR's involving PC applications, information bases, programming important to convey, oversee, gather, store, record, introduce and control information to employee of HR (Hendrickson, 2003). This may play out different capacities from the basic correspondence and stockpiling data, to more mind boggling exchanges. As the progress of innovation increases, the scope of capacities that a HRIS can embrace increments. In order to get vital accomplices along with top management the HRIS utilization has been considered as an open door for human asset experts. The thought has been that HRIS would take into account the HR capacity to turn out to be more proficient and to give better data to dynamic. The inquiry remains whether HRIS has satisfied its guarantee (Beadles, Lowery and Johns, 2005).

## 2 Literature Review

A few authors have recommended that HRIS utilization it will moderate the costs of HR through computerizing data and minimizing the need of huge quantities of employees in HR department, by helping representatives to manage very own data; and by permitting chiefs to get to significant data and information, direct examination, decide, and speak with others without speaking with a HR professional (Awazu and Desouza, 2003; Ball, 2001) [1]. Preferably, with a proper utilization of HRIS, fewer individuals ought to be expected to perform managerial errands, for example, record keeping and additional time would be made accessible for HR managers to help by giving information on a vital level. A considerable lot of these creators accept the future to be brilliant for HRIS as it makes new ways for HR and for the organizations that adequately use HRIS. One study even ventures to recommend that there is proof that HRIS can improve investor esteem (Brown, 2002) [2].

Human Resource Management (HRM) issues have been significant concern for managers at all levels, since they all meet their objectives through the endeavors of others, which require the viable and productive administration of people (Dessler, 1999) [3]. The open cluster of HRM exercises for instance, arranging, enrolling, determination, and preparing just to specify yet scarcely any spot tremendous requirements on chiefs and managers alike. These grasp dissecting occupations, arranging work needs, choosing representatives, situating and preparing representatives, overseeing pay, imparting (which incorporates guiding and restraining), and keeping up worker duty. As a matter of fact, HRIS is coordinated towards the HR division itself (Ruël, Bondarouk and Looise, 2004) [4], yet the utilization of HRIS can give various advantages not exclusively to the HR work, yet in addition line managers, and the more extensive organization. Parry (2009) [5].

The utilization of HRIS has been advocated as an open door for human resource professional to become vital accomplices with top management. HRIS permit HR function to turn out to be more effective and to give better data to dynamic (Beadles, Lowery and Johns, 2005) [6]. Obeidat (2012) reasoned that Human Resource information framework capacities were found to have a relationship with HRM functionalities. All the more explicitly, it was discovered that vital incorporation, anticipating and arranging, HR examination, and correspondence and coordination have no relationship with human asset functionalities. While, it was discovered that presentation improvement, information the executives, and records and consistence as measurements of HR data frameworks have a relationship with HR functionalities [7]. Kovach et al. (2002) [8] recorded a few managerial and key focal points to utilizing HRIS.

HRIS can improve organizational performance, facilitate strategic value generation practices and ensure contribution of human assets to achieve business objectives Boateng(2007) [9]. The usage of HRIS into organization significantly increase to gather, store, analyze, retrieve human resource data all over the world from last two decades HRIS ensure integration, cost efficiency, accessibility and user friendliness to an organization to ameliorate human capability of an organization Troshani, I., Jerram, C., & Hill, S. R. (2011) [10]. HRIS assured dynamic speed on administrative tasks with a minimum number of worker for any organization to achieve competitive advantages Karim, Z., & Rahman, M. H. A. (2018) [11].

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 [12]. Gupta (2013) also supported this development period of HRIS and depicted opportunities and threats of HRIS [13]. 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 [14]. Troshani et al. (2010) [15] 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.

### **3 Research Problem**

The major critical HR challenges are retaining talent, hiring right staff, staff development, cutting salary of staff, external threats, etc. The some other tasks or challenges are re-skilling, compensation and Changing working conditions, etc. Coping with the massive technology adoption programme – change management from employees’ as well as customers’ perspectives. Some concerns over management are: Human assets, Marketing HR services, Talent management, Man-power planning, a novel approach for the performance management, How HR can act as the ‘organizational conscience’ or ‘corporate glue’ and Making the capital of human.

#### **3.1 Research Objectives**

1. To identify the determining factors of HRIS in Banking industry.
2. To measure the effectiveness of determining factors on HRIS in Banking industry.
3. To explore the differences in the determining factors across the HRIS in Banking industry.

#### **3.2 Research Hypotheses**

**H01:** There is no specific relationship in between determining HRIS and factors in Banking Industry.

**H02:** No specific variations in determining factors correspond to HRIS in Banking Industry.

- **H02.1:** There are no major variations in human resources factor with respect to HRIS in Banking Industry.
- **H02.2:** There are no major differences in technological factor correspond to HRIS in Banking Industry.
- **H02.3:** There are no important differences in organizational factors correspond to HRIS in Banking Industry.
- **H02.4:** There are no major differences in environmental factor correspond to HRIS in Banking Industry.
- **H02.5:** There are no major differences in security factor correspond to HRIS in Banking Industry.

#### **3.3 Research Tools**

- Reliability Test
- Exploratory Factor Analysis (EFA)
- ANOVA (Analysis of variance)

## 4 Research Methodology

### 4.1 Sample Size

The Sample size which plays important part in result accuracy and in appropriateness of selected statistical technique. SPSS version 20 (Statistical Packages for Social Sciences) conducts this study.

Samples are taken by researchers from different stages. At initial stage 5 cities are identified in India (Bangalore, Kochi, Mysore Hyderabad and Chennai) to this purpose, with the help of Judgmental sampling. In this 3 cities are selected randomly out of five cities, via Lottery Method (Simple Random Technique).

In the next stage i.e., second, by convenience sampling every bank in 3 cities were selected, were approached to data collection for permission. The data collected for this study was from the permitted banks only. A standardized and well-framed questionnaire prepared only after bank permitted.

In the last stage i.e., third 330 questionnaires distributed among respondents (110 from each city by convenience) total of 228 were returned.

### 4.2 Research Limitations

- Employees not really have free time to give response in their schedule.
- Employees feels timid to respond on the top management
- Subject under study is nor familiar and comprehensible to some of the Employees.

## 5 Data Analysis & Results

**Table 1.** Case Processing Summary

		N	%
Cases	Valid	228	100
	Excluded <sup>a</sup>	0	0
	Total	228	100

a. List wise deletion based on all variables in procedure.

**Table 2.** Reliability Statistics

Cronbach's Alpha	N of Items
.917	24

The internal consistency of the questionnaire of 24 questions with a value of the Cronbach's Alpha is .930, which shows that data is 91.7 % reliable.

**Table 3: KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.871
Bartlett's Test of Sphericity	Approx. Chi-Square	2277.453
	Df	171
	Sig.	.000

A test is conducted using KMO- Bartlett's in order to find the eligibility of data before going to the factor analysis. This normality of multivariate and sampling adequacy is measured by this test among variables. The value of KMO in the present study is  $0.71 > 0.5$  that indicates the taken sample is adequate. The normality of multivariate among the variables indicated by Bartlett's Test on Sphericity value is  $0.000 < 0.05$ . So the analysis on factors is considered as appropriate method for further data analysis.

**Table 4. Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.231	38.060	38.060	7.231	38.060	38.060	3.582	18.853	18.853
2	2.337	12.298	50.359	2.337	12.298	50.359	3.327	17.509	36.363
3	1.354	7.128	57.487	1.354	7.128	57.487	2.397	12.618	48.980
4	1.218	6.413	63.900	1.218	6.413	63.900	1.990	10.472	59.452
5	1.042	5.484	69.384	1.042	5.484	69.384	1.887	9.932	69.384
6	.798	4.203	73.587						
7	.768	4.040	77.627						
8	.580	3.053	80.680						
9	.517	2.722	83.402						
10	.464	2.443	85.845						
11	.456	2.402	88.248						
12	.389	2.049	90.297						
13	.350	1.845	92.142						
14	.318	1.674	93.816						
15	.297	1.564	95.380						
16	.279	1.471	96.851						
17	.230	1.213	98.064						
18	.197	1.035	99.099						

19	.171	.901	100.000						
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Extraction Method: Principal Component Analysis.

As per the Varimax Rotation along with Kaiser Normalization, there are 8 factors extracted. Every factor is contains of all variables that may have factor loadings higher than 0.5. Five factors are clubbed by 19 variables. These factors which are clubbed are useful in study. These factors explain 69.384 % of variability.

**Table 5.** Rotated Component Matrix of employees' opinion on Determinants factors of HRIS

Factor No	Variable Covered	Factor Loading Value	Name of the Factor
1	Top Management is enthusiastic to experiment a new information system.	.833	<b>Human Resources Factor</b>
	There must need of minimum one computer operator in the department of human resources.	.781	
	Senior executives often risk doing things differently.	.779	
	Senior executives are enthusiastic to testing a new information system.	.744	
	The organization has sufficient software and database resources to support HRIS.	.593	
2	HRIS application Adoption is compatible with existing practices.	.853	<b>Technological Factor</b>
	HRIS applications are consistent with our organization's values and belief.	.790	
	The organization must have a strong plan for backup for network failure.	.756	
	HRIS development is a complex process.	.642	
3	Costs cut are allowed by HRIS in operations.	.879	<b>Organizational Factor</b>
	Top management willingly supports the adoption of HRIS.	.817	
	It also allows enhancing the productivity.	.566	
4	The overall practices in the pressure of industry to adopt HRIS.	.869	<b>Environmental Factor</b>
	Vendors should provide the HRIS Training.	.709	
	The HRIS benefits are known by Top management.	.635	
5	Adequacy of technical support during and after HRIS implementation.	.798	<b>Security Factor</b>
	The government security of availability and protection influence us to use HRIS.	.765	

### 5.1 One-Way ANOVA

**H02:** There are no major difference in determining factors in correspond to HRIS in Banking Industry.

- **H0<sub>2.1</sub>**: There are no major difference in human resources factor in correspond with HRIS in Banking Industry

**Table 6.** Descriptive Statistics of Human Resource Factor across HRIS

Scale	N	Mean	Standard Deviation	Standard Error
Disagree	86	3.17	.689	.074
Neither Disagree nor Agree	38	3.11	.894	.145
Agree	56	4.16	.733	.098
Strongly Agree	48	4.25	.668	.096
<b>Total</b>	<b>228</b>	<b>3.63</b>	<b>.898</b>	<b>.059</b>

**Table 7.** Analysis of variance of Human Resource Factor across HRIS

	Sum of Squares	Df	Mean Square	F	Sig. (P value)
Between Groups	62.536	3	20.845	38.745	.000
Groups	120.516	224	.538		
Total	183.053	227			

In order to analyze some differences in an average value of human resource factor as a dimension of HRIS, One-way ANOVA is used. It was strongly pointed maximum average value is obtained in the dimension of human resource factor is 4.25. Though, other employees shown results are not satisfactory (mean=3.11) i.e., neither agree nor disagree. The test result of One-way ANOVA indicates value of  $F = 38.745$  and significance=0.000 that is less than 0.05 (at 95% confidence level), this shows that there was a particular difference. (See in Table 7) So, null hypothesis

- **H0<sub>2.1</sub>**: There are no major difference in human resources factor in corresponds with HRIS in Banking Industry is rejected. This specifies that there was a major difference in human resource factor in corresponds with HRIS.
- **H0<sub>2.2</sub>**: There was no major difference in technological factor in correspond with HRIS in Banking Industry.

**Table 8.** Descriptive Statistics of Technological Factor across HRIS

Scale	N	Mean	Standard Deviation	Standard Error
Disagree	45	3.00	.640	.095
Neither Disagree nor Agree	58	3.22	.727	.095
Agree	47	3.70	.931	.136
Strongly Agree	78	4.26	.692	.078
<b>Total</b>	<b>228</b>	<b>3.63</b>	<b>.898</b>	<b>.059</b>

**Table 9.** Analysis of variance of Technological Factor across HRIS

	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig. (P value)</b>
Between Groups	58.265	3	19.422	34.863	.000
Groups	124.788	224	.557		
Total	183.053	227			

In order to analyze some differences in an average value of human resource factor as a dimension of HRIS, One-way ANOVA is used. It was strongly pointed maximum average value is obtained in the dimension of technical factor is 4.25. Though, other employees shown results are not satisfactory (mean=3.00) as disagree. The test result of One-way ANOVA indicates value of F= 38.863 and significance=0.000 that is less than 0.05 (at 95% confidence level), this shows that there was a particular difference. (See in Table 9) So, null hypothesis

- **H0<sub>2.2</sub>**: There are no major difference in technical factor in corresponds with HRIS in Banking Industry is rejected. This specifies that there was a major difference in technical factor in corresponds with HRIS.
- **H0<sub>2.3</sub>**: There was no major difference in inorganizational factor in correspond with HRIS in Banking Industry.

**Table 10.** Descriptive Statistics of Organizational Factor across HRIS

<b>Scale</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Standard Error</b>
Strongly Disagree	3	3.67	.577	.333
Disagree	63	3.22	.706	.089
Neither Disagree nor Agree	61	3.13	.718	.092
Agree	53	3.89	.824	.113
Strongly Agree	48	4.52	.618	.089
<b>Total</b>	<b>228</b>	<b>3.63</b>	<b>.898</b>	<b>.059</b>

**Table 11.** Analysis of variance of Organizational Factor across HRIS

	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig. (P value)</b>
Between Groups	67.246	4	16.812	32.373	.000
Groups	115.806	223	.519		
Total	183.053	227			

In order to analyze some differences in an average value of organizational factor as a dimension of HRIS, One-way ANOVA is used. It was strongly pointed maximum average value is obtained in the dimension of organizational factor is 4.25. Though, other employees shown results are not satisfactory (mean=3.33) as disagree. The test result of One-way ANOVA indicates value of F= 32.373 and significance=0.000 that is less than 0.05 (at 95%



confidence level), this shows that there was a particular difference. (See in Table 11) So, null hypothesis

- **H0<sub>2.3</sub>**: There are no major difference in environmental factor in corresponds with HRIS in Banking Industry is rejected. This specifies that there was a major difference in environmental factor in corresponds with HRIS.

**H0<sub>2.4</sub>**: There was no major difference in environmental factor in correspond with HRIS in Banking Industry.

**Table 12.** Descriptive Statistics of Environmental Factor across HRIS

Scale	N	Mean	Standard Deviation	Standard Error
Strongly Disagree	5	3.80	.837	.374
Disagree	56	3.07	.628	.084
Neither Disagree nor Agree	47	3.40	.901	.131
Agree	60	3.70	.766	.099
Strongly Agree	60	4.25	.856	.111
<b>Total</b>	<b>228</b>	<b>3.63</b>	<b>.898</b>	<b>.059</b>

**Table 13.** Analysis of variance of Environmental Factor across HRIS

	Sum of Squares	Df	Mean Square	F	Sig. (P value)
Between Groups	43.369	4	10.842	17.309	.000
Groups	139.683	223	.626		
Total	183.053	227			

In order to analyze some differences in an average value of organizational factor as a dimension of HRIS, One-way ANOVA is used. It was strongly pointed maximum average value is obtained in the dimension of organizational factor is 4.25. Though, other employees shown results are not satisfactory (mean=3.07) as disagree. The test result of One-way ANOVA indicates value of F= 17.309 and significance=0.000 that is less than 0.05 (at 95% confidence level), this shows that there was a particular difference. (See in Table 13) So, null hypothesis

- **H0<sub>2.4</sub>**: There are no major difference in security factor in corresponds with HRIS in Banking Industry is rejected. This specifies that there was a major difference insecurity factor in corresponds with HRIS..
- **H0<sub>2.5</sub>**: There was no major difference in security factor in correspond with HRIS in Banking Industry.

**Table 14.** Descriptive Statistics of Security Factor across HRIS

Scale	N	Mean	Standard Deviation	Standard Error
Strongly Disagree	3	4.00	.000	.000

Disagree	56	3.11	.779	.104
Neither Disagree nor Agree	54	3.41	.790	.107
Agree	60	3.82	.873	.113
Strongly Agree	55	4.16	.811	.109
<b>Total</b>	<b>228</b>	<b>3.63</b>	<b>.898</b>	<b>.059</b>

**Table 15.** Analysis of variance of Security Factor across HRIS

	Sum Squares	of Df	Mean Square	F	Sig. (P value)
Between Groups	36.148	4	9.037	13.718	.000
Groups	146.905	223	.659		
Total	183.053	227			

In order to analyze some differences in an average value of organizational factor as a dimension of HRIS, One-way ANOVA is used. It was strongly pointed maximum average value is obtained in the dimension of organizational factor is 4.25. Though, other employees shown results are not satisfactory (mean=3.11) as disagree. The test result of One-way ANOVA indicates value of F= 13.718 and significance=0.000 that is less than 0.05 (at 95% confidence level), this shows that there was a particular difference. (See in Table 15) So, null hypothesis

**H0<sub>2.5</sub>:** There are no major difference in security factor in corresponds with HRIS in Banking Industry is rejected. This specifies that there was a major difference in security factor in corresponds with HRIS.

## 6 Conclusion

The study investigated the significant difference between determining factors across HRIS of the bank employees concluded that human resource, technological, organizational, and environmental and security factors significantly difference with HIRS of bank employees.

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