



## Assessing the Impact of Human Resource Information Systems on Strategic Workforce Planning: A Study of IT Companies in India

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### KEYWORDS

Strategic Workforce Planning, Human Resource Information Systems, IT Industry, Employee Data Management, Succession Planning & Talent Management

### ABSTRACT

In-depth employee data as well as HR policies and procedures are processed, tracked, and stored by a human resources information system (HRIS). Specializing in reliable record keeping and reporting, the HRIS, an interactive information management system, standardized human resource (HR) roles and processes. Although not a novel idea, the human resource information system (HRIS) is changing as a result of environmental changes (Marler & Fisher, 2022; Bondarouk et al., 2023). Human resource planning, or HRP, is its main duty and is a crucial task for any business. An excessive or insufficient number of employees could be the consequence of poor human resource management. Unpleasant conditions may arise from both an excessive number of employees and a small one. HRIS supports effective human resource planning (Strohmeier, 2020; Vrontis et al., 2022). The function of HRIS in human resource planning is investigated in this paper. The study is empirical in nature, and 200 respondents were selected to see the goals sights from the top five IT companies in Lucknow, Uttar Pradesh, based on market share. The survey is conducted using the questionnaire. Analysis reveals that HRIS has several benefits, chief among them being that it retains copious amounts of personnel data, which enables the company to move at a snail's pace. HRIS assists HR managers in strategic initiatives like manpower planning, succession planning, applicant tracking, and training, accurately identifying occupied and unfilled roles within a company..

### 1. INTRODUCTION

The IT and electronics industries today are central to the global economy in terms of technological development and progress in the economy. According to the report Global Innovation Index (2023), the global IT sector is estimated to be worth about 5.2 trillion, with an expectation of its further positive growth in the upcoming years until 2024. Electronics and related consumer and industrial electronics are estimated to be worth approximately 3 trillion dollars in the world in 2023 (Stevens, 2023). In 2023-24, the product that generated a significant portion of the global market, the IT industry is estimated at 194 billion (Sharma, 2014). The same was true of the Indian electronics sector that is fast growing with the rising demand of consumer electronics and government policies and was estimated at 118 billion at the time (Kojima, 2024).

These sectors have enjoyed a huge promotional support by the Indian government, a claim which it has spelt out in its 2023-24 budget to support the IT and electronics industries further. Budget allocation was 88,567 crore (about 11.7 billion) on the development of digital infrastructure and electronic production. The strategic investment is meant to improve India as a technology and electronic hub of the world, and is aimed at both the local and global players (Ezell, 2024). The development of the IT and electronics sectors in India has reflected on immense interest among the researchers, especially in the states like Karnataka, Maharashtra, Telangana, Tamil Nadu and Uttar Pradesh. These states have emerged as key centres of technological inventions and investments due to the favourable government policies, favourable business environment, and a well skilled talent pool.



Uttar Pradesh demonstrates the change through the proactive government schemes which involve the provision of incentives on the IT investment as well as simplification of the regulatory frameworks. This has enhanced the development of IT infrastructure in the state with large scale IT firms such as Tech Mahindra, Infosys and HCL Technologies setting up large operations in the state creating jobs and stimulating the local economy. Silicon Valley of India Bengaluru has remained a leader in terms of software export, and Hyderabad, Telangana, boasts the HITEC City a busy hub in terms of technology and business. The Mumbai in the state of Maharashtra is a financial and IT hub and the Mumbai in the state of Tamil Nadu has a large number of IT parks and special economic zones (SEZs).

The HRP in the industries is turning to the benefits of technological improvements in order to streamline workforce management. The Human Resource Information Systems (HRIS) are leading this transformation as the most advanced software tools to allow the storage, editing, and visualization of employee information (Bondarouk & Brewster, 2016; Marler & Boudreau, 2017; Malik et al., 2023). Although there is a lot of work on HRIS, the implementation of HRIS to the Indian context, especially the IT and electronics industry is still unexplored (Ball, 2001).

The last few years of 2020-24 can be characterized by the increased global HR focus on India, as the country has a huge and skilled labor force, cost benefits, and the government is willing to support it. Large global firms have also diversified their businesses in India as they have realized that India has the potential of being a strategic HR center. As an example, global corporations, such as Google, Microsoft and Amazon, have greatly expanded their operations in India and have used local talent to run their operations internationally (Mathew and Jain, 2008).

The research on HRIS is essential to the Indian IT and electronics market maximization. HRIS enables effective management of human resource by automating data management, minimizing administrative overheads, and availing strategic information to make decisions (Farndale et al., 2021; Stone et al., 2023). It is crucial in planning labor, forecasting of demand, job descriptions, recruitment, selection, training, negotiations and grievance management. Properly designed HRIS is associated with long-term strategic planning, which is consistent with the goals of Human Resource Development (HRD), as well as providing the managers with information that facilitates the progression of strategic goals (Kovach and Cathcart, 1999; Hendrickson, 2003).

In addition, HRIS systems also improve the efficiency of information processing, which makes them invaluable to all businesses (Becker et al., 2001). Although their value addition has been questioned (Tansley & Watson, 2000), the HRIS systems are known to save costs in the HR department, enable employees to handle their personal information and empower managers with the information necessary for analysis, decision making and interaction without necessarily depending on the services of the HR specialists (Awazu and desouza, 2003; Ball, 2001).

The functionality of HRIS in minimizing employee turnover through availing vital information to HR practitioners is not a secret (Beulen, 2009). The ability of HRIS to automate manual procedures, statistics on attendance and job commitment boost the HRP process considerably. Nevertheless, additional investigation is required to completely comprehend the possibilities of HRIS in HRP in the sphere of IT and electronics in India, and specifically in the context of the challenges and seizing the opportunities peculiar to the fast-developing market sphere.

## 2. LITERATURE REVIEW:

The literature emphasizes the fact that Human Resource Information Systems (HRIS) is of paramount value in the process of HR planning and the modernization of the employee recruitment practices (Kaur et al., 2022; Malik et al., 2024). This review is based on the complex influence of HRIS on strategic workforce planning, which is examined in the context of IT companies in India.

### **HRIS and Financial Performance.**

Bony and Fatem (2024) indicate that there is a high correlation between the financial performance of Bangladeshi commercial banks and the implementation of HRIS. Their empirical research on the advantages of HRIS in improving profitability and competitiveness in an organization provides a great contribution to the literature that can be used by scholars and professionals. Das and Das (2019) also explore the conditions, which impact the adoption of HRIS in the sector of Bangladesh private banks disclosing the fact that the technology has the potential to simplify the operations and enhance efficiency.

### **HRIS in Efficacy and Innovation in Organizations.**

Begum et al. (2020) review the opportunities of HRIS to enhance the effectiveness of an organization and contribute to sustainable development. According to their research, there are mechanisms by which HRIS can improve productivity and minimize costs to facilitate innovation and sustainability of business practices. Hosain et al. (2020) continue this discussion to multinational businesses and give empirical evidence on human resource information systems implementation effectiveness in enhancing operational efficiency.

### **HRIS in HR Planning and Recruiting.**

Nagendra and Deshpande (2014) emphasize that HRIS plays a critical role in HR planning, such as the skill inventories, labor demand and supply analysis, and succession planning. Schouten et al. (2002) record how the traditional methods of hiring have changed to the contemporary methods that are enhanced by HRIS. Jahan (2014) highlights the significance of HRIS in the recruitment process, which helps in sustaining different HR-related tasks, like job analysis, job description development, and training programs.

#### **HRIS Compensation Management.**

Related to the role of HRIS in compensation management, Hendrickson (2003) and Manasa and Reddy (2009) refer to the payroll, benefits, insurance, and pension funds among others. The efficiency of operations and strategic decision-making is boosted by the capability of the system to handle and provide access to several information pertaining to the employees.

#### **HRIS and Employee Performance.**

Research by Hosnavi and Ramezan (2010) and Reddick (2009) offers possibilities that HRIS is a great performance improvement initiative in that it enables periodic performance evaluation and improvement areas to be established. According to Laval and Diallo (2007), HRIS is significant to align HR planning and business goals so that it can enhance cost management and production cycle.

#### **In HRIS, there are technological developments and improvements.**

Karakanian (2000) emphasizes the radical role played by the intranet and Internet technologies in business communication, which has improved internal cooperation and decision-making. Marler and Dulebohn (2005) argue on the emergence of the Employee Self-Service (ESS) systems that now allow employees instant access to HR data, and this has greatly enhanced productivity. According to Hawking, Stein and Foster (2004), ESS has its advantages and they indicate that more than 80 percent of large organizations have adopted or intend to adopt these systems. This is based on the fact that the study highlights the importance of proper training in order to be able to make the most of the system.

#### **HRIS Strategic Implication.**

Shaikh (2012) and Bhavsar (2011) discuss the strategic potential of HRIS, which is a decision support system that harmonizes both the operational and strategic targets. The studies by Kenneth et al. (2002), and Tansley and Newell (2007) also explore the strategic and administrative advantages of HRIS, although they focus on the effects of the latter on leadership, social capital, and trust within a team.

Early research by Hyde and Shafritz (1977) introduces HRIS as a planning and accountability instrument, but Tansley, Newell, and Williams (2001) also explain its revolutionary impact on the redesign of HR philosophies and practices during the era of knowledge.

The comprehensive literature of HRIS indicates that the application is vital when it comes to strategic planning of the workforce especially in IT firms within India. Not only does HRIS make HR management efficient but also promotes organizational performance and innovation. Further possibilities of the research that could be conducted in the future can emphasize challenges and opportunities that are unique to the implementation of HRIS in different organizational settings to continue contributing to the knowledge base in this area.

#### **Research Objectives**

This study aims to explore the strategic role of Human Resource Information Systems (HRIS) in enhancing workforce planning within the Indian IT industry. The research objectives are multifaceted

- a) Examine the benefits that HRIS offers to IT firms.
- b) HR managers working in IT companies ought to look into how HRIS fits into strategic plans.
- c) to investigate the overall role that HRIS plays in an IT organization's human resource strategy.

#### **Research Methodology:**

To ascertain the function of HRIS in their businesses' personnel planning, a sample of 200 respondents from five IT organisations in Uttar Pradesh was employed. Exploratory research design is used. Although secondary sources have also been carefully explored, primary sources provide the majority of the data for this study. IT staff members who answered the study's questionnaire are primary sources. Additionally, secondary sources like the internet and other IT firm websites are used to collect data. The purpose of this exploratory study article is to use a survey, interviews, and the SPSS statistical programme to examine the use of HRIS in human resource planning in an IT company.

#### **Data Analysis and Findings:**

First, information is gathered on the advantages of information systems, particularly HRIS, in Uttar Pradesh IT companies utilising a number of beneficial yet common traits. In human resource planning, the HR manager gathers and evaluates data regarding the advantages of HRIS.



**1) Investigation of benefits of HRIS in IT organisation.**

**Table 2: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
<b>Recruitment and Retention</b>	200	1.00	5.00	3.2450	1.41598
<b>Better Supervision and control manpower</b>	200	1.00	5.00	3.6950	1.55372
<b>Anytime access</b>	200	1.00	5.00	3.5550	1.36244
<b>Time and Labour Management</b>	200	1.00	5.00	2.9800	1.42469
<b>Security of data</b>	200	1.00	5.00	3.0850	1.44854
<b>Data management</b>	200	1.00	5.00	3.9800	1.23987
<b>Payroll Process</b>	200	1.00	5.00	3.8400	1.33164
<b>Statutory Compliance</b>	200	1.00	5.00	2.8600	1.31875
<b>Valid N (listwise)</b>	<b>200</b>				

**Interpretation:** The ability of HRIS to manage data in database management systems is clearly its primary advantage, as demonstrated by Table 2, which has the greatest mean of 3.98 and standard deviation of 1.23. HRIS offers moderate means of workforce supervision, data security, anytime access, and efficient payroll, with time, labor management, and legislative compliance being the least important variables.

**2) Analysing the role of HRIS in strategic activities by HR managers of IT companies**

Factor analysis is performed by HR managers of IT organisations to assess the role of HRIS in strategic operations.

**Table 3: Descriptive Statistics**

	Mean	Std. Deviation	Analysis N
<b>Grievance Management</b>	3.2450	1.41598	200
<b>Personal Information Identification</b>	3.6950	1.55372	200
<b>Absenteeism Analysis</b>	3.5550	1.36244	200

<b>Work Scheduling</b>	2.9800	1.42469	200
<b>Cost of Salary Benefit per employee</b>	3.1700	1.38589	200
<b>Union Negotiation</b>	3.9800	1.23987	200
<b>Turnover Analysis</b>	3.8400	1.33164	200
<b>Performance Management</b>	2.8600	1.31875	200
<b>Employee Recruitment</b>	3.2200	1.28837	200
<b>Compensation Management</b>	2.9350	1.26839	200
<b>Salary Planning</b>	3.0050	1.22165	200

**Interpretation:** Union bargaining, which has the highest mean of 3.98 and involves properly bringing up the matter on an online portal and making it transparent for higher authorities and employees, is clearly shown as the main benefit of HRIS in conjunction with HR managers in Table 3. Collective bargaining led to satisfactory agreements, including analysis of turnover, pay planning, personal information identification, absenteeism, work schedule planning, least-mean compensation management, and performance management.

**Table 4: Correlation Matrix**

		<b>Grievance Management</b>	<b>Personal Information Identification</b>	<b>Absenteeism Analysis</b>	<b>Work Scheduling</b>	<b>Cost of Salary Benefit per employee</b>	<b>Union Negotiation</b>	<b>Turnover Analysis</b>	<b>Performance Management</b>	<b>Employee Recruitment</b>	<b>Compensation Management</b>	<b>Salary Planning</b>
<b>Correlation</b>	<b>Grievance Management</b>	1.000	.128	-.068	.807	.831	.026	.096	.764	-.063	.093	-.018
	<b>Personal Information Identification</b>	.128	1.000	-.019	.127	.136	.093	.030	.087	-.187	.010	.165
	<b>Absenteeism Analysis</b>	-.068	-.019	1.000	-.059	.040	-.044	-.001	-.068	.162	-.156	-.165



	<b>Work Scheduling</b>	.807	.127	-.059	1.000	.663	-.026	.043	.638	-.167	.102	.000
	<b>Cost of Salary Benefit per employee</b>	.831	.136	.040	.663	1.000	-.062	.037	.656	-.027	.141	-.048
	<b>Union Negotiation</b>	.026	.093	-.044	-.026	-.062	1.000	-.045	.023	-.016	.028	.023
	<b>Turnover Analysis</b>	.096	.030	-.001	.043	.037	-.045	1.000	-.024	-.117	-.036	.053
	<b>Performance Management</b>	.764	.087	-.068	.638	.656	.023	-.024	1.000	-.088	.181	.041
	<b>Employee Recruitment</b>	-.063	-.187	.162	-.167	-.027	-.016	-.117	-.088	1.000	-.083	.006
	<b>Compensation Management</b>	.093	.010	-.156	.102	.141	.028	-.036	.181	-.083	1.000	-.130
	<b>Salary Planning</b>	-.018	.165	-.165	.000	-.048	.023	.053	.041	.006	-.130	1.000
<b>Sig. (1-tailed)</b>	<b>Grievance Management</b>		.036	.169	.000	.000	.359	.089	.000	.189	.095	.399
	<b>Personal Information Identification</b>	.036		.393	.037	.027	.094	.338	.110	.004	.443	.010
	<b>Absenteeism Analysis</b>	.169	.393		.203	.286	.268	.496	.168	.011	.013	.010
	<b>Work Scheduling</b>	.000	.037	.203		.000	.358	.271	.000	.009	.075	.500
	<b>Cost of Salary Benefit per employee</b>	.000	.027	.286	.000		.190	.303	.000	.354	.023	.250
	<b>Union Negotiation</b>	.359	.094	.268	.358	.190		.265	.374	.410	.347	.372
	<b>Turnover Analysis</b>	.089	.338	.496	.271	.303	.265		.367	.049	.307	.228
	<b>Performance Management</b>	.000	.110	.168	.000	.000	.374	.367		.107	.005	.282



<b>Employee Recruitment</b>	.189	.004	.011	.009	.354	.410	.049	.107		.120	.468
<b>Compensation Management</b>	.095	.443	.013	.075	.023	.347	.307	.005	.120		.034
<b>Salary Planning</b>	.399	.010	.010	.500	.250	.372	.228	.282	.468	.034	

**Interpretation:** A correlation matrix is a statistical tool used to analyze data collection relationships between variables. It displays the correlation coefficient range, with perfect negative, perfect positive, and no correlation values. The values in Table 4 range from -1 to +1, indicating that the variables have a proper association with one another. However, data can also identify the positive and negative features of variables. When two variables are positively linked, decreases in one will have a similar or proportionate effect on the other, whereas increases in one will have the opposite effect.

**Table 5: KMO and Bartlett's Test**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b>		.710
<b>Bartlett's Test of Sphericity</b>	<b>Approx. Chi-Square</b>	695.511
	<b>df</b>	55
	<b>Sig.</b>	.000

**Interpretation:** The KMO evaluates whether sampling is suitable and whether the sample's responses are adequate. The KMO and Bartlett test evaluate all pertinent data together. KMO values fall between 0 and 1. According to Field (2005:640), values over 0.90 are regarded as exceptional, values over 0.70 are deemed good, values over 0.80 are deemed very good, and values below 0.60 are deemed acceptable. If the KMO value is higher than 0.5 and the Bartlett's test significance level is lower than 0.05, there could be a considerable degree of correlation in the data. Variable collinearity is the degree to which one variable is related to other variables. Table 5 clearly shows that the KMO value, at 0.710, is more than 0.5. There is evidence of unequal variances among the groups under comparison, according to significant Bartlett's Test results. Bartlett's Significance Test can be used to calculate the number of factors to extract. To justify the factor analysis, a significant result at (P<0.05) on Bartlett's test of sphericity is needed. As per the findings of Hoque and Awang (2016) and Awang (2012), Table 5's significant value of 0.000 for the Bartlett's Test meets the required threshold of less than 0.05. Therefore, data that is sufficient and appropriate to proceed with the reduction procedure is indicated by a KMO score close to 1.0 and a Bartlett's test significance value close to 0.0.

**Table 6: Communalities**

	<b>Initial</b>	<b>Extraction</b>
<b>Grievance Management</b>	1.000	.911
<b>Personal Information Identification</b>	1.000	.599
<b>Absenteeism Analysis</b>	1.000	.769

<b>Work Scheduling</b>	1.000	.759
<b>Cost of Salary Benefit per employee</b>	1.000	.803
<b>Union Negotiation</b>	1.000	.645
<b>Turnover Analysis</b>	1.000	.601
<b>Performance Management</b>	1.000	.747
<b>Employee Recruitment</b>	1.000	.658
<b>Compensation Management</b>	1.000	.624
<b>Salary Planning</b>	1.000	.793
<b>Extraction Method: Principal Component Analysis.</b>		

**Interpretation:** The percentage of variation that a variable in an analysis shares with other variables is known as its communality. It is also known as common variance and is the sum of the squared loadings for a given item on a factor matrix. McGarrigal et al. (2013) define communality, also known as common variance, is the percentage of variation a variable share with other variables in an analysis. A small sample size can distort results if communalities are low (<.30). Greater communality indicates that a larger portion of the item's variance may be explained by the retrieved factors. Since the extraction value is higher than 0.5, all factors are taken into account. The variance relationship between Grievance Management and other factors is 91.1%.

**Table 7: 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	3.267	29.702	29.702	3.267	29.702	29.702	3.209	29.174	29.174
2	1.369	12.442	42.144	1.369	12.442	42.144	1.225	11.141	40.314
3	1.178	10.713	52.857	1.178	10.713	52.857	1.177	10.704	51.019
4	1.082	9.839	62.695	1.082	9.839	62.695	1.171	10.642	61.660
5	1.012	9.204	71.899	1.012	9.204	71.899	1.126	10.238	71.899



6	.901	8.195	80.093						
7	.805	7.316	87.409						
8	.635	5.771	93.180						
9	.345	3.139	96.319						
10	.305	2.772	99.091						
11	.100	.909	100.000						
<b>Extraction Method: Principal Component Analysis.</b>									

**Interpretation:** The total variance, including common and unique variances, represents the number of retrieved components, while the unique variance includes specific and error variances, with eigenvalues displayed in subsequent items.

Three subsections have been created from the Eigenvalue table:

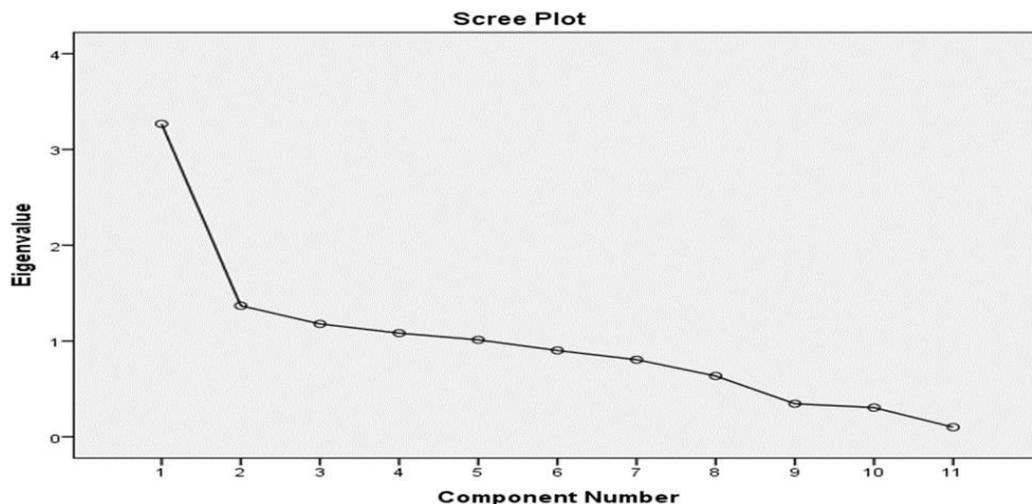
Initial Eigenvalues

Extracted Sums of Squared Loadings

Rotation of Sums of Squared Loadings.

Only the Initial Eigenvalues and the Extracted Sums of Squared Loadings are included in Table 7 for examination and interpretation purposes. When figuring out how many components or factors are expressed by a set of variables, it is necessary to have eigenvalues larger than 1. Table 6 displays the values for the first component ( $3.267 > 1$ ), second component ( $1.369 > 1$ ), third component ( $1.178 > 1$ ), fourth component ( $1.082 < 1$ ), and fifth component ( $1.012 > 1$ ). Thus, the given set of 11 variables and 7 observations comprises five components. Furthermore, the extracted sum of squared holding% of variance indicates that the initial component accounts for 29.702% of the variance features from the stated data, followed by 42.144%, 52.857%, 62.695%. and 71.899%. Thus, five components are sufficient to express all of the features or components highlighted by the six variables. Now we'll apply an orthogonal rotation (varimax). This means the final elements will be at right angles to one another. As a result, we can assume that the information explained by one factor is unrelated to the information in the other factors.

**Figure 1:**



**Interpretation:** A scree plot is a line graph used in analysis to display eigenvalues of a factor or principal component, determining the number of factors to keep in a principal component analysis. Scree charts are mostly useful in that they present two or three plausible values of m for consideration, as their interpretation might be subjective and arbitrary. Five latent components are taken into account from the above model, as illustrated in figure 1.

**Table 8: Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5
Grievance Management	.947				
Personal Information Identification		.529			
Absenteeism Analysis		-.572			.528
Work Scheduling	.869				
Cost of Salary Benefit per employee	.875				
Union Negotiation				.570	.481
Turnover Analysis				-.664	
Performance Management	.850				
Employee Recruitment		-.567			
Compensation Management			-.753		
Salary Planning		.524	.467		-.460
<b>Extraction Method: Principal Component Analysis.</b>					
<b>a. 5 components extracted.</b>					

**Interpretation:** Table 8 shows the loadings (extracted values) of the 11 variables on the five extracted factors, one for each item under the 11 variables. The factor's contribution to the variable increases with the loading's absolute value. Out of the eleven items, five variables were retrieved. Which reactions are comparable in component 1 and occur concurrently in components 2, 3, 4, and 5. The gap (empty spaces) in the table reflects loadings less than 0.5, which makes reading the data easier. We excluded all loadings smaller than 0.5. Table 7 shows the presence of cross loading, which occurs when one factor measures more than one component. These cross-loadings must be avoided because they are extremely high in Table 7. The answer is to disperse the factor loading by rotation, and then study the resulting rotated component matrix to identify the components.

**Table 9: Rotated Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5



Grievance Management	.953				
Personal Information Identification					.641
Absenteeism Analysis		.782			
Work Scheduling	.862				
Cost of Salary Benefit per employee	.892				
Union Negotiation					.767
Turnover Analysis			.725		
Performance Management	.850				
Employee Recruitment			-.683		
Compensation Management		-.663			
Salary Planning				.886	
<b>Extraction Method: Principal Component Analysis.</b>					
<b>Rotation Method: Varimax with Kaiser Normalisation.</b>					
<b>a. Rotation converged in 7 iterations.</b>					

**Interpretation:** Rotation aims to reduce high-loading variables in studies, facilitating interpretation and potentially revealing variables with values below the required 0.45 for further investigation. However, the existence of more than 0.5 (or 0.6) loading in more than one component indicates that this variable reflects two components, rendering it ineffective for measuring a given category. Hence, need to be excluded. As seen in Table 9, variables with more than one component cannot be considered for further analysis.

**Table 10: Component Transformation Matrix**

Component	1	2	3	4	5
1	.985	-.113	.105	-.013	.072
2	-.136	-.470	.503	.528	.479
3	.080	.797	.200	.564	-.027
4	.049	.009	-.791	.286	.538
5	-.045	.362	.265	-.567	.689
<b>Extraction Method: Principal Component Analysis.</b>					



**Rotation Method: Varimax with Kaiser Normalisation.**

**Table 11: Summary of factors extracted**

Factors	Variables	Factor Loading
F1: Employee Management	Grievance Management	.953
	Work Scheduling	.862
	Cost of Salary Benefit per employee	.892
	Performance Management	.850
F2: Employee Benefits and compensation	Absenteeism Analysis	.782
	Compensation Management	-.663
F3: Human resource management	Turnover Analysis	.725
	Employee Recruitment	-.683
F4: Employee Remuneration	Salary Planning	.886
F5: Employee relation	Personal Information Identification	.641
	Union Negotiation	.767

**Interpretation:** Upon analysis of the various constituents, Table 11 unequivocally demonstrates that these four components account for 71.899% of the total factors, given the aforementioned tables correlate these factors with 71.899% of the overall variation.

**Table 12: Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
<b>Employee Management</b>	200	1.00	5.00	3.6950	1.55372
<b>Employee Benefits and compensation</b>	200	1.00	5.00	2.9800	1.42469
<b>Human resource management</b>	200	1.00	5.00	3.1700	1.38589
<b>Employee Remuneration</b>	200	1.00	5.00	2.8600	1.31875
<b>Employee relation</b>	200	1.00	5.00	3.0050	1.22165
<b>Valid N (listwise)</b>	200				



**Interpretation:** Table 12 illustrates the component that the employee management application (F1), which has the highest mean and effective standard deviation, shows that HR development is the main use of HRIS in IT companies and that this is undeniably the case. The second-highest means of employee relations (F5) and human resource management (F3) indicate that these are the strategic applications of HRIS in IT companies. The highest standard deviation of employee benefits and compensation indicates that respondents' comprehension of the application of HRIS in managing employee compensation is ambiguous.

### 3. CONCLUSION

The human resources are among the most significant assets of the IT businesses because it is the only aspect where an organisation has to make a payment to a lack of competitiveness. HRIS can enable IT firms have control over their operations (Margherita, 2022; Singh & Sharma, 2023). HRIS helps organisations to plan their human resource both statistically and qualitatively. As a human resource information system, it can store large amounts of personnel information, which can be used to not only determine the filled and vacant positions but also gauge the suitability of an individual in the position. Other benefits of HRIS are better worker monitoring and management and a more knowledgeable HR decision-making. Besides being a computerised system, HRIS reduces other expenses such as labour and recruiting. Cost reduction can be achieved by using HRIS to store and analyse the information about employees. Another advantage of the HRIS, besides the above advantages, is that it is used by the HR professionals to carry out exceptional strategic operations. Such operations are grievance management, work timetable, salary benefits per employee cost, performance management, absenteeism analysis, compensation management, turnover analysis, employee recruitment, salary planning, personal information identification, and union negotiation. HRIS compares job descriptions to the qualifications and competencies of the recruits, and reveals training requirements gaps. HRIS also helps trace attendance of the staff to ascertain their regularity and commitment to the organisation. This facilitates performance management and the salary planning. In conclusion, HRIS is a very good tool to use in HRP, yet there are still few loose ends to be collected and the work that has not been performed by HRIS yet should be done.

### 4. LIMITATION OF THE STUDY

The study has limitations though it makes contributions. First, the sample focuses only on IT companies in the Uttar Pradesh area, which can restrict the applicability of the results in other areas or industries. Second, the research is based on self-reported information, which might be affected by bias during responses. Third, causal inference is limited by the cross-sectional research design. Longitudinal designs and multi-source data can be used in future research in order to address these shortcomings...

### REFERENCES

1. Al-Adawi, Z., Yousafzai, S., & Pallister, J. (2005). Conceptual model of citizen adoption of e-government. In Proceedings of the Second International Conference on Innovations in Information Technology (IIT'05) (pp. 1–10).
2. Andaregie, A., & Astatkie, T. (2021). Determinants of technology adoption by micro and small enterprises (MSEs) in Awi Zone, Northwest Ethiopia. *African Journal of Science, Technology, Innovation and Development*. <https://doi.org/10.1080/20421338.2021.1923385>
3. Anthony, W. P., Kacmar, K. M., & Perrewe, P. L. (2002). *Human resource management: A strategic approach* (4th ed.). Prentice Hall.
4. Bala, H., & Venkatesh, V. (2013). Changes in employees' job characteristics during an enterprise system implementation: A latent growth modeling perspective. *MIS Quarterly*, 37(4), 1113–1140. <https://doi.org/10.25300/MISQ/2013/37.4.06>
5. Bamel, N., Bamel, U. K., Sahay, V., & Thite, M. (2014). Usage, benefits and barriers of human resource information system in universities. *VINE*, 44(4), 519–536. <https://doi.org/10.1108/VINE-04-2013-0024>
6. Baran, M., Karabulut, E., Semercioz, F., & Pekdemir, I. (2002). The new HR practices in changing organisations: An empirical study in Turkey. *Journal of European Industrial Training*, 26(2–4), 81–87.
7. Beckers, A. M., & Bsat, M. Z. (2002). A DSS classification model for research in human resource information systems. *Information Systems Management*, 19(3), 41–50. <https://doi.org/10.1201/1078/43201.19.3.20020601/37169.6>
8. Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), 2652–2671.
9. Bondarouk, T., Parry, E., & Furtmueller, E. (2023). Electronic HRM: Four decades of research. *Human Resource Management Review*, 33(1), 100847.
10. Boudreau, J. W. (1991). The evolution of computer use in human resource management: Interviews with ten leaders. *Human Resource Management*, 30(4), 485–508.

11. Brown, D. (2002). eHR—Victim of unrealistic expectations. *Canadian HR Reporter*, 15(1), 1–6.
12. Buckley, K. J., & Michaels, J. (2004). The use of an automated employment recruiting and screening system for temporary professional employees: A case study. *Journal of Information Technology and Human Resource Management*, 4(2–3), 233–241.
13. De Sanctis, G. (1986). Human resource information systems: A current assessment. *MIS Quarterly*, 10(1), 15–27.
14. Dery, K., Hall, R., & Wailes, N. (2006). ERPs as technologies-in-practice: Social construction, materiality and the role of organisational factors. *New Technology, Work and Employment*, 21(3), 229–241.
15. Farndale, E., Paauwe, J., & Hoeksema, L. (2021). In-sourcing HR: Shared service centers in HRM. *Human Resource Management Journal*, 31(1), 26–44.
16. Fitz-enz, J. (1979). Quantifying the human resources function. *Personnel*, 57(3), 41–52.
17. Florkowski, G. W. (2006). The diffusion of human-resource information technology innovations in US and non-US firms. *Personnel Review*, 35(6), 684–710.
18. Gasco, J. L., Llopis, J., & Gonzalez, M. R. (2004). The use of information technology in training human resources: An e-learning case study. *Journal of European Industrial Training*, 24(5), 281–290.
19. Gupta, B. (2013). Human resource information system (HRIS): Important element of current scenario. *IOSR Journal of Business and Management*, 13(6), 41–46. <https://doi.org/10.9790/487X-1364146>
20. Haines, V. Y., & Petit, A. (1997). Conditions for successful human resource information systems. *Human Resource Management*, 36(2), 261–275.
21. Huselid, M. A., Becker, B. E., & Beatty, R. W. (2005). *The workforce scorecard: Managing human capital to execute strategy*. Harvard Business School Press.
22. Hussain, Z., & Prowse, P. (2006). The use and impact of human resource information systems on human resource management professionals (Working paper). Bradford University School of Management.
23. Kaur, P., Malhotra, R., & Sharma, S. (2022). Digital HRM and workforce analytics. *Journal of Organizational Effectiveness: People and Performance*, 9(3), 389–407.
24. Kavanagh, M. J., Gueutal, H. G., & Tannenbaum, S. I. (1990). *Human resource information systems: Development and application*. PWS-KENT Publishing Company.
25. Kimberly, J. R., & Evanisko, M. J. (1981). Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations. *Academy of Management Journal*, 24(4), 689–713.
26. Lado, A. A., & Wilson, M. C. (1994). Human resource systems and sustained competitive advantage: A competency-based perspective. *Academy of Management Review*, 19(4), 699–727.
27. Lengnick-Hall, C. A., & Lengnick-Hall, M. L. (2006). HR, ERP, and knowledge for competitive advantage. *Human Resource Management*, 45(2), 179–194.
28. Lengnick-Hall, M. L., & Moritz, S. (2003). The impact of e-HR on the human resource management function. *Journal of Labor Research*, 24(3), 365–379.
29. Malik, A., Budhwar, P., & Srikanth, N. (2023). HR analytics: A review and research agenda. *Human Resource Management Review*, 33(2), 100876.
30. Malik, A., De Silva, M., & Budhwar, P. (2024). Strategic HRM in digital economies. *British Journal of Management*, 35(1), 120–138.
31. Margherita, A. (2022). Human resources analytics: A systematization of research. *Journal of Business Research*, 144, 483–497.
32. Marler, J. H., & Fisher, S. L. (2022). An evidence-based review of e-HRM. *Human Resource Management Review*, 32(2), 100824.
33. Ngai, E. W. T., & Wat, F. K. T. (2006). Human resource information systems: A review and empirical analysis. *Personnel Review*, 35(3), 297–314.
34. Obeidat, B. Y. (2012). The relationship between human resource information system (HRIS) functions and human resource management functionalities. *Journal of Management Research*, 4(4), 1–16.
35. Singh, S., & Sharma, R. (2023). Digital transformation of HR in Indian IT firms. *Asia Pacific Journal of Human Resources*, 61(4), 789–808.
36. Stone, D. L., Deadrick, D. L., Lukaszewski, K. M., & Johnson, R. (2023). The influence of technology on HRM. *Human Resource Management Review*, 33(1), 100848.
37. Tansley, C., & Newell, S. (2007). A knowledge-based view of agenda-formation in the development of human



- resource information systems. *Management Learning*, 38(1), 95–119.
38. Tansley, C., & Watson, T. (2000). Strategic exchange in the development of human resource information systems. *New Technology, Work and Employment*, 15(2), 108–122.
39. Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A., & Trichina, E. (2022). Artificial intelligence, robotics, advanced technologies and HRM. *International Journal of Human Resource Management*, 33(6), 1237–1266.
40. Yeung, A. (1995). Reengineering HR through information technology. *Human Resource Planning*, 18(1), 12–17.
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