



IMPROVING HR DECISION-MAKING AT NTPC THROUGH INTEGRATED INFORMATION SYSTEMS

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ABSTRACT: The National Thermal Power Corporation's (NTPC) decision-making process for human resource allocation is going to be enhanced with the help of IT. This research examines the ways in which integrated HR information systems (HRIS) and other cutting-edge HR technologies can improve data accuracy, decision-making speed, and real-time visibility. With the use of Human Resource Information Systems (HRIS), data-driven decisions are made easier, which improves workforce planning, talent management, and employee engagement. The purpose of this research is to better understand how new technologies influence HR functions such as recruiting, training, and performance management in order to streamline operations and align HR strategies with company objectives. Incorporating integrated information systems into HR can boost decision quality, which in turn boosts NTPC's overall growth and productivity, according to the results.

Keywords: HR Decision-Making, Integrated Information Systems, HRIS (Human Resource Information Systems), Workforce Planning, Talent Management and Employee Engagement.

1. INTRODUCTION

Human resources (HR) professionals must continually make smart and helpful decisions to keep up with the ever-changing business landscape of today. Traditional HR decision-making processes, which rely on compiling data by hand from many sources, might not be able to meet the needs of modern workplaces in terms of speed and accuracy. This problem highlights the critical need to update HR processes by using modern information systems (IS). Recruiting and performance management are only two of the numerous HR tasks that can benefit from integrated information systems, which can also improve the decision-making capabilities of HR teams. To achieve this, they compile and analyze massive datasets.

Human resource professionals may improve operational efficiency with the help of integrated information systems, especially HRIS, by automating repetitive tasks, managing employee data effectively, and gaining real-time insights into workforce dynamics. Both the data used for decision-making and the work of human resources professionals are made easier by this. Teams responsible for human resources should not set aside time to manually enter data and retain records. Automating routine tasks frees them up to focus on strategic initiatives like building a strong company culture, increasing employee engagement, and helping exceptional people reach their full potential.

The capacity to combine several forms of data into a single structure is a key feature



of contemporary information systems. Attendance records, training materials, performance evaluations, and salary information can all be seamlessly integrated. Decisions around succession planning, career progression, and staffing needs can be better made with the help of integrated platforms that give a complete picture of the workforce. When HR managers compare training and development data with performance metrics, they can see where their employees are lacking in skills and make sure that each employee gets individualized attention.

The overall productivity will be enhanced by this. The HR division is able to foster a data-driven decision-making culture with the use of Integrated Information Systems. Instead than relying on gut feelings or incomplete facts, decisions will be based on reliable, up-to-date information. As a result, HR decisions are better made, and there is more accountability and openness, which makes it easier to assess decisions and adjust strategies. The importance of Integrated Information Systems in improving HR decision-making will grow as more and more companies undertake digital transformation efforts.

2. TYPES OF HRIS



Operational Hris: Human resource managers and HR experts have access to a

suite of functional HRIS systems that aid in talent management tasks such as hiring, promoting, and transferring employees. Improving the efficacy and efficiency of current systems is the primary goal of operational HRIS solutions.

Applicant tracking system (ATS): An applicant tracking system (ATS) keeps a close eye on all of a business's open jobs and makes adjustments to streamline processes so that they may be filled quickly. A candidate tracking system (ATS) distributes job ads across many job boards, finds qualified applicants by filtering their applications, and detects problems with the hiring process.

Performance management system: Accompanying with employee performance reviews, a performance management system keeps tabs on relevant data. It helps with a lot of different parts of people management, including contract termination, job transfers, promotions, retention, and position changes. When employees aren't putting out their best effort or might use some extra help, managers can use a performance management strategy to put in place the right interventions.

3. REVIEW OF LITERATURE

John P. Martin 2024 Human resource information systems (HRIS) are the focus of this research because of its ability to help businesses achieve their strategic goals. It shows how predictive analytics can be used to anticipate changes in the workforce. Human Resource Information Systems (HRIS) automate mundane tasks, which HR professionals can then use to make more strategic decisions, according to the report. Human Resource



Information Systems (HRIS) are the focus of this analysis, which looks at how they manage people with an eye toward succession and skill development. Human Resource Information Systems (HRIS) are the focus of this research because of their potential to improve goal setting and performance evaluation. The importance of real-time information in enabling quick decision-making is highlighted. Case studies show that several companies have effectively used HRIS for HRM strategy. In order to improve HRIS capabilities, the research concludes with potential strategies.

Priya K. Sharma 2024 In this research, we look at how important HRIS is for moving HR processes online. This article takes a look at how HR departments can free up their teams to focus on big-picture projects by automating mundane but necessary processes. Specifically, the research looks at how Human Resource Information Systems (HRIS) might be used to provide individualized platforms and services that improve workers' experiences on the job. The use of HRIS analytics tools to make decisions based on data is given a lot of weight. We take a look at how artificial intelligence (AI) could be used for predictive analytics in HRIS systems. There is empirical evidence that digital HR reforms have worked for a number of different companies. The topic of people avoiding technology due to worries about data protection is getting more and more attention. Various approaches can be taken to maximize the use of HRIS in digital planning.

Sarah Blake 2023 The function of HRIS in supporting training and development initiatives for employees is the focus of

this research. Online courses and personalized training suggestions are among the many things covered. It is emphasized how important it is to use Human Resource Information Systems (HRIS) to track employees' growth and education. Case studies show how companies use HRIS to make sure training goals are in line with the company's overall objectives. The relevance of the material and the ease of access to platforms are topics of continuing discussion. According to the research's findings, HRIS can help promote a growth mindset among employees. Ideas for incorporating HRIS into all-encompassing pedagogical approaches do exist. The article concludes by predicting how HRIS will change digital learning in the future.

Daniel Brooks 2023 The function of HRIS in the administration of hybrid and remote workforces is the primary focus of this research. Time management, performance tracking, and online orientation are some of the advantages. One way that HRISs help with teamwork is by giving users access to several channels of integrated communication, according to research. There are case studies that show how HRIS systems work well for managing remote workers. Concerns about data accessibility and network connectivity are a constant topic of discussion. Several strategies for keeping remote workers engaged and productive are considered in this research. The essay highlights the usefulness of HRIS systems on mobile devices and the relevance of real-time data. Improvements to HRIS for telecommuting workplaces are being considered.



Rajesh Patel 2023 The purpose of this research is to examine how talent analytics, a subset of artificial intelligence, can improve Human Resource Information Systems (HRIS). This article takes a look at the predictive modeling methods that are used for workforce planning and succession. Human Resource Information Systems (HRIS) that use artificial intelligence applications to evaluate candidates using data have greatly sped up the hiring process. Artificial intelligence (AI) has been shown to be useful in evaluating performance on the job and pinpointing problem areas. Problems with data bias and ethical quandaries are only two examples of the ongoing discussion surrounding the difficulties of integrating AI. Case studies illustrate how artificial intelligence (AI) integrated HRIS has the potential to revolutionize the way companies find and hire new employees. The problems and effects on budgets caused by technology use are the focus of this research. For proactive HR management, it is proposed that AI-integrated HRIS be improved in the future.

Linda Carver 2022 The purpose of this research is to analyze how HRIS can help organizations adapt to new circumstances. With the HRIS's real-time data availability, HR strategies may be quickly adjusted. According to the available data, the changing needs of the job market can be efficiently met by using scalable solutions. Through data integration, case studies show that HRIS helps departments work together. How HRIS can make remote and hybrid work arrangements easier is what the research is looking at. HRIS can track performance metrics in real-time. The difficulties of quickly

deploying solutions for Human Resource Information Systems (HRIS), especially in terms of customization and training, have come up for discussion. There are ways to make better use of HRIS that can make a company more responsive and competitive.

Ahmed Qureshi 2022 The research in this paper lists and analyzes the security problems that developed throughout the rollout of HRIS. Concerns including phishing, data breaches, and illegal access are handled. The importance of using encryption and secure authentication mechanisms to protect data is highlighted in the report. There is an examination of cloud security and HRIS-related vulnerabilities. We take a look at risk mitigation strategies, such as compliance checks and multi-factor authentication. Case studies show how businesses have used HRIS to solve security problems. Staff training is necessary to prevent security weaknesses, as shown in the research. In the end, suggestions are made to make sure that HRIS security solutions are strong.

Clara Mendez 2021 This research takes a look at how HRIS has changed and developed over the years. Initial Human Resource Information Systems (HRIS) focused on time and attendance tracking and compensation administration; this is relevant to the current subject. Many people are interested in the latest developments surrounding the combination of cloud computing with mobile devices. The most recent developments are reviewed, with an emphasis on the use of AI and ML tools. This article delves into the topic of human resource information systems (HRIS) and



how they help remote teams perform more efficiently. Both the difficulties of integration and the speed with which technology becomes obsolete are covered in the discussion. Companies who have successfully adopted next-gen HRIS systems are showcased in case studies. The research's conclusion looks ahead to how HRIS will change in the future.

Fiona Zhang 2021 The usage of HRIS by MNCs is the subject of this research. It discusses the difficulties of deploying HRIS in settings with a high degree of linguistic and cultural diversity. Several factors have been taken into account, such as fluency in several languages and adherence to local laws. Here we have a number of case studies that show how HRIS (Human Resource Information Systems) make it easier for workers all over the world to connect with one another. Multinational businesses (MNCs) rely heavily on consolidated data for decision-making, according to the report. Training and system integration are two examples of the kinds of execution issues that have suggestions for solutions. Multinational companies should tailor their HRIS systems, says the research. Multinational businesses (MNCs) should adopt Human Resource Information Systems (HRIS) effectively, according to certain suggestions.

James O'Connor 2021 Researching how well HRIS works for SMEs is the main goal of this academic project. User happiness, time savings, and money saved are some of the metrics used to measure the impact. The essay delves into the ways in which HRIS may simplify tasks like payroll administration, personnel management, and recruitment. Financial

management and the acquisition of suitable technology competence are two of the most often mentioned difficulties faced by small and medium-sized businesses (SMEs). Here are some real-life examples that show how HRIS may improve HR operations. The capacity for SMEs to adapt and enhance their HRIS is of utmost importance. To overcome the obstacles that may arise during implementation, suggestions have been made. The research finishes with some suggestions on how SMEs may make better use of HRIS (Human Resource Information Systems).

Maria Gonzalez 2021 Our research's overarching goal is to learn how HRIS makes it easier to follow all the rules and regulations that govern the global labor market. It goes to show how important HRIS technology are for keeping tabs on staff data in different nations. They go over features including automated notifications for legislative changes and trouble reporting procedures. Case studies show how HRIS may help multinational firms manage compliance issues. The research looks at different regulatory frameworks and how HRIS can adapt to them. The way HRIS handles taxation, work permits, and visas is the main point of the evaluation. Improvements to HRIS compatibility with international legal frameworks are being considered. Human resource information system (HRIS) discussions usually center on how to improve compliance management in the future.

David Chen 2021 In this article, we'll take a look at how HRIS hosted in the cloud work, highlighting the pros and cons of this type of system. Accessibility, flexibility, and cost-effectiveness have



been identified as the main benefits. Research shows that HRIS hosted on the cloud improve remote teams' ability to work together and get more done. We take a close look at the worries around data security and reliance on the internet. Many different types of businesses have found success using cloud-based HRIS, according to case studies. The importance of tailoring the system and choosing the right partners is explained in detail. Concerning both operational and technological matters, suggestions have been made. Cloud HRIS systems' potential moving forward is discussed in the research's conclusion.

Amara Singh 2020 The potential of HRIS to bolster inclusion and diversity programs is the focus of this research. Dashboards for diversity monitoring and bias-free recruiting algorithms are some of the technologies covered. Case studies show how HRIS may be useful for tracking workplace trends and equity goals. We take a look at how HRIS might be a part of diversity training and education programs. Methods for reducing algorithmic biases are also discussed. Leaders should make diversity optimization of HRIS a top priority. Methods exist for enhancing workplace diversity through the utilization of HRIS. Human Resource Information Systems (HRIS) have the potential to be better at managing diversity, according to the research's conclusion.

Sophie L. Johnson 2020 The effects of HRIS-related employee self-service portals are investigated in this research. In this piece, we'll look at how these platforms help workers keep track of their HR and personal duties. According to the research's findings, HR departments are

seeing a decrease in paperwork. Rapid access to training materials, time off requests, and pay stubs are all analyzed for their benefits. Results from real-world scenarios show that employees are happier and more productive after using the site. We talk about things like people's resistance to self-service options and problems with usability. A number of suggestions have been made to improve the portal's visual appeal and use. Future improvements to self-service platforms are discussed in the research's conclusion.

Michael D. Carter 2020 The purpose of this research is to learn how HRIS can help with strategic workforce planning. Methods for analyzing current and future skill needs and employment trends are the main points. It is noted that HRIS is crucial for planning for the next generation of workers and pinpointing areas of talent shortage. The usefulness of HRIS in dynamic companies has been proven in a number of case studies. Problems with making predictions and combining data are discussed in the research. There are suggestions for how to improve HRIS-based labor planning. It is stressed that HRIS systems ought to be in sync with business goals. At the research's end, it suggests how the Human Resource Information System (HRIS) should be improved to make workforce planning easier.

Elizabeth Wright 2020 By analyzing a number of case studies, this research gives a thorough look at the processes that are required to set up HRIS. Impressions and fresh ideas from various fields are showcased here. Problems with data transmission and opposition to change are common topics of conversation. There are



suggestions for how to get partners on board and how to carry out training effectively. The importance of strong leadership cannot be overstated when it comes to the widespread implementation of HRIS. To measure how well the HRIS system works, important metrics have been set up. There are suggestions for dealing with common problems. The research concludes by outlining the best practices for future implementations.

Angela Romero 2020 The purpose of this research is to determine how HRIS can improve workers' health and wellness. It stresses a number of duties, such as overseeing health monitoring, providing access to mental health providers, and managing benefits. Through its flexible scheduling features, HRIS being investigated for its potential to promote work-life balance. Here are some real-life instances of how HRIS has helped companies reduce staff turnover and boost morale. The use of digital technologies by employees and the consequences for data security are common topics of discussion. There are suggestions for how HRIS systems can be used to incorporate wellness programs. Human Resource Information Systems (HRIS) are crucial in creating a positive workplace, according to the research. Findings from the research suggest that Human Resource Information Systems (HRIS) have the potential to boost morale and productivity in the workplace.

Kevin Thompson 2020 The potential benefits of HRIS on performance management approaches are explored in this research. Setting goals, monitoring progress, and providing feedback in real-time are just a few of the aspects that have

been investigated. This research looks at how well HRISs (Human Resource Information Systems) grade and assess employee performance. Human Resource Information Systems (HRIS) have been shown in several case studies to increase engagement and productivity in the workplace. The implementation of a methodology and its subsequent adjustments are included in the debate. It is stressed that performance management strategies must be in sync with company objectives. In order to better manage success, there are suggestions to upgrade HRIS. Possible future advances involving performance-oriented HRIS are discussed in the paper's conclusion.

4. FUNCTIONS OF HUMAN RESOURCE INFORMATION SYSTEMS

Applicant Tracking System (ATS): All of the open positions in the company are filled through this program. It keeps a close eye on resumes and candidate data on a regular basis, enables the matching of open positions with qualified applicants, and manages the hiring process overall.

Payroll: The payment of workers is organized through payroll. Time and attendance is another common use case for this technology, along with data entry for contracts and new hires. Afterwards, requests for payments are sent in at the end of every month.

Benefits administration: Perks are also handled by the HRIS. Employee perks are a substantial part of pay, and this method takes them into account as well. Workers can now take charge of their own benefits administration thanks to technological advancements. Here, the workers get to



decide on the incentives to choose. Some people may want more time off to spend with their families, while others may want a fancier work car. A "cafeteria concept" is a way of handling benefits administration in which people get to pick and choose what they get.

HRIS Functions



Time & Attendance: The purpose of this module is to collect information on employees' working hours and attendance. People who have set clock-in and clock-out times for their shifts should give this issue more attention. In the past, workers usually used paper to log their hours worked. A time tracking system would then be entered by hand by the management. Every employee received a payment order in their inbox. Modern businesses occasionally use biometric fingerprint identification or a card connected to an HRIS to track who is present and when. This details when each person arrived and when they left. Immediate attention is given to problems caused by delay.

Training: One important part of human resource management is the focus on training and education. The Human Resources department can keep tabs on staff members' skills, qualifications, and credentials with the help of this module, which also gives them access to a full

catalog of courses. When used alone, this feature is sometimes referred to as a "learning management system," or LMS. This platform usually allows employees to access e-learning and different courses.

Performance management: One of the most important parts of managing people is performance management. Coworkers or direct supervisors will assess an employee's performance once a year, or more often if necessary. Get ready for the next generation. Building a talent pipeline is a crucial part of an HRIS since it guarantees that the company always has qualified people to fill important roles.

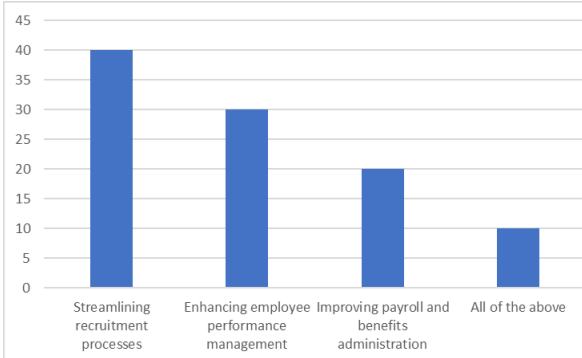
Employee self-service: We have previously covered the idea of employees self-service. Delegating data management tasks to employees and their direct supervisors is becoming more important to employers. Workers have the autonomy to request things like vacation time on their own. The system that keeps tabs on payroll and benefits immediately incorporates these entries once they are approved.

Reporting & Analytics: Reporting and analytics are a far less prevalent part of human resource information systems. Automated human resources reports covering topics like employee performance, absenteeism, and attrition rates are made possible by modern technology. Analyzing this data to help people make better decisions is called analytics. In what follows, we will go deeper into this subject.

5. RESULTS AND DISCUSSION

1. Why is NTPC deploying an HRIS?

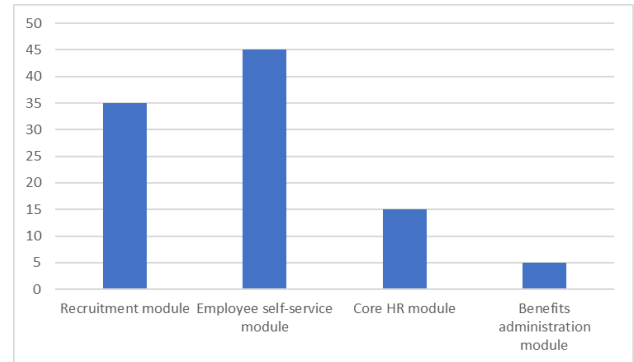
S.NO	PARTICULARS	RESPONDENTS	PERCENTAGE
1	Streamlining recruitment processes	40	40%
2	Enhancing employee performance management	30	30%
3	Improving payroll and benefits administration	20	20%
4	All of the above	10	10%
Total		100	100%



INTERPRETATION: Reducing the complexity of the hiring process was the top priority for 40% of people who took the survey. Improvements in workplace human management followed, with 30% of the total votes. Twenty percent would rather see payroll and benefits management improved, while 10% picked all of the choices.

2. Which HRIS module handles employee contact and emergency contact information?

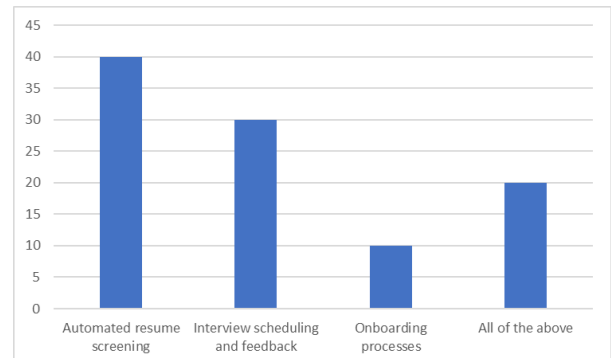
S.NO	PARTICULARS	RESPONDENTS	PERCENTAGE
1	Recruitment module	35	35%
2	Employee self-service module	45	45%
3	Core HR module	15	15%
4	Benefits administration module	5	5%
Total		100	100%



INTERPRETATION: The employee self-service module was chosen by 45% of the participants as their favorite. Third place went to the advertising module, which received 35% of the total vote. The main Human Resources module received 15% of the responses, while the benefits administration module received 5%.

3. How does the NTPC HRIS assist talent acquisition?

S.NO	PARTICULARS	RESPONDENTS	PERCENTAGE
1	Automated resume screening	40	40%
2	Interview scheduling and feedback	30	30%
3	Onboarding processes	10	10%
4	All of the above	20	20%
Total		100	100%



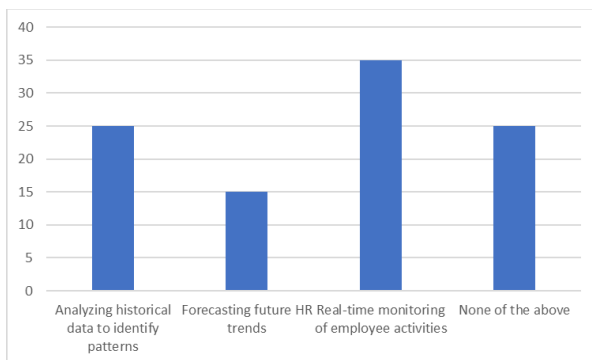
INTERPRETATION: Of those who took the survey, 40% wanted resumes automatically screened, while 30% wanted interviews scheduled and feedback given. Twenty percent went with every option



listed above, whereas 10% chose the induction methods.

4. What is "predictive analytics" in HR analytics?

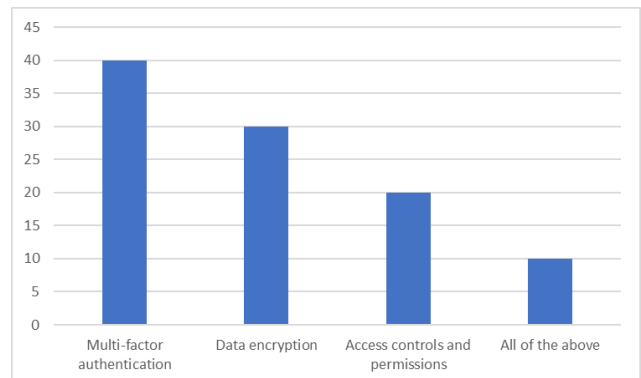
S.NO	PARTICULARS	RESPONDENTS	PERCENTAGE
1	Analyzing historical data to identify patterns	25	25%
2	Forecasting future HR trends	15	15%
3	Real-time monitoring of employee activities	35	35%
4	None of the above	25	25%
Total		100	100%



INTERPRETATION: Thirty-five percent of people who took the survey favored real-time staff activity monitoring, while twenty-five percent said they preferred looking at trends in past data. Only 15% of people who took the survey wanted to know what HR will look like in the future, while 25% wanted to know nothing at all.

5. What security measures are used to protect HRIS sensitive HR data?

S.NO	PARTICULARS	RESPONDENTS	PERCENTAGE
1	Multi-factor authentication	40	40%
2	Data encryption	30	30%
3	Access controls and permissions	20	20%
4	All of the above	10	10%
Total		100	100%



INTERPRETATION: Forty percent of people who took the survey put data security first, while thirty percent put multi-factor authentication first. Twenty percent went with permissions and access limits, while ten percent went with every other option.

6. CONCLUSION

Ultimately, NTPC's HR decision-making process stands to benefit greatly from the incorporation of state-of-the-art information tools, which would also boost the efficacy and efficiency of HR operations. By consolidating data and providing real-time insights, the Human Resource Information System (HRIS) helps businesses make faster, better decisions on hiring, training, performance evaluation, and employee engagement. To make sure that HR activities have a direct impact on business success, it is vital to align company objectives with HR



strategy, as shown in the research. In order to make NTPC's HR strategy more data-driven and adaptable, it is crucial to set up integrated information systems as the company adopts new technology. Both the company's performance and the happiness of its employees will be improved by this.

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