Journal of Social Economics Research
2023 Vol. 10, No. 4, pp. 179-193
ISSN(e): 2312-6264
ISSN(p): 2312-6329
DOI: 10.18488/35.v10i4.3521

The application of human resources information systems for enhancing output in agricultural companies

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Article History
Received: 23 April 2023
Revised: 13 June 2023
Accepted: 25 August 2023
Published: 20 November 2023

Keywords
Factor analysis
HRIS
Performance appraisal
Training needs.

JEL Classification:
O15.

ABSTRACT

To examine whether the application of integrated human resource information systems can enhance output, increase productivity, and reduce operating costs in agricultural companies. Survey method is used in this study. One hundred and forty-five supply chain employees from the agricultural industry were surveyed through a structured questionnaire to find the influence of HRIS in the recruitment process, performance appraisal, training needs, and management support to enhance output. The data were analyzed using statistical methods like correlation analysis, Chi-square analysis, and factor analysis. The results reveal that four factors-recruitment process, performance appraisal, training needs, and management support are statistically significant and influence the outcome variable enhancing output. The automated HRIS system can be helpful in managing the recruitment process, performance appraisal, and training needs efficiently. The management support is critical in deploying automated HRIS to enhance output in agricultural companies. The deployment of HRIS systems isbeneficial for enhancingoutput in agricultural companies. However, before the deployment of such systems, the size of the organization, environment, type of business, and sensitivity of the information need to be considered. Employees will benefit as they are better equipped to visualize original ideas with enhanced IT capacities.

Contribution/Originality: This is the first study on the application of human resources information systems to enhance the performance of agricultural companies. The study carried out correlation analysis, association studies like Chi-square, multivariate analysis, and factor analysis.

1. INTRODUCTION

1.1. Background

Because of reasons such as globalisation, rapid technical advancement, the advent of the knowledge-based economy, and other developments that have occurred over the course of the last 20 years, it is now more necessary than it has ever been for companies to use information technology. Researchers have demonstrated that the implementation of new technology leads to modifications in the methods employed in diverse contexts, encompassing enterprises, educational instituitions, governing bodies, households, and military arenas. Additionally, it alters the ways in which employment is created, how human resources are planned, and the ways in which individuals operate inside businesses. The conventional methods of managing human resources aren't always effective due to the many causes of change. Integrated information systems, and in particular human resource

information systems (HRIS), may boost productivity and service quality while simultaneously reducing operational expenses. They also make it simpler for firms to make strategic choices, which provides the company with a competitive advantage over its rivals. In the end, each of the aforementioned factors has a significant impact on the operational procedures of human resource management (HRM). The leaders of many different organisations, notably agricultural firms, agri-seed industries, and agri-research centers, are placing a strong emphasis on the implementation of IT-based procedures in order to maintain their position as market competitors. When compared to the private sector, when it comes to the process of adopting new technologies, the public sector is either slower or more difficult. The organizational factors, environmental factors, technological factors, and psychological factors influence the adoption of HRIS and new technology, and to sustain the VUCA (volatility, uncertainty, complexity, and ambiguity) environment, the agri-industry should adopt the new technologies (Anitha & Aruna, 2014).

The directors of human resources at each organisation serve as their respective companies' strategic business partners. Because of the close collaboration between IT (Information Technology) and HR (Human Resource) departments, human resource management (HRM) technology, and notably HRIS, is developing into a discipline that has the potential to usher HRM into a new and more contemporary era. An increase in the number of individuals utilising HRIS may be attributed to the fact that HR managers do not pay sufficient attention to IT-based human resource operations and the potential of these activities. As more companies become aware of the capabilities of HRIS and the ways in which it may be used, their interest in acquiring, putting it into practise, and making use of it grows. In this process, awareness is very crucial, and the organisations need to be aware of what HRIS is capable of doing in order to investigate how it may assist them. The agri-enterprises are no exception to adopting new systems.

There is an urgent need to map the HRIS in agricultural enterprises to manage human resources, which should be part of sustainability development goals. Innovation leadership through mapping to develop employee HRIS in an organization is an important step towards the SDGs (Susitanable Development Goals) (Ambarwati and Tirtoadisurja)In the next 10 years, one of the primary objectives of the strategy is to raise the level of digital innovation in the agricultural sector. The process of hiring new employees will be digitised as one approach to achieving this goal. Numerous experts contend that software possesses the potential to facilitate the expansion of human resource management, a viepoint that they emphasise. The HRIS, which is helping in the process of identifying unfilled job positions in non-agricultural organizations, can also be used in the agricultural sector. The agricultural enterprises can record HR planning and recruitment strategies through HRIS. However, the agri-industry needs to integrate the HRIS functions with other business functions like performance appraisal and identification of training needs, apart from recruitment and selection (Nagendra & Deshpande, 2014). The use of information and communications technology (ICT) in all industries, including agriculture, is a natural progression from previous management trends (outsourcing and costs, fluctuation costs, and recruitment costs). The use of HRIS is beneficial in managing all aspects of human resources, although to varying degrees. Users are able to get information via the use of automated systems, which may gather, store, process, display, and deliver information to users. It is essential that it be made abundantly clear that when people talk about "HR information systems," they are referring to more than simply a computer system. It involves having a comprehensive and analytical picture of the information pertaining to employees. The proper utilization of information and communication technology has the potential to enhance the operational efficiency of the company activities across all industries. It is possible to achieve this goal without making it more challenging for workers to generate new ideas or communicate with one another.

Corporate intranets have evolved from a collection of static websites into an information system that is completely connected and has a dynamic component over the course of the last few years (Information Systems (IS)). This needs to be extended to industries in the agricultural sector. The creation of modern employee portals makes it possible for businesses to integrate their front-end information, communication, and application systems,

as well as their knowledge sharing and business processes. This is the need of the hour for the agricultural sector. In contrast to the earlier generation of intranets, which just gave a user interface to static material, this newer generation of intranets offers far more functionality. It's possible that using an employee portal is the sole option for employees to do their tasks in some circumstances.

2. LITERATURE REVIEW

A Human Resource Information System is implemented in a company so that it may get an advantage in the marketplace and push its rivals to the outskirts. Many businesses have improved their competitive standing by using HR systems.

According to Hani, Love, and Zu'bi (2013), many empirical researchers think that the threat of rivalry is a strong motivator that forces businesses to adopt and distribute IT. There is a growing tendency towards a long-term decrease in Human Resource expenditures and a strategic role for businesses as they transition to a knowledge-based economy. The organisational structure of the business has to be examined to determine whether it helps or hinders the company's willingness to accept new innovations. This is shown by a number of constraints, including but not limited to the degree of organisational centralization, the level of employee specialisation within the structure, and the successful completion of a number of organisational tasks. Human Resource Information System adoption within the aforementioned parameters will heavily depend on the level of familiarity existing employees have with the system.

To reduce the cost of running the human resources department and increase its effectiveness and productivity, businesses with extensive network linkages must use Human Resource Information Systems to enhance the supply of services and the level of performance in everyday work. Establishing a skilled and specialised team of IT specialists is a necessary first step for the widespread adoption of Human Resource Information Systems across a company's competent workforce (Khan, Hasan, & Rubel, 2015).

The ability to anticipate technological developments has become a defining feature of modern civilisation across all political spectrums. The various methods have become distinct. Technology's relentless march forward means that it will someday overtake and even exceed humankind. The worldwide economy is powered by the concentration of people. It is widely believed that the technical innovations of today's civilization are founded on a consistent method for elevating human potential, making them immune to catastrophe (Igbaria & Cavaye, 2012). It is the responsibility of the organisation to evaluate the capabilities of the technology at the time of system installation and accept it for the efficient implementation of the "Human Resource Management Information System."

Social impact has been shown to have both direct and indirect effects on the uptake of "Human Resource Information Systems" (HRIS) by Rahman, Qi, and Jinnah (2016). Intentions to act as a mediator between direct and indirect causes. An important addition to the literature on tactics to better the financial sector as a whole. The theoretical and managerial implications of this work are substantial.

Methodologies and challenges associated with Human Resource Information System installation costs were made public by Kanake and Onyiego (2016). Apparently, the Human Resource Information System has been met with unfavourable criticism from workers, who have had trouble making the switch from the old manual system. Colleges have a variety of challenges, including a lack of competent employees, rising maintenance costs, and resistance to changing long-standing practises. Findings from this study show that HRIS development within the organisation must be guided by clear objectives. To successfully adopt a Human Resource Information System, a company must first buy the system that will best serve its requirements. It is essential that Human Resources specialists and other staff members at the company get regular training to operate the HR management system effectively and efficiently. Human Resource Information System features improve HR procedures by centralising and standardising data collection, storage, retrieval, analysis, and presentation. HRIS has the potential to affect the

company's brand, save costs, and boost productivity. Human resource professionals might devote more time and energy to strategic-level tasks with the help of the Human Resource Information System (HRIS) (Lee, Lee, & Kwon, 2015).

Lee (2014) investigated how technological processes change depending on context. The research indicates that HRM has undergone significant development and has assumed more strategic position, which involves considering the core objectives of the organisation. Unfortunately, not all of these solutions are compatible with the needs of the business and follow the norms that have been set. Which means businesses need the most cutting-edge gadgets and software available.

The factors that affect the proper implementation of HRIS were analysed by Fatuma (2014). Respondents to a study agreed that the success of a Human Resource Information System deployment depends heavily on buy-in from upper management, clear lines of communication and training, technical and human resource support, and the involvement of end users.

Chapman and Webster (2013) looked at how technology is used in the hiring process, specifically to sift through a huge number of resumes to find the most suitable applicants. According to the findings, Human Resources is an integral aspect of solving three major problems. The first challenge lies in the necessity for money to improve the system and the backing of the upper management team. One other stumbling block was the complexity of managing the many parts of the system. Third, when a new system is adopted and upgraded, users, particularly managers and workers, must be convinced to embrace it.

Alam, Masum, Beh, and Hong (2016) investigated the factors that influence management's HRIS adoption decisions. Support from upper management, infrastructure, perceived cost, personnel capabilities, and competitive pressure were shown to be the five most important elements. Technology, people, organisation, and environment are other crucial factors to consider. In sum, the study revealed significant differences across all characteristics among the groups that adopted the technology. Financially, Human Resource Information Systems (HRIS) are a major outlay for small and medium-sized enterprises alike.

But before making such an investment, businesses should weigh the potential returns. As a result of HRIS features like document organisation, leave management, a streamlined payment process, and more, employees may reap several monetary advantages. Human Resource Information Systems' (HRIS) widespread adoption is also impacted by the size of the organisation (Taylor & Francis, 2017). Companies today are realising that the benefits of Human Resource Information Systems should not be limited by national boundaries, especially in light of the increased globalisation of the economy.

Due to the internet, multinational firms are increasingly relocating their headquarters to another country. Human resource functions are undergoing a period of profound change as a result of the internet. The development of cutting-edge technologies has led to the widespread use of HR-IS. In order to get the outcomes you want, you need to deploy HR information systems successfully. There will be a waste of time, money, and the company's resources if this is not done. Ineffectiveness in the HR information system is the root cause of this problem.

An HR information system that works well would give a company a leg up in the marketplace. Researchers have settled on the definition of a HRIS as an overarching structure for the collection, storage, and analysis of HR-related data inside an organisation. Several scholars agree that the core premise behind Human Resource Information Systems is that they are an integrated system that records and regulates the HR operations of an organisation in an efficient and effective manner.

Badhurudheen (2017) found that elements unique to the internal environment had a positive impact, including the CEO's social technology skills, the backing of senior management, the centralization of power, and knowledge of HR information systems.

Effective implementation of HRIS was studied by Al-Dmour, Love, and Al-Zu'bi (2013), who looked at the connection between motivation, resource availability, and skill. The author also emphasised the importance of

employee motivation when it comes to introducing new technologies inside an organisation. Competence proves that you have the requisite expertise to deploy HR information systems. Effective adoption of IT and collaboration inside an enterprise are what we mean when we talk about the "willingness of technology." When businesses have a dedicated IT division staffed by experts, they are more inclined to use IT-based solutions. Also, knowing how to use IT is crucial in today's business world.

Internal factors such as corporate subcomponents, technical support, employee structure, educational level, etc. are seen as crucial to a company's competence and organisational readiness. HRIS are able to grow beyond the regional level thanks to technological networking, and the internet plays a role in their globalisation. It just takes a few minutes for a manager to set up an account on one of these platforms, and then they can check in on their staff from anywhere in the world.

The relevance of Management Information Systems (MIS) increased as the concept of the global village gained traction. The primary advantage of HRIS encompass enhanced information accessibility, cost reduction, increased productivity, and improved service quality. Increases in data quality, processing efficiency, speed, and the provision of reliable and desired outcomes are also crucial (Anitha & Aruna, 2015).

2.1. Problem Statement

The departments of human resources that are housed inside agricultural businesses are of utmost significance for facilitating the free flow of information and ensuring the accomplishment of organisational objectives. The level of efficiency already present in the HR department is one factor that plays a role in how smoothly new technologies are implemented. When it comes to human resources, having the ability to manage vast volumes of data might result in cost savings. Comprehensive HR management is usually required to assist in setting things up and running them in a variety of different areas while also adhering to all applicable regulations. The primary objective of any HRIS is to maintain a repository for personnel records in addition to other types of operational data, such as employment contracts.

The most significant advantages of using HRIS are: keeping track of important deadlines; keeping track of all relevant employee information (entry card, items given to them, keys); keeping track of soft performance data; keeping track of employment contracts; keeping track of HR agendas in one place; keeping track of job candidates, hiring announcements, and terminations of employment; and keeping track of soft performance data. The installation of an information system in an organisation is impacted by a variety of elements, including, but not limited to, the size of the organisation, the local environment, and, last but not least, the company's emphasis. Due to the paramount importance of the information, it is imperative to ensure its confidentiality and implement measures to safeguard sensitive data. Because the company's systems are connected to those of other companies, maintaining a high level of security is essential. Therefore, there is an urgent need for HRIS in the agricultural industry.

2.2. Objectives

- To understand the critical impact of using HRIS for the recruitment process on enhancing output in agricultural companies.
- To analyse the importance of applying HRIS in performance appraisal for enhancing output in agricultural companies.
- To understand the role of implementing HRIS in planning the training requirements of employees for enhancing output in agricultural companies.
- To measure the effect of management support in implementing HRIS on enhancing output in agricultural companies.

2.3. Hypotheses

H_{01}: Is there any statistically significant association between the HRIS-based recruitment process and enhanced output in the organisation ?

H_{02}: Will there be a statistically significant influence of applying HRIS in performance appraisal for enhancing output in agricultural companies?

H_{03}: Is the implementation of HRIS in planning training requirements to enhance output in agricultural companies statistically significant?

H_{04}: Is there a statistically significant association between management support for implementing HRIS and enhancing output in agricultural companies?

Figure 1 is the author's theoretical framework with four independent variables: recruitment process, performance appraisal, trainee needs, and management support, which influence enhanced output in agricultural companies.

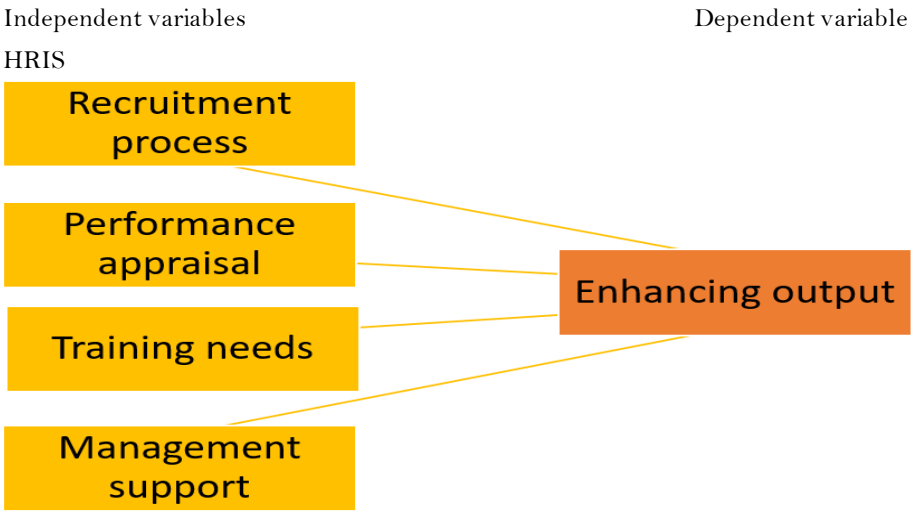

Figure 1. Conceptual framework.

3. SIGNIFICANCE

HRISs are beneficial to the HR function, which analyses the ways in which information and communication technologies influence the HR function in three different ways. This analysis helps the HR function become more contemporary and expand. According to the findings of the research, the operational and relational implications that HRIS has on the HR function. The operational impact may have the ability to enhance the efficiency of human resources operations, can lead to the automation of the daily duties and operations of the HR function, and can, in the long term, lead to an increase in the productivity of HR professionals. Relationships will be improved if the amount of time it takes for consumers to have their demands fulfilled is decreased, as will the amount of time it takes to make HR workers happier and more accepted by the organisation. In contrast, scholars assert that the utilization of HRIS enables personnel to perform their duties with enhanced efficiency, precision, and efficacy. The use of an HRIS is critical to the accomplishment of the HR function. Additionally, HRIS includes advantages such as prompt replies, simple access to information, increased administrative efficiency, improved reporting, and improved decision-making. According to Laval and Guilloux (2010) and his colleagues, the Human Resource Information System (HRIS) also has an effect on both the short-term and the long-term management of people. Furthermore, it is important to consider the significant impact of information systems on promoting environmental sustainability in the context of development. HRIS plays a significant role in facilitating the decision-making process by providing valuable assistance in strategic decision-making. In fact, the higher levels of the hierarchy will make strategic judgements with the assistance of the information they have gleaned about the system. Information

helps eliminate ambiguity, bridges the gap between forecasts and actions, and generates data that may be incorporated into decision-making processes. Today's companies recognise the need to invest money in their human resources as a means of bolstering their organisational capabilities and ensuring that they will continue to operate. In an economy that is driven by knowledge, the performance of an organization's human resources is a significant contributor to that organization's overall success. If businesses want their staff to be more productive, they need to get rid of the most advanced technological systems and tools they have.

4. RESEARCH METHODIOLOGY

A descriptive research methodology was used for this study to provide an accurate and organised description of the phenomenon under investigation. This method of inquiry works best when there are several factors at play in the research question. The descriptive technique is very helpful for gathering primary sources of data for a study. The current study makes use of a number of methods; the primary data source is a closed-ended questionnaire, and the respondents are supply-chain employees. In order to understand past studies on the same issue, the researcher chooses closed-ended questions on supply chain management using a 5-point Likert scale and then gathers secondary data from online libraries like ProQuest, Google Scholar, etc. The major purpose of this study is to analyse the survey data collected, making it a quantitative study. The researcher is using convenience sampling to pick the respondents, and 145 participants have been chosen. Exploratory factor analysis was used to account for the observed variables' variation by focusing on a smaller set of latent component variables. Several manifest variables' associations were evaluated, and the resulting correlational groupings were used to guide the investigation. As a pre-requisite for factor analysis, we tested whether or not the given variables have a unitary correlation matrix (correlation coefficients between variables are null). Bartlett's sphericity test contradicted the null hypothesis.

5. RESULTS

This section provides a presentation of the study's key data analysis and findings based on the data gathered. The three most common analyses are Chi-square test, factor analysis, and percentage rate analysis. The demographic characteristics are presented in Table 1.

Table 1. Percentage rate analysis.

Respondents gender	Frequency	Percent
Male	79	54.5
Female	66	45.5
Respondents age	Frequency	Percent
20 - 25 years	21	14.5
26 - 30 years	77	53.1
31 - 35 years	31	21.4
36 - 40 years	16	11
Education	Frequency	Percent
Under graduation	44	30.3
Post graduation	83	57.2
Others	18	12.4
Designation	Frequency	Percent
HR executive	47	32.4
Operational managers	63	43.4
HR manager	35	24.1
Experience	Frequency	Percent
1 - 3 Years	30	20.7
3 - 6 Years	44	30.3
6 - 9 years	23	15.9
9 - 12 Years	16	11
Above 12 years	32	22.1
Total	145	100

Based on Table 1, it was identified that 54.5% were male and 45.5% were female, 53.1% were in the age group of 26-30 years, 21.4% were in the age group of 31-35 years, 21.4% were in the age group between 31-35 years, 14.5% were in the age group between 20-25 years and 11% were in the age between 36-40 years. Also, noted is that 57.2% have completed postgraduation, 30.3% have completed undergrad, and the remaining have completed other courses. 43.4% were currently working as operational managers, 32.4% were working as HR executives, and 24.1% were working as HR managers. 30.3% possess experience between 3 and 6 years; 20.7% possess 1-3 years of experience; 22.1% possess above 12 years of experience; 15.9% possess 6-9 years of experience; and 11% possess 9-12 years of experience. The responses to HRIS support in cost reduction are presented in Table 2.

Table 2. Responses towards HRIS support in cost reduction.

Cost reduction	Frequency	Percent
Strongly disagree	9	6.2
Disagree	13	9
Neutral	25	17.2
Agree	53	36.6
Strongly agree	45	31
Total	145	100

From Table 2, it is noted that 36.6% of the respondents have agreed that HRIS supports cost reduction in the organisation, 31% of the respondents have strongly agreed to the statement, 17.2% were neutral, 9% have disagreed, and 6.2% have strongly disagreed with it. The analysis of responses towards the HRIS support from the respondents is depicted in Figure 2. About 70% of the respondents agreed to the deployment of HRIS for cost reduction. Table 3 indicates the opinion of the respondents towards the HRIS, which enables effective internal communication.

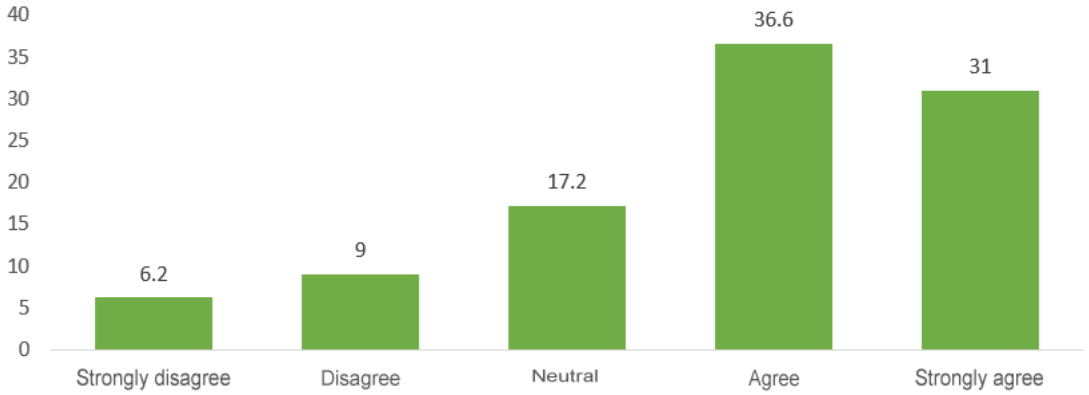

Figure 2. Responses towards HRIS support in cost reduction.

Table 3. Responses towards HRIS enable in effective internal communication.

Effective internal communication	Frequency	Percent
Strongly disagree	11	7.6
Disagree	12	8.3
Neutral	24	16.6
Agree	48	33.1
Strongly agree	50	34.5
Total	145	100

Based on Table 3, the analysis shows that 34.5% of the respondents strongly agreed with the statement that the application HRIS enables effective communication, whereas 33.1% of the respondents agreed with the statement. On the other hand, 16.6% were neutral to the statement. 8.3% have disagreed, and the remaining 7.6% strongly disagree that HRIS enables effective internal communication. The analysis of the responses of the respondents

indicated that 68% are in agreement with the use of HRIS, which enhances effective internal communication (Figure 3).

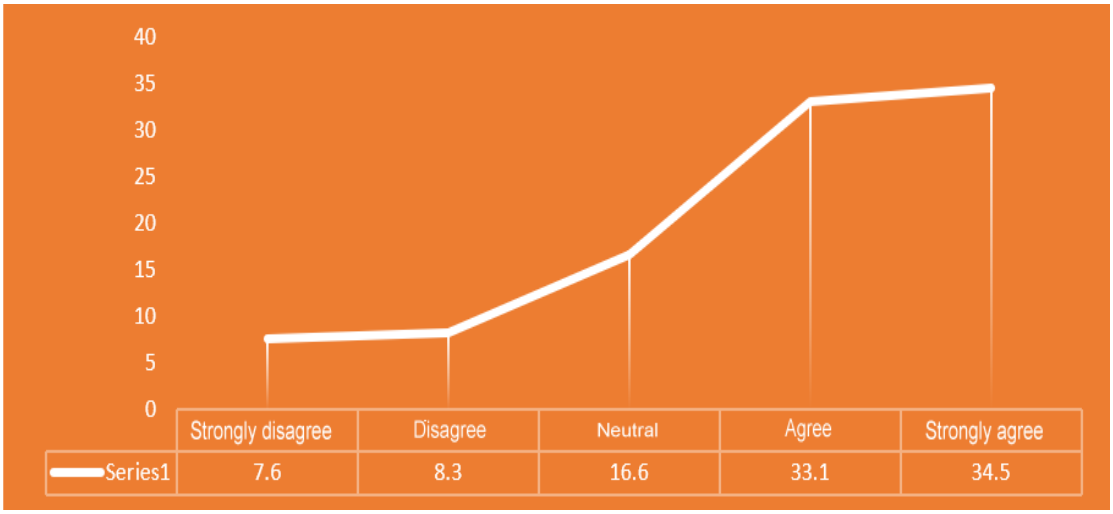

Figure 3. Responses towards HRIS enable in effective internal communication.

5.1. Correlation Analysis

The next analysis is involved in measuring the nature of the association between the independent variables: Recruitment Process, Performance Appraisal, Training Needs, Management Support, and dependent variable, Enhancing Output. The results of the correlation analysis among the study variables are presented in Table 4. The study variables are well correlated and are significant at the ($p<0.001$) level.

Table 4. Correlation analysis.

Coefficients	Recruitment process	Performance appraisal	Training needs	Management support	Enhancing output
Recruitment process	1	0.895**	0.841**	0.712**	0.840**
Performance appraisal	0.895**	1	0.855**	0.814**	0.839**
Training needs	0.841**	0.855**	1	0.746**	0.764**
Management support	0.712**	0.814**	0.746**	1	0.724**
Enhancing output	0.840**	0.839**	0.764**	0.724**	1

Note: ** Significant at $p<0.001$ level.

From correlation analysis, it is noted that the highest correlation analysis among the independent and dependent variables exists between Recruitment Process and Enhancing Output which is at +0.840; also, the correlation between Performance Appraisal and Enhancing Output is +0.839. These two factors possess a very high correlation towards the dependent variable. Furthermore, it is identified that Training Needs and Enhancing Output possess correlation of +0.764, and lastly, Management Support and Enhancing Output are at +0.724.

5.2. Factor Analysis

Researchers may use factor analysis, a strong method for reducing the amount of data required for their studies, to investigate ideas that are difficult to assess directly. Factor analysis is a method that takes a vast number of variables and distills them down to a manageable number of underlying components. The result is data that is both understandable and useful. The KMO (Kaiser-Meyer-Olkin) and Bartlett tests, which examine the data's substantial correlation, are the first step in assessing whether or not the data are sufficient and may be used to evaluate the factor analysis. These tests were named after the three researchers who developed them. If the KMO value is greater than 0.50 and the Bartlett significance is lower than 0.05, then the data may be used without modification.

Table 5. KMO analysis.

Item	Value
KMO	0.941
Bartlett val	3336.22
Df	105
Sig.	0.00

From Table 5, the KMO value is 0.941, which is more than 0.50, and Bartlett sig value is 0.00, which is less than 0.05; hence it can be stated that the data is adequate and factor analysis can be performed.

Table 6. Total variance explained.

Component	Initial eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	11.917	79.445	79.445	11.9	79.445	79.445
2	0.688	4.584	84.028	12.6	84.029	84.028
3	0.566	3.771	87.799	13.2	87.8	87.799
4	0.426	2.839	90.638	13.6	90.639	90.638
5	0.31	2.067	92.705			
6	0.226	1.508	94.214			
7	0.182	1.214	95.428			
8	0.157	1.048	96.476			
9	0.133	0.89	97.365			
10	0.101	0.672	98.038			
11	0.081	0.542	98.580			
12	0.069	0.46	99.039			
13	0.054	0.36	99.400			
14	0.048	0.319	99.719			
15	0.042	0.281	100.000			

Based on Table 6, it is identified that the major four factors are explaining 90.638% of the variance. The first four factor possess loadings of 79.445; 4.584; 3.771; and 2.839 in variances.

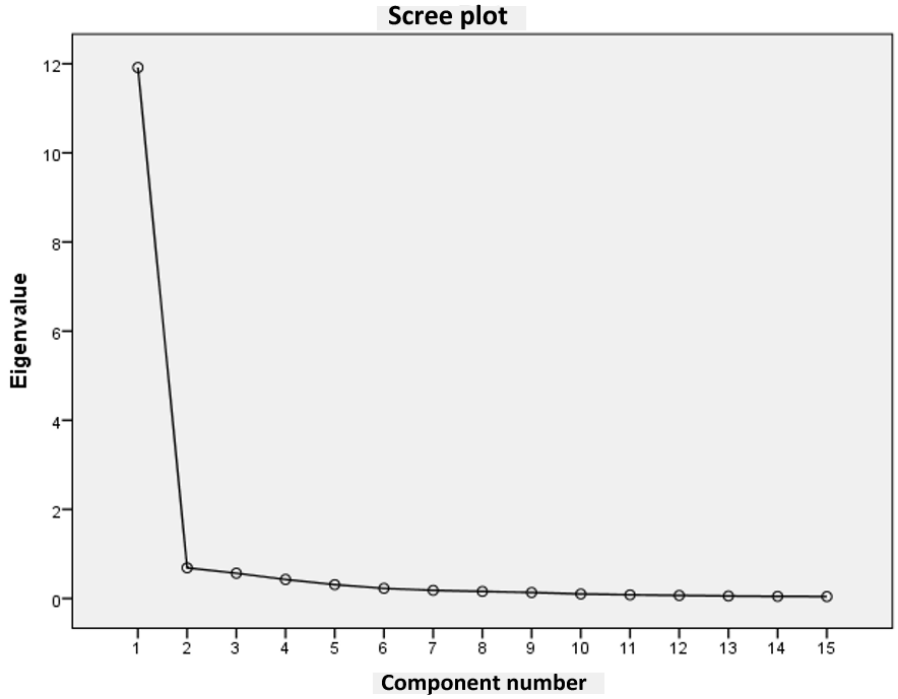

Figure 4. Scree plot.

The Scree Plot in Figure 4 represents the total variances in the graphical format; this clearly shows that the four factors have extracted nearly 90.638% of the total variances (Table 6).

Table 7. Factor loadings.

Constructs	Statements	Factor loading
Recruitment process	Better connectivity for new hires	0.935
	Enable the generation of data and information for recruitment.	0.938
	Enhanced HR forecasting	0.920
Performance appraisal	Measuring performance through EAC Key Results Areas	0.914
	360-degree feedback	0.919
	Transparency in the appraisal process	0.937
Training needs	Meeting the training needs based on requirements	0.914
	Checking the progress effectively	0.810
	Training outcomes are measured effectively.	0.903
Management support	Co-operation of top management and seniors	0.801
	Focus on continuous investment in HRIS	0.831
	Management strategies to use HRIS to make their decisions better	0.849
Enhancing output	Generate enhanced output.	0.896
	Investment in HRIS implementation will make the organization cost-effective in the future	0.894
	Organization's willingness to invest to get a competitive advantage	0.893

The factor loadings for all the study variables are > 0.50 indicating the variables significantly influencing the outcome of the study. Further, from Table 7, it is noted that the major statements influencing the factor loadings are "Enable in generating data and information for recruitment," which possess a value of 0.938; "Transparency in the appraisal process"" has a value of 0.937; Better connectivity for new hires" possesses a value of 0.935; and "Enhanced HR forecasting" has a value of 0.920.

Table 8. Chi square test between recruitment process and enhancing output.

Recruitment process	Value	P
Pearson chi-square	214.519	0.00
Likelihood ratio	168.629	0.00

5.3. Chi Square Test

From the analysis, the Chi-square value is at 214.51 and the corresponding p-value is 0.00, which is less than 0.05; it can be concluded that there is a statistically significant difference between Recruitment Process and Enhancing Output (Table 8).

Table 9. Chi square test between performance appraisal and enhancing output.

Performance appraisal	Value	P
Pearson chi-square	220.682	0.00
Likelihood ratio	164.866	0.00

From the analysis, the chi square value is 220.6 and corresponding p-value is 0.00, which is less than 0.05; it can be concluded that there is a statistically significant difference between Performance appraisal and Enhancing Output (Table 9).

Table 10. Chi square test between training needs and enhancing output.

Training needs	Value	P
Pearson chi-square	192.018	0.00
Likelihood ratio	152.765	0.00

From the analysis, the Chi-square value is 192.01 and corresponding p-value is 0.00, which is less than 0.05; it can be concluded that there is a statistically significant difference between training needs and Enhancing Output (Table 10).

Table 11. Chi square test between management support and enhancing output.

Management support	Value	P
Pearson chi-square	154.151	0.00
Likelihood ratio	122.917	0.00

From the analysis, the Chi-square value is 154.15 and corresponding p-value is 0.00, which is less than 0.05; it can be concluded that there is a statistically significant difference between Management Support and Enhancing Output (Table 11).

Therefore the study supports all the hypotheses.

6. DISCUSSION

HRIS systems are used to collect data about an organization's human resources, store that data, analyse that data, and communicate that analysis with other users. HRIS might potentially benefit from the use of practises that enhance the training's efficacy, efficiency, and support. Businesses may be able to save time and cut down on mistakes by incorporating the HRIS into the automation of their benefits operations. As a direct consequence of their widespread adoption, managers at the most senior levels of an organisation often make use of employee self-service computer systems. The Human Resource Information System (HRIS) is far more efficient than the previous payroll system, which was both time-consuming and prone to making mistakes. The process of entering data is streamlined, and on the payroll side, all of the benefits and deductions may be set up in a hurry. One of the most effective ways to guarantee employee engagement in performance management is to make use of an HRIS (human resource information system). Inadequate staff training, high expenses associated with the move from manual to automated human resource management, and a lack of technological expertise and infrastructure One of the most frequent and significant obstacles to the efficiency of HRIS is a shortage of appropriate funds, which need to be authorised by higher management. The company uses HRIS for administrative and pay-benefit functions in their organisation. It is a highly developed piece of software with the purpose of enhancing the productiveness and efficacy of work linked to human resources. HR professionals utilise a variety of tactics to ensure that the HR department is held responsible for the development and advancement of the company's workforce.

Research on correlation found a link of +0.840 between the process of recruiting new employees and increasing production, while studies on correlation found a connection of +0.839 between performance evaluation and improving production. These two factors have very robust associations with the dependent variable, which contributes to increased production. In addition, it has been shown that the association between improving production and management support is +0.724, while the relationship between growing output and training needs is +0.764. Both of these relationships are positive.

The first problem, referred to as the Recruitment Process, is connected to the enormous number of processes that are carried out inside the organisation and the need for doing frequent statistical evaluations using at the very least fundamental statistical methods. Our results are in line with a study on the administrative and strategic advantages of HRIS by Kovach, Hughes, Fagan, and Maggitti (2002). The second component is the Performance Appraisal, which places a focus on taking the initiative to adapt to new technology and processes, having management that is dedicated to adopting the HRIS system, and having management strategies that use HRIS to enhance decision-making. In order for software to be legally compliant, it must have sufficient adaptability to respond to changes in significant regulatory regulations and Khashman and Khashman (2016) reported similar

results on studying HRIS and performance appraisal application, a part of HRIS. The third and last factor to be considered is the assistance provided by management. The capacity of an organisation to handle its operational costs has an impact on the effectiveness of its human resource information system (HRIS). The implementation of HRIS requires an initial investment, but in the long term, it will save the organisation money. Similarly, Rahman, Islam, and Qi (2017) emphasized the need for top management support for the implementation and success of HRIS in organizations. The desire of organisations to spend money in order to gain a competitive advantage and their capacity to absorb the expenses of operations are two important factors.

7. CONCLUSION

The primary purpose of any HRIS is to maintain personnel records along with other types of performance information, such as operating systems. The main benefits of using an HRIS are: recording important deadlines; maintenance of all relevant staff information (records, supplies, keys); management of soft work data; project document management; centralized management of personnel processes; retention of applicants, employment notices, and terminations; and managing cold process data. Aggarwal and Kapoor (2012) expressed similar opinion on HRIS and its role and benefits for business entities. The size of the organization, the environment, and ultimately the business's focus all have an impact on the establishment of an information system in that organization. Due to the sensitivity of the information, it must be protected, and sensitive data protection measures must be in place. Since company systems are interconnected with other companies' systems, it is important to maintain a high level of security. The value of human capital contributes significantly to the level of innovation as well as the overall performance of firms. In fact, a person's ability to learn improves as their IQ increases. This benefits employees, as they are better equipped to visualize original ideas. To protect and improve this valuable human resource, managers should pay special attention to human resource management activities (including recruitment, training, and compensation). Access to acquired IT capacity has helped in this regard. Chauhan, Sharma, and Tyagi (2011) provided a similar strategic HRS framework for improving HR operations. This study focuses on the need for HRIS in the performance of HRM functions at the lowest possible cost and also at a fast rate, and addresses increased challenges for HR professionals.

The accuracy and efficiency of all HR-related tasks, such as hiring new employees, selecting applicants for open positions, conducting performance reviews, training employees, etc., can be improved with the assistance of HRIS. The system contributes to a reduction in the amount of work that must be completed by each department and ensures that a greater number of resources are utilised, jobs are completed, and tasks are simple to complete. Additionally, it ensures that the procedures of any other departments that are relevant to the workflow are maintained consistently. The entire human resources department has been tasked with the responsibility of ensuring that work patterns, resource tracking, and all procedures are completed on time. This is an important responsibility. The problems have been solved on the basis of user-friendly information technology programmes that will assist the department in automating the majority of the difficult tasks that it faces on a daily basis and elsewhere within the company.

8. RECOMMENDATIONS

It is the responsibility of managers to persuade staff members of the value of using HRIS. The project of investing in HRIS necessitates a change in the company as a whole. There will never be a shortage of staff members who are resistant to altering the way things are carried out. It's possible that the emotional investment of workers will help reduce their resistance to change. Our findings could be helpful to HR managers in their attempts to grow their organisations, which would be really cool. A HRIS project not only makes the job of the HR department easier, but it also assists workers in expanding their creative capacity and improving the quality of the services that they provide. Because of our findings, managers may now have a better understanding of the advantages of

beginning an HRIS initiative. In order to be successful and accomplish what has been set out to be done, it is necessary to search for and develop a comprehensive implementation plan. In fact, HRIS makes the HR function easier to do, automates administrative activities, does away with duplicate employment, lowers expenses, and improves the quality of service. Creativity is the best strategy for living in an environment that is becoming more unpredictable and for competing successfully in marketplaces both domestic and international. In order for managers to accomplish this objective, they need to make investments in the development of new technologies and transition to integrated information systems such as ERP. The nature of the connection that exists between HRIS use and the innovative capacity of HR professionals is the primary subject of the first component of our research. After that, an analysis of this association's moderating impact is carried out. Our findings suggest that the use of a wide variety of HRIS tools and features encourages the expansion of the creative capacity of HR staff. To begin, the human resources staff members who were questioned said that regular usage of HRIS apps had the potential to inspire their creativity.

Funding: This study received no specific financial support.
Institutional Review Board Statement: The Ethical Committee of the Symbiosis International University, India has granted approval for this study.
Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.
Data Availability Statement: The corresponding author can provide the supporting data of this study upon a reasonable request.
Competing Interests: The authors declare that they have no competing interests.
Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

REFERENCES

Aggarwal, N., & Kapoor, M. (2012). Human resource information systems (HRIS)-Its role and importance in business competitiveness. *Gian Jyoti E-Journal, 1*(2), 1-13.

Al-Dmour, R., Love, S., & Al-Zu'bi, Z. (2013). Factors influencing the adoption of HRIS applications: A literature review. *International Journal of Management & Business Studies, 3*(4), 9-26.

Alam, M. G. R., Masum, A. K. M., Beh, L.-S., & Hong, C. S. (2016). Critical factors influencing decision to adopt human resource information system (HRIS) in hospitals. *PLoS One, 11*(8), e0160366. https://doi.org/10.1371/journal.pone.0160366

Anitha, J., & Aruna, M. (2014). Adoption of human resource information system in organisations. *Journal of Contemporary Research in Management, 9*(4), 63-74.

Anitha, J., & Aruna, M. (2015). Transformation towards human resource information systems. *Journal of Management and Development Studies, 26*, 1-21. https://doi.org/10.3126/jmds.v26i0.24940

Badhurudheen, A. S. (2017). The impact of internal environmental factors on the level of adoption of human resource information system: The case of manufacturing companies in Western province of Sri Lanka. *Journal of Information Systems & Information Technology, 2*(2), 17-25.

Chapman, D. S., & Webster, J. (2013). The use of technologies in the recruiting, screening, and selection processes for job candidates. *International Journal of Selection and Assessment, 11*(2-3), 113-120.

Chauhan, A., Sharma, S. K., & Tyagi, T. (2011). Role of HRIS in improving modern HR operations. *Review of Management, 1*(2), 58-70.

Fatuma, M. M. (2014). *Perceived factors influencing the implementation of human resource information system at Kenya revenue authority*. Unpublished MBA Report, Master in Business Administration, School of Business, University of Nairobi.

Hani, R., Love, S., & Zu'bi, M. F. (2013). Factors influencing the adoption of HRIS applications: A literature review. *International Journal of Management & Business Studies, 3*(4), 15-16.

Igbaria, M., & Cavaye, A. (2012). Personal computing acceptance factors in small firms: A structural equation model. *MIS Quarterly, 21*(3), 279-305.

Kanake, & Onyiego. (2016). Challenges and strategies in the implementation of human resource information systems in Kenyan universities. *Journal of Research on Humanities and Social Sciences, 6*(18), 148-160.

Khan, A. R., Hasan, N., & Rubel, M. (2015). Factors affecting organizations adopting human resource information systems: A study in Bangladesh. *IOSR Journal of Business and Management, 17*(11), 45-54.

Khashman, I. M. A., & Khashman, A. M. (2016). The impact of human resource information system (HRIS) applications on organizational performance (efficiency and effectiveness) in Jordanian private hospitals. *Hospitals, 8*(3), 31-44. https://doi.org/10.5296/jmr.v8i3.9419

Kovach, K. A., Hughes, A. A., Fagan, P., & Maggitti, P. G. (2002). Administrative and strategic advantages of HRIS. *Employment Relations Today, 29*(2), 43-48. https://doi.org/10.1002/ert.10039

Laval, F., & Guilloux, V. (2010). HRIS impacts implementation in a SME: A contextualist longitudin-al case study. *Evidence-Based e-HRM? On the Way to Rigorous and Relevant Research, 570*, 410-425.

Lee, H., Lee, Y., & Kwon, D. (2015). The intention to use computerized reservation systems: The moderating effects of organizational support and supplier incentive. *Journal of Business Research, 58*(1), 1552-1561. https://doi.org/10.1016/j.jbusres.2004.07.008

Lee, J. (2014). Discriminant analysis of technology adoption behavior: A case of internet technologies in small businesses. *Journal of Computer Information Systems, 44*(4), 57-66.

Nagendra, A., & Deshpande, M. (2014). Human resource information systems (HRIS) in HR planning and development in mid to large sized organizations. *Procedia-Social and Behavioral Sciences, 133*, 61-67. https://doi.org/10.1016/j.sbspro.2014.04.169

Rahman, M. A., Islam, M., & Qi, X. (2017). Barriers in adopting human resource information system (HRIS): An empirical study on selected Bangladeshi garments factories. *International Business Research, 10*(6), 98. https://doi.org/10.5539/ibr.v10n6p98

Rahman, M. A., Qi, X., & Jinnah, M. S. (2016). Factors affecting the adoption of HRIS by the Bangladeshi banking and financial sector. *Cogent Business & Management, 3*(1), 1262107. https://doi.org/10.1080/23311975.2016.1262107

Taylor, & Francis. (2017). Electronic HRM four decades of research on adoption and consequences. *The International Journal of Human Resource Management, 28*(1), 98-131. https://doi.org/10.1080/09585192.2016.1245672