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A Study on Use of Technology in Human Resource Management Activities in Companies

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Abstract

Human Resource Management is about planning, organizing, directing, controlling, maintaining and integrating the human resource with the organization. This study aims to explore the rewards and challenges with the integration of technology in Human Resource Management activities. The objective of study is to investigate the advantages and challenges of technology utilization in HRM activities. It aims to assess how technology enhances HR processes, like talent acquisition, employee development, and workforce management. This research is conducted through secondary data of various organizations employing technology through qualitative studies, such as interviews and focus groups and supplemented with quantitative research on various HR activities focusing the title of the topic. Quantitative data is analyzed using statistical methods, while qualitative data will be thematically analyzed. The anticipated outcome of this research is to provide an understanding of the impact of technology on HRM activities. It offers insights into the effective integration of technology to optimize HR processes and HR analytical tools to mitigate challenges, and maximize rewards.

Keywords; Human Resource Processes, Human Resource Practices, Technology, HR analytical tools, challenges, rewards.

INTRODUCTION

Human resource management, or HRM, is all about making the most of a company's employees. Various strategic activities like Recruitment, selection, training and Development, on boarding etc are under its purview. There are three main types of electronic human resource management: operational, relational, and transformational. Managing administrative tasks, including processing paperwork and ensuring compliance with rules and procedures, is the operational portion of the HR department. This will provide them a competitive advantage. As a result of the rapid development of new technologies, businesses are placing a premium on efficient data management and interchange over virtual networks. Organisational growth can only be successful if people, processes, and machines are all working together in harmony to maximise value and decrease costs. Thanks to technological advancements and the utilisation of data supplied by employees, the Human Resources (HR) industry has recently seen substantial growth. In this context, artificial intelligence is one of the technologies in issue. Learning, reasoning, perceiving, critical thinking, and other aspects of human cognition are the focus of artificial intelligence. Advanced solutions to employee issues linked to human resources (HR) may be provided by seamlessly integrating artificial intelligence (AI) technology into HR procedures. Advancements in HRIS have laid the groundwork for AI applications.

Research Aim

To investigate the impacts of technology adoption on human resource management practices, aiming to understand the rewards and challenges associated with its implementation, and to provide insights for optimizing the use of technology to enhance HRM effectiveness and organizational performance.

Research Objective

This study seeks to delve deeper into the rewards and challenges of technology use in HRM activities, with the following objectives:

- Assessing the specific impacts of technology adoption on various HRM functions.
- Identifying best practices for leveraging technology to enhance HRM effectiveness.
- Proposing recommendations for addressing challenges and optimizing the use of technology in HRM practices

LITERATURE REVIEW

The beneficial effects of AI on human resources have been recently shown in research. An assortment of researchers, including Jia, Guo, Li, and Chen; Garima, Vikram, and Vinay; George and Thomas; and Vivek and Yawalka, investigated the benefits of incorporating AI into many domains of human resource management (HRM). Relationship building, personnel selection, salary management, training and development facilitation, performance evaluation, and strategic planning for human resource requirements are all part of human resource management. The real-world uses of AI by businesses, HR departments, and individual employees were covered by Garima, Vikram, and Vinay. They came to the conclusion that AI can handle mundane HR duties with little to no human involvement. But the idea of AI supplanting humans entirely was something that George and Thomas were opposed to. Furthermore, Vivek and Yawalka have shown the several ways AI may aid in reducing workloads and increasing workplace productivity. In order to put together their research papers, George, Thomas, Guo, Li, and Chen all relied on secondary sources of information. Furthermore, George and Thomas interviewed corporate HR employees using standardised questionnaires to compile their data. The hypothesis was examined by Garima, Vikram, and Vinay using the Multiple Regression approach. With the use of location-specific primary data, the research polled 115 HR experts. These papers acknowledge the increasing importance of AI in HR, but they fail to address the unique difficulties encountered by HR departments when integrating AI into their daily operations. The majority of companies aren't ready to incorporate AI into their HR processes, according to Jia, Guo, Li, and Chen. Qualified individuals to monitor AI technologies might be hard to come by, according to Vivek and Yawalka. Additionally, they brought up the fact that HR departments are seeing their

decision-making powers curtailed by the increasing use of technology in the field

Recruitment and Selection:

In order to boost the likelihood of the candidate accepting the job offer, it is essential to provide a favourable application experience. Amidst rising job needs, artificial intelligence (AI) may make the hiring process more efficient. It prioritises big data analytics to find patterns, which may help automate repetitive tasks. Chatbots and other forms of AI implemented into company websites increase conversion rates via improved visitor engagement. When interacting with the chatbots, potential employees feel comfortable enough to submit their CVs and any other relevant information. In addition to answering applicants' most basic queries, chatbots may inquire as to the job they are seeking. The use of chatbots in recruiting may significantly simplify the process by automating a number of activities, such as gathering application details, screening applicants, setting up interviews, and answering basic questions. This reduces the need for physical effort while also streamlining operations. Machine learning algorithms are great at sifting through mountains of data in search of previously unseen patterns. Machine learning-trained algorithms evaluate a candidate's strengths, weaknesses, education, and interests in relation to the organization's needs before employing them. By efficiently weeding out applicants without the necessary qualifications, this technology provides a more streamlined application process. This method removes prejudice from the hiring process by evaluating candidates independently according to their credentials. In order to choose the best candidate, AI can also do background checks, including looking through their social media profiles. If this is put into place, the recruiter's efficiency will skyrocket, the hiring process will be completely objective, and the best applicant will be chosen. A recent survey found that after applying for a job, candidates now expect a quick response from the employer within 10 minutes. Applicants' questions are promptly addressed and their progress is kept updated via AI-powered software such as Chabot, Applicant Tracking System (ATS), and Customer Relationship Management (CRM). AI in HRM significantly reduces the influence of biases like favouritism and nepotism in the hiring process. Recruiters may take a number of characteristics into account, such as the candidate's gender, race, language proficiency, and ethnicity. In order to reduce prejudice, algorithm evaluation platforms are upgraded with AI and automation.

Onboarding

A well-organized and simplified process, onboarding helps new employees adjust to the company's norms and practices without a hitch. When it comes to HRM, the onboarding process is crucial. Employees' impressions of the organization, are all positively affected by a well-executed onboarding process. The onboarding process has the potential to be transformed into a self-service system via the use of artificial intelligence (AI), which can automate and streamline it. Along with speed on tedious and time-consuming duties, it also facilitates better communication and collaboration between employees and management. Using chatbots powered by AI helps to organize data, expedite data collection, provide recruits the information they need, gather important documents from recruits, and offer online coaching as required. Integration process is accelerated and feedback be collected.

Training and Development

Training and Development opportunities help achieve company and individual goal. It is essential that workers keep abreast of developments and trends in their respective fields. Artificial intelligence (AI) has finally arrived, allowing HR departments to assess and educate staff with ease. AI has made it feasible to pinpoint workers' skill gaps and design individualized training plans to fill them up. Using their own interests and skill sets, newly recruited workers might have personalized learning courses designed with the use of artificial intelligence (AI). Using AI technologies and putting them to good use may significantly enhance employee learning, which in turn can accelerate professional and personal development and, in the end, increase productivity. Training courses driven by AI make sure all workers have the data they need when they need it. Learning and development may be made easier with the use of AI-powered systems that can automate the creation of educational films. Reshooting or casting fresh voice actors is unnecessary for future uses of the training films when translated into other languages. Because videos are so much more successful than text at transmitting information, learners often choose them over text when trying to learn new things. Artificial intelligence has the ability to quickly transform a boring academic paper or set of instructions into an interesting movie.

Performance Management

Every business must have a solid system in place for managing employee performance. The effect that workers have on their jobs may be tracked with the use of a well-planned performance management system. Performance

management in its conventional form entails a long list of steps, including goal-setting, self-evaluation, supervisor evaluation, discussion, and agreement-making. AI may be useful for goal tracking and feedback provision by keeping track of both completed and unfinished activities. The assessment model may be included into the system to collect and analyze data on employees' job performance, allowing for effective performance management.

Employee Engagement

The goal of employee engagement, sometimes called labor relations, is to create a welcoming and equitable workplace for all employees. Accurately assessing demands and comprehending worker dynamics might be difficult for certain businesses. Human resource managers are tasked with handling and resolving a wide range of workplace concerns, including but not limited to: bullying, sexual harassment, arguments about annual leave, and other employee relations difficulties that may have a negative impact on your organization. Because good communication is key to encouraging employee engagement, chatbot automation may be useful here. Companies may now anticipate employee engagement levels with the use of AI-driven prediction methods. To assess employee engagement, AI analytics models may be used to sift through many forms of text, including emails, chatbot messages, memos, and media comments, to extract useful data. Analyzing large datasets and drawing useful conclusions from them is necessary for predicting the present and future levels of employee engagement. With the use of natural language processing (NLP) tools, data collected can be transformed into an analytically usable format. Subject and sentiment analysis are both within the capabilities of this technology

Compensation Management

Careful evaluation, administration, and appraisal of employee benefits and perks comprise employee pay. When it comes to keeping employees around, compensation and benefits are major factors. As a management consultant, HRM must ensure that compensation plans and benefits are tailored to each company's unique requirements. In order to recruit and keep top talent, firms must make paying their employees a top priority. Both individual and team output may be substantially improved with a well-designed compensation management system. Neural networks, a kind of artificial intelligence, is helpful in making pay evaluations more equitable. Using big data, this technology may build a sophisticated backend for setting up a just compensation evaluation mechanism.

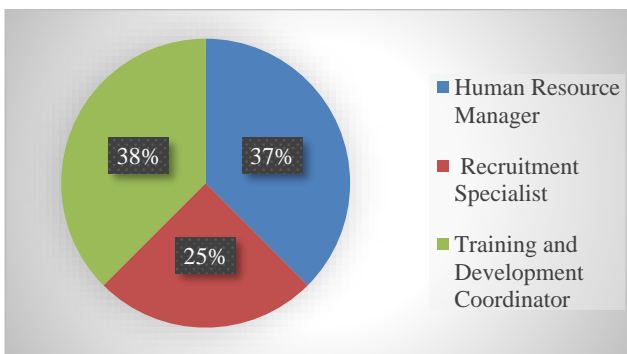
Employee Retention

When it comes to predicting employee turnover rates, AI and ML technologies may be invaluable tools for HR executives. In addition to preventing employees from leaving, these solutions may help you spot those who are thinking about going and devise plans to keep them around. Looking at historical data allows us to identify and comprehend patterns in the data. All potential elements that affect employee retention are taken into account in this prediction. A happy and motivated work environment may be created with the use of artificial intelligence (AI) by monitoring employee happiness, gathering feedback, and quickly resolving any issues. A significant drop in staff turnover may be achieved via the use of AI chatbots for onboarding, rapid response to employee feedback, skill development assistance, and competitive compensation using AI-enabled solutions.

Analysis

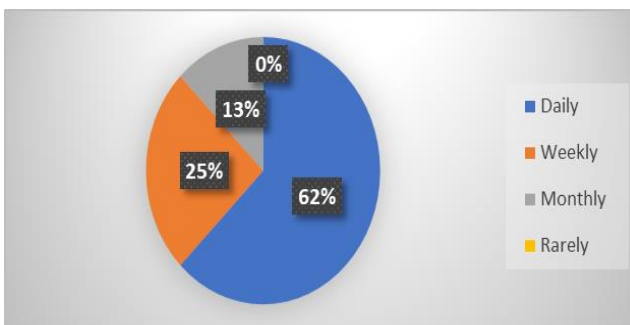
A total sample size of 40 has been taken from 3 different companies in three different places into consideration for this research work comprising of HR Managers, Recruitment specialist and Training and Development co-ordinator from different companies.

Figure 1 what is your current role in organization?



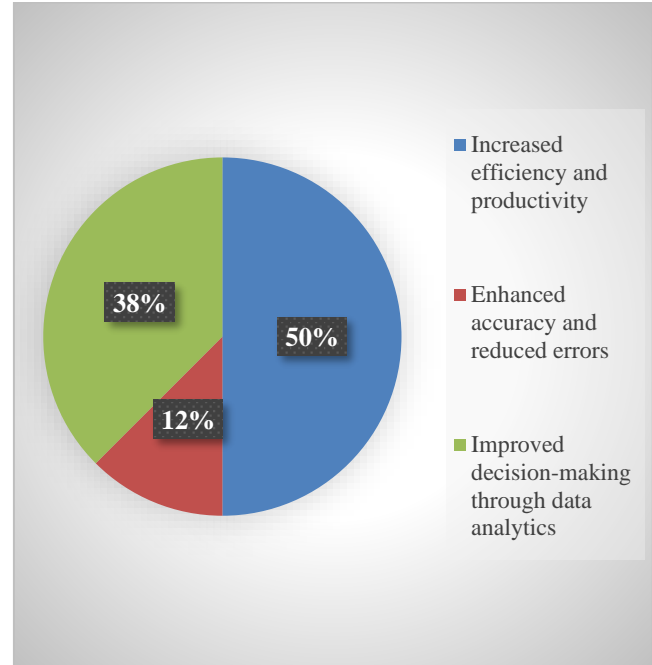
Source: From questionnaire; survey 2024

Figure 2 how frequently do you utilize technology in your HR activities?



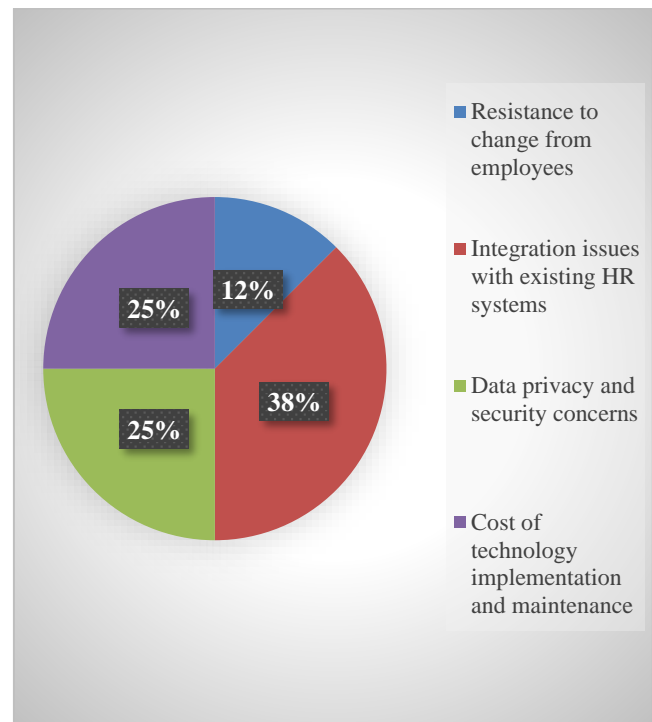
Source: From questionnaire; survey 2024.

Figure 3 in your opinion, what is the most significant reward of using technology in HR management activities?



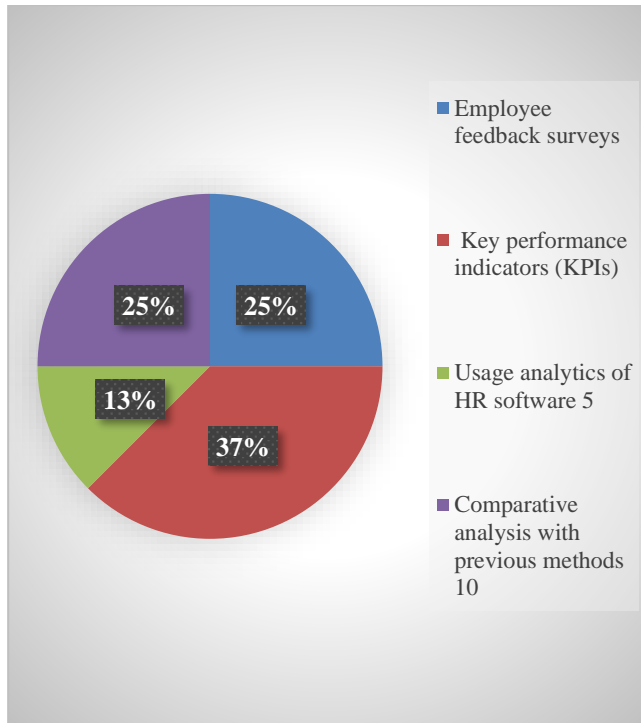
Source: From questionnaire; survey 2024.

Figure 4 what challenges have you encountered in implementing technology for HR purposes?



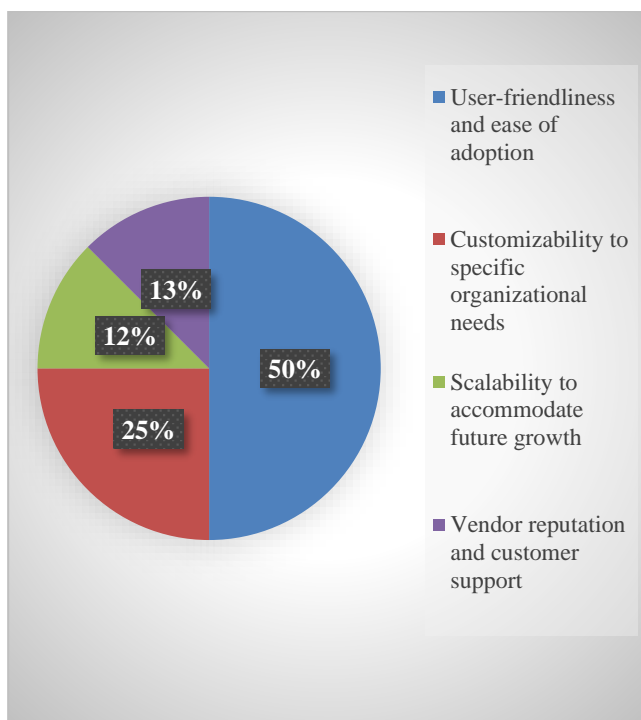
Source: From questionnaire; survey 2024.

Figure 5 how do you measure the effectiveness of technology in HR management activities?



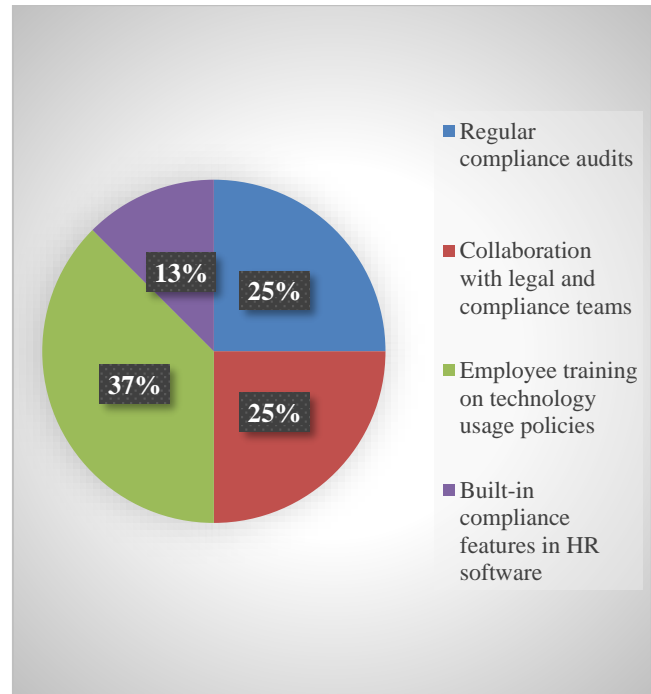
Source: From questionnaire; survey 2024.

Figure 6 what are the key considerations when selecting technology solutions for HR management?



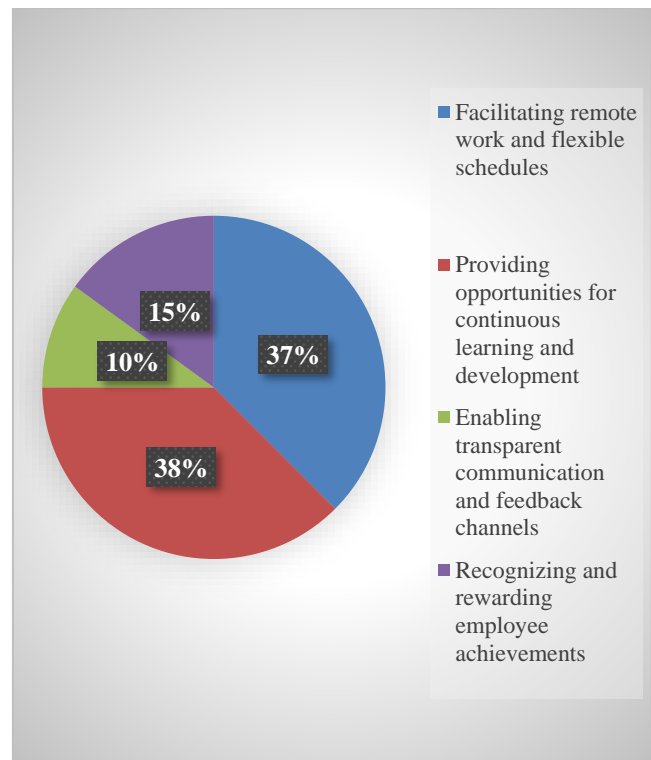
Source: From questionnaire; survey 2024.

Figure 7 how do you ensure that technology aligns with HR policies and regulations?



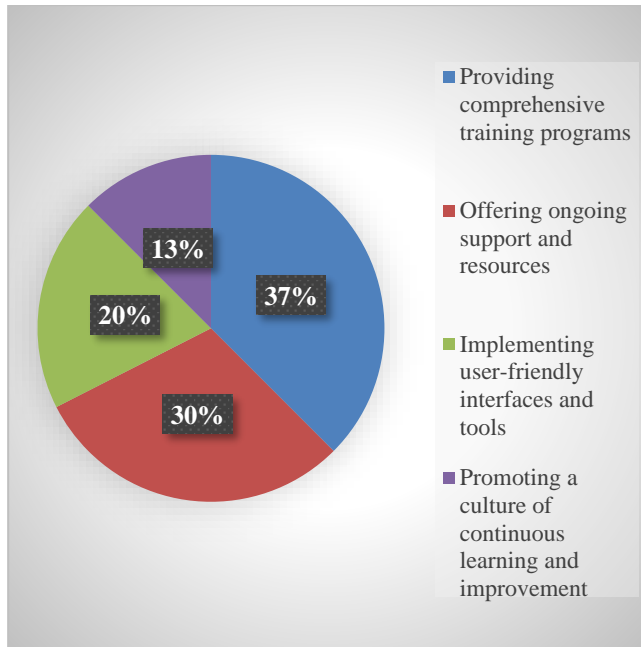
Source: From questionnaire; survey 2024.

Figure 8 in what ways does technology contribute to employee engagement and retention?



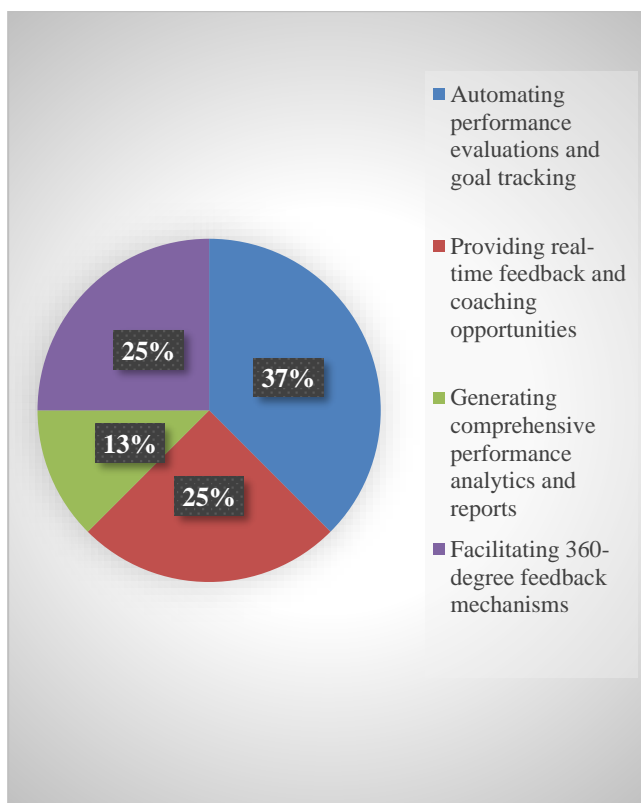
Source: From questionnaire; survey 2024.

Figure 9 how do you address the digital divide among employees regarding technology proficiency?



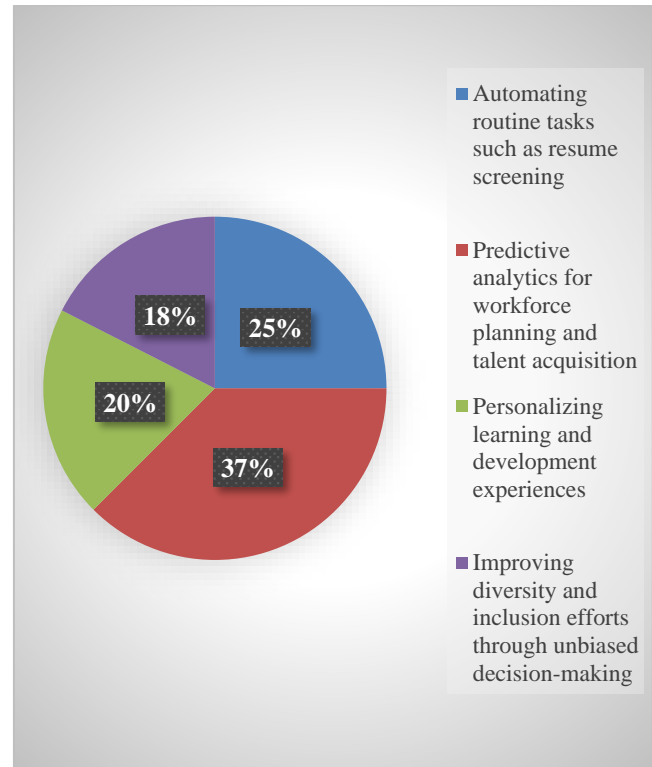
Source: From questionnaire; survey 2024.

Figure 10 how does technology assist in performance management and feedback processes?



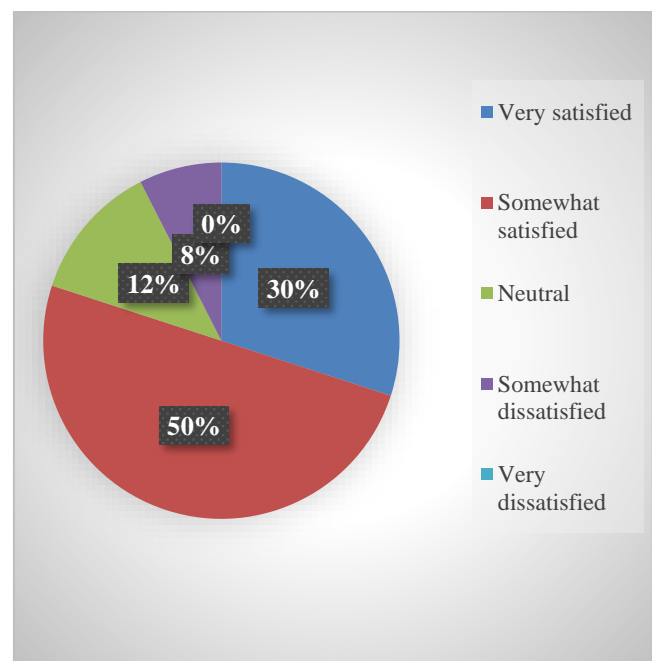
Source: From questionnaire; survey 2024.

Figure 11 what role does artificial intelligence (AI) play in HR management activities in your organization?



Source: From questionnaire; survey 2024.

Figure 12 Overall, how satisfied are you with the impact of technology on HR management activities in your organization?



Source: From questionnaire; survey 2024.

Research Outcome

From the above analysis, we can infer that the quantity of HR data has a direct correlation to the time required to analyze it. The ability of AI software to recognize and analyze data patterns and to manage critical jobs involving massive volumes of data has come a long way. Human resource specialists are no longer able to keep up with the speed and accuracy of computerized mistake and anomaly detection. A more considerable profit margin is achieved by drastically reducing the time needed via process simplification. Profit maximization is everyone's business, which is why successful firms are embracing AI and finding ways to integrate humans and robots. A further benefit of AI is that it frees up HR staff to concentrate on higher-level, more involved jobs. To achieve this goal, one must prioritize strategic objectives, provide a climate where employees feel supported in their professional development, and cultivate strong connections with customers. Online learning tools are used for continuous training, but many firms struggle with organization, so workers may not be able to use them to their full potential. Program arrangement and presentation may be enhanced with the use of AI algorithms, resulting in a more effective and efficient learning experience. Artificial intelligence (AI) has the ability to drastically cut costs in a number of organizational operations, including training and hiring. Its analytical and forecasting skills allow it to provide effective solutions that are both relevant and efficient, allowing users to better face future problems.

Challenges

The cost of technology and the cost of implementation will be high. Along with the software licenses cost and the regular hardware update that it will ask for, the training of all the employees to use it efficiently will be a big challenge. It can also be met with resistance to change and adoption. The privacy and security of data of all stakeholders will be a challenge. Since a software and hence the output is only as good as its data, therefore maintaining data accuracy and its quality through access control, backups, restricted access, regular audits to identify and correct errors have to be carefully planned.

Suggestions

1. The progress should be tracked throughout time via the use of qualitative studies, such as interviews and focus groups, and be supplemented with quantitative research.
2. Studying patterns and changes in the technology should be carried out to monitor workplace and psychological resistance.

3. The study of cultural elements that have an impact on the acceptance and efficacy of technology when it comes to varied demographics should be done.

CONCLUSION

HRM has been through a sea change due to technological advancements, which have brought forth several advantages and disadvantages, including increased efficiency and decreased costs. The expenses of delivering services like recruiting, training, development, manpower planning, and similar ones to workers may be reduced and quality be improved using technology.

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