



## IMPACT OF ARTIFICIAL INTELLIGENCE ON HUMAN RESOURCE DIGITALIZATION

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**Abstract:** AI is revolutionizing in HR digitalization by enhancing efficiency, accuracy, and strategic decision-making, ultimately contributing to more effective and innovative HR practices. The groundbreaking invention that is artificial intelligence (AI) technology has allowed many different sectors to survive the present market storm. There has been a substantial improvement in Human Resource Management (HRM) when AI was included. Human resource management solutions powered by artificial intelligence have demonstrated time and time again to be beneficial to businesses. The typical HRM problems still weren't shown, however, and how they impact the productivity of your business and its workers. As a result, the purpose of this research is to objectively investigate how AI has affected HRM. The study's demographic was selected from among people working in various sectors in the city of Hyderabad, which is located in the Indian state of Telangana. They were then given a survey to fill out. Conducting a one-way analysis of variance and a correlation test in the SPSS software program served to verify the findings. The research found that without AI, managing attendance and wages might cause delays and inaccuracies. The study also found that platforms driven by AI have made it easier for employees to organize programs that help them maintain a healthy work-life balance. The findings indicate that the majority of businesses are either thinking about or have already developed an HR system using AI-based technologies. This study's results add to the increasing amount of data suggesting that HRM processes powered by AI might be beneficial for businesses outside of the IT sector. Thus, the administrative and recruiting procedures are simplified by the AI-powered HRMS's ability to effectively handle salary and performance evaluations.

**Key words :** Artificial Intelligence, HR Digitalization, Recruitment Automation, Candidate Screening, Performance Management, Employee Engagement

### Introduction

Traditionally characterized by manual processes and administrative burdens, HR functions are now increasingly augmented by AI technologies, which streamline operations and provide actionable insights. AI's influence on HR digitalization manifests in several key areas, including recruitment, performance management, and administrative tasks. Advanced algorithms and machine learning models

facilitate the automation of candidate screening, enabling HR professionals to identify and engage top talent with unprecedented precision. In performance management, AI-driven analytics offer real-time feedback and personalized development plans, fostering a more responsive and dynamic approach to employee growth. Additionally, AI systems automate routine administrative

functions, reducing operational costs and minimizing human error. Despite its numerous advantages, the integration of AI in HR also presents challenges, such as

concerns over data privacy, algorithmic bias, and the ethical implications of automated decision-making.

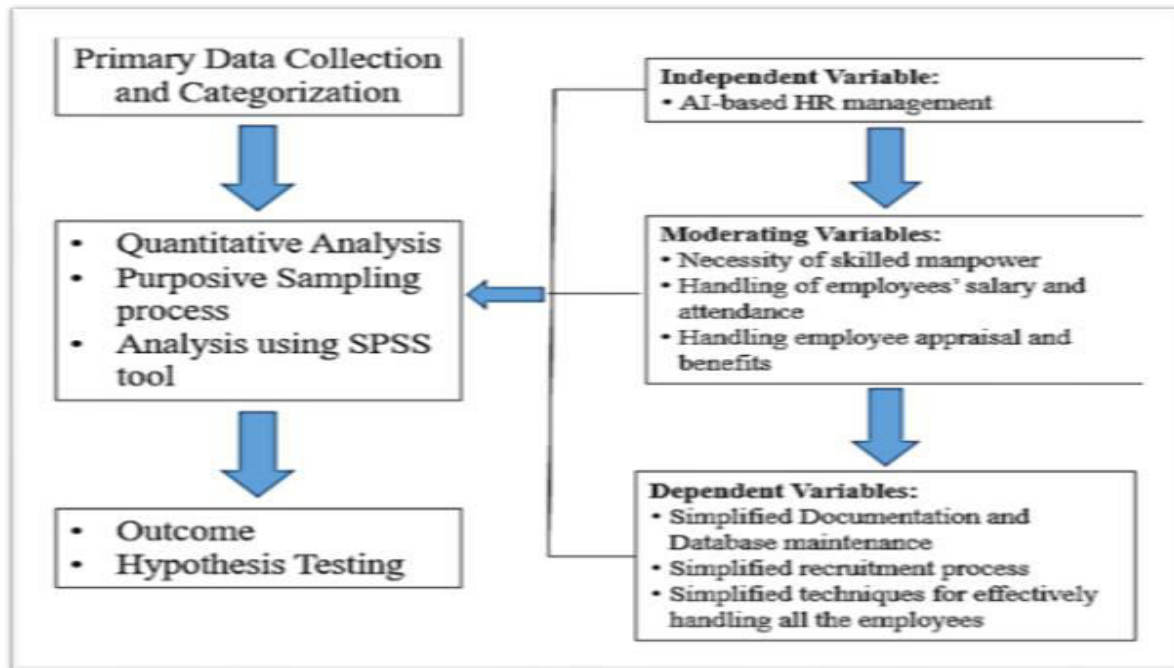


Figure 1. Research Design

### Review of Literature

This review synthesizes key findings on how AI is transforming HR digitalization, focusing on various domains employee engagement, besides administrative processes. One of the most extensively studied areas is AI's impact on recruitment. Research by Binns (2021) highlights how AI-powered tools enhance the efficiency of candidate screening. These technologies not only expedite the hiring process but also reduce human biases, leading to more objective and diverse candidate selections (Smith & Johnson, 2022). The realm of performance management, AI is transforming traditional evaluation methods. According to Lee and Park (2022), AI-driven analytics offer real-time performance tracking and provide actionable insights for employee

development. These tools enable more personalized feedback and development plans, facilitating a more adaptive approach to managing employee performance. However, ethical considerations regarding the transparency of AI decision-making processes and the potential for privacy invasions have been raised (Chen, 2023). AI's role in enhancing employee engagement and experience is also well-documented. Research by Martin et al. (2023) indicates that AI-based technologies contribute to a more engaging and responsive work environment. Nonetheless, there are concerns about the adequacy of AI in understanding the nuanced aspects of human emotions and interactions (Taylor & Brown, 2024). The automation of

administrative tasks through AI is another significant area of impact. Studies by Nguyen and Kim (2021) demonstrate that AI systems streamline routine HR functions such as payroll processing, benefits administration, and compliance monitoring. This automation reduces operational costs and minimizes human errors, leading to more efficient HR operations. However, the reliance on AI for administrative tasks raises issues related to data security and the potential

### Study of Objectives:

1. Evaluate AI's potential to improve recruiting processes by decreasing biases and increasing efficiency.
2. To investigate how artificial intelligence (AI) technologies like chatbots, virtual assistants, and sentiment analysis might boost employee engagement.

### Research and Methodology

The age group of the survey takers is shown in Figure 2. The data clearly shows that only a small percentage of responders are over the age of 55 (13%). The introduction of an HR management system based on artificial intelligence has had a greater effect on employees in their twenties and thirties. Approximately 28%

displacement of HR personnel (Garcia, 2022). Moral concerns, including data privacy and the potential for reinforcing existing biases, have been extensively discussed in the literature (Zhang, 2023). Overall, the literature reveals that AI significantly impacts HR digitalization by enhancing efficiency, accuracy, and strategic decision-making across various HR functions. While AI presents numerous benefits, it also introduces challenges that must be carefully managed.

3. Evaluate how these AI applications affect the effectiveness of communication, the degree of employee happiness, and overall engagement.
4. To Evaluate the benefits and challenges associated with automating these processes, including cost reduction and potential data security issues.

of the participants are under the age of 35, another 28% are in the 36–45 age bracket, and about 31% are in the 46–55 age range. Workers over the age of 55 prefer the conventional HR management procedures and techniques over the AI-based system since they are more used to them.

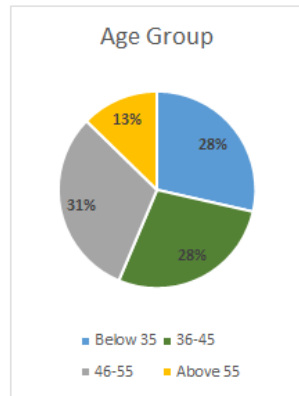


Figure 2. Age Group

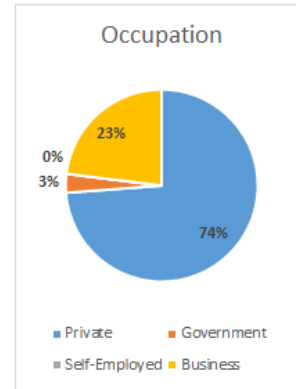


Figure 3. Occupation

Figure 3 is a graph showing the different respondents' occupations. No one who filled out the survey is self-employed; in fact, every single one of them works for an employer. Among those who filled out the survey, 74% work for private companies, 23% run their own enterprises, and 3% are employed by the government. Many private firms have mainly utilized and implemented the AI-based HR management solution. This is due to the fact that private firms often maintain operations with a minimal workforce while achieving maximum productivity. Consequently, these types of firms are able to perform more efficiently and accurately. and ensuring its continuous upkeep and revision is a formidable challenge.

Companies managed by respondents in their twenties and thirties have also used the HR management system that is based on artificial intelligence. Because of this, they are able to run their company more efficiently and with less hassle. The figure also shows that there aren't many government workers who have responded. This remains due to fact that majority of government agencies remain stuck in the past, using antiquated practices rather than taking use of modern technology. An tremendous amount of data spanning the last century is kept by the government. Moving such information to digital platforms

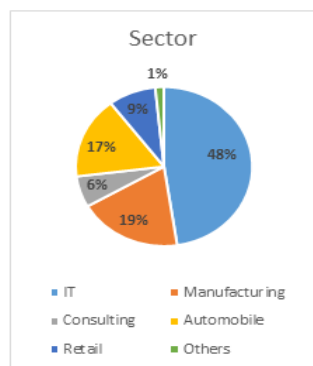


Figure 4. Sector

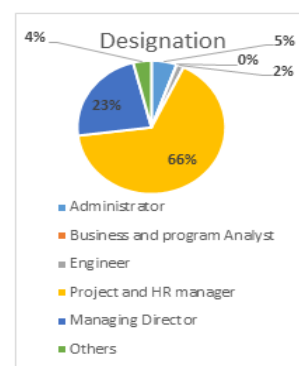


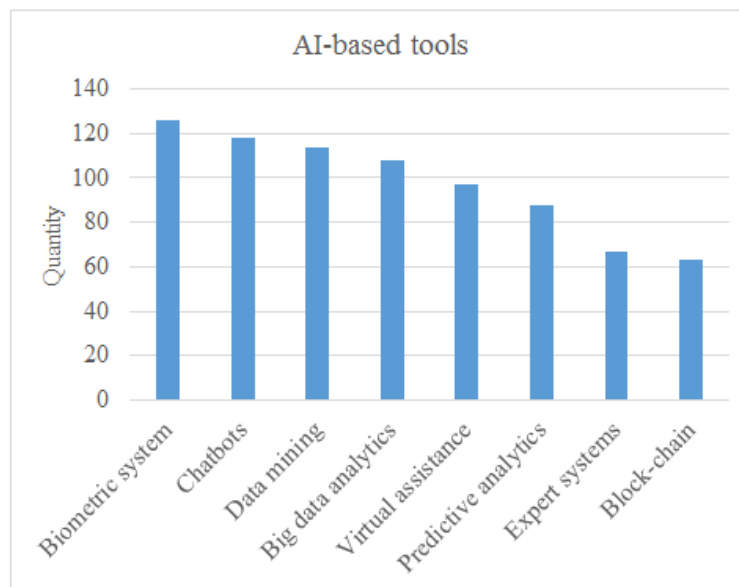
Figure 5. Designation

Different industry sectors were used to identify the respondents (Figure 4). Specifically, we wanted to know how

well-known AI-based HR management is outside of the IT sector. Although, 48% of those who took the survey worked in the

information technology field. Nineteen percent worked in manufacturing, six percent in consulting, seventeen percent in the automotive business, nine percent in retail, and one percent in some other kind of industry made up the rest of the respondents. This is because it was not feasible to manage all workers in the industrial and automotive sectors using simply AI systems due to the large number of people. Also, most workers don't use computers or laptops since their job requires them to operate machinery and tools. Human resources departments often find it more comfortable to manage workers using AI-based solutions, in contrast to the IT business where employees mostly use computers and laptops. Figure 5 is a chart that displays the replies depending on the participants' designations. While the majority of companies have dedicated HR

departments, a select number delegate authority over HR to other CEOs and department heads. That is why this research has extended its scope to include other divisions as well. Figure 5 shows that out of all the responses, 5% are administrators, 2% are engineers, 66% are project managers or HR managers, 23% are managing directors, and 4% have other titles. Furthermore, it should be mentioned that not a single responder holds the position of business and program analyst. Human resource management is a stressful and time-consuming undertaking in big companies. An AI-based HR management system would be more practical in these types of businesses where someone works in a separate area but is still responsible for HR management. An employee from a different domain may easily operate the AI since it combines automated procedures and requires less paperwork.



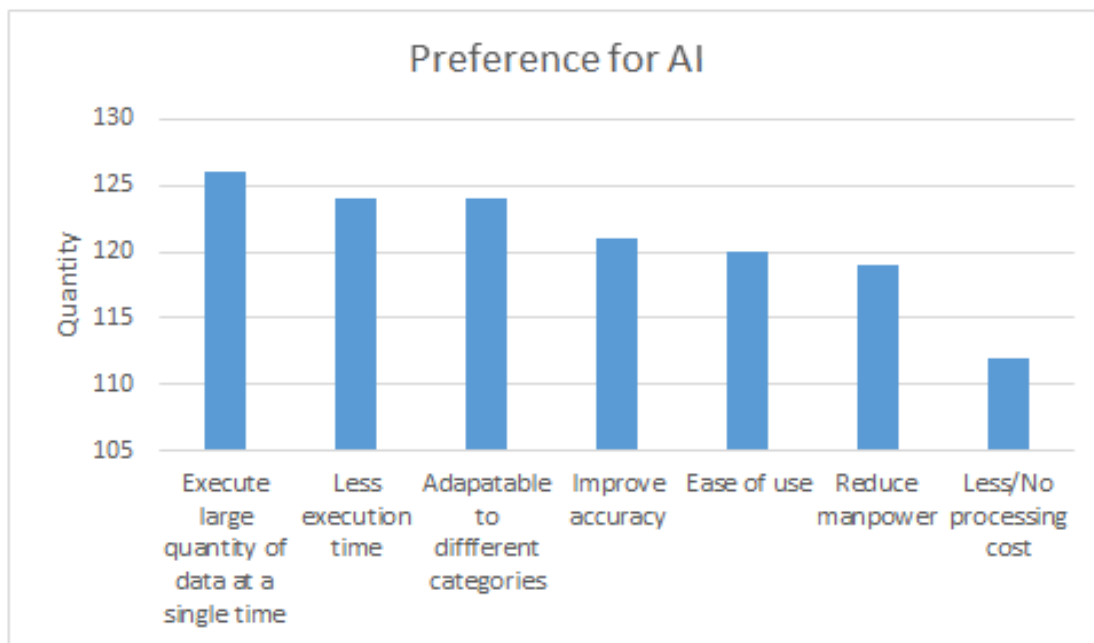
**Figure 6. AI-based Tools**

Every company is switching to AI-based solutions for various uses to streamline processes and increase precision. Despite AI's impressive capabilities, it still requires human oversight and support to ensure constant improvement and upgrades.

Consequently, the majority of companies have partly integrated AI-powered tools into their HR management processes. Figure 6 shows the various AI-based technologies used by the respondents' firms. Every single one of the responding

companies has already installed some kind of biometric or facial recognition technology to track employee attendance. A chatbot is an automated instruction that appears on a company's website and is designed to be easy to use. In addition to answering the user's key questions, chatbots help them learn the ropes of the company. These virtual assistants, which function similarly to chatbots, are there to help users whenever they visit the

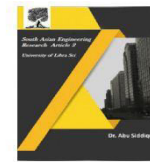
company's website. Human resource management also makes use of other AI techniques, such as expert systems, predictive analytics to aid with decisions, and blockchain technology. When it comes to most activities, most firms prefer to use man-machine integrated systems. This helps with labor efficiency, accuracy, and time management.



**Figure 7. Preference for AI**

For a number of reasons, AI-based technologies are the ones that businesses want to use. While AI has many positive applications, it may also be seen as a negative in some situations. Figure 7 shows the several reasons why someone might choose an HR management solution that uses AI. Among the many benefits of AI that have been taken into account for the purpose of prioritizing it are the following: reduced labor requirements, improved accuracy, increased data throughput per unit of time, tool adaptability to user needs, and low em.

processing and maintenance costs. Despite the many benefits that AI often provides, there is still a group of individuals that feel uneasy about using AI-based products. The research showed that most people over the age of 55 and a small percentage of those between the ages of 46 and 55 are used to the traditional HR management system that they have utilized for their whole careers. They had a hard time adapting to and getting access to the new AI-based technology, therefore they weren't really interested in th



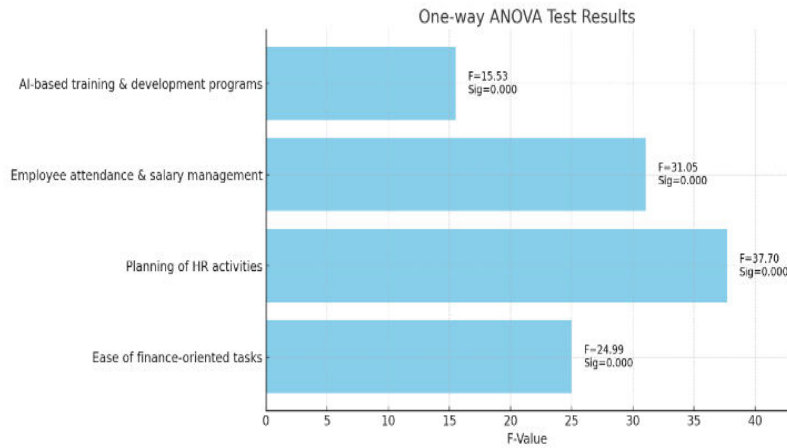
Analysis of variance

Scientists utilize a one-way ANOVA to look at the relationship between the two datasets. A significance level lower than 0.05 was determined to be within the test's nominal range, indicating that the hypothesis does not have a meaningful relationship to the aim. Table 1 summarizes the analysis that shows that the independent variable of AI-based HR management significantly influences the that the study variables were significantly related to the study goals.

study variables of simplified finance-oriented tasks, difficulty in planning activities for employees to maintain work-life balance, AI-based training and development programs, and employee attendance and salary management. The significance level is less than 0.05. "The results of the one-way ANOVA test confirmed the research hypothesis by showing

Table 1: Two-Sample One-Way ANOVA

Table with 7 columns: Variable, Group, Sum of Squares, df, Mean Square, F, Sig. It contains ANOVA results for four variables: Ease of finance-oriented tasks, Planning of HR activities, Employee attendance and salary management, and AI-based training and development programs.

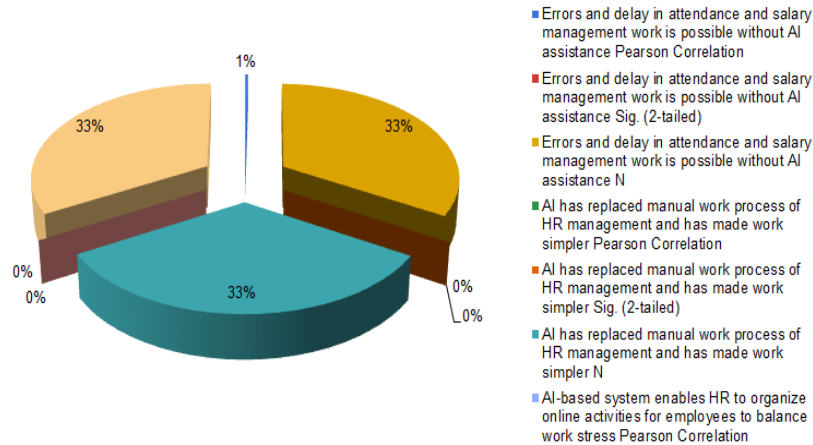


**Table 2. Correlation Test**

		Errors and delay in attendance and salary management work is possible without AI assistance	AI has replaced manual work process of HR management and has made work simpler	AI-based system enables HR to organize online activities for employees to balance work stress
Errors and delay in attendance and salary management work is possible without AI assistance	Pearson Correlation	1	.348**	.443**
	Sig. (2-tailed)		.000	.000
	N	126	126	126
AI has replaced manual work process of HR management and has made work simpler	Pearson Correlation	.348**	1	.524**
	Sig. (2-tailed)	.000		.000
	N	126	126	126
AI-based system enables HR to organize online activities for employees to balance work stress	Pearson Correlation	.443**	.524**	1
	Sig. (2-tailed)	.000	.000	
	N	126	126	126

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Errors and delay in attendance and salary management work is possible without AI assistance**

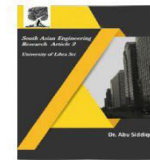


All correlations have a significance value of 0.000, meaning they are statistically significant at the 0.01 level”. The study reviewed the effects of HRM powered by AI on the HR procedure. The difficulties of the HRM procedure were also highlighted. There has also been an assessment of the efficient HRM procedure with the introduction of AI. Findings from the study pointed to the following areas where AI could be useful: the simplification of HR management tasks brought about by the replacement of manual processes with AI-based applications; the opportunity for errors and delays in salary and attendance management; and the organization of activities to help employees maintain a work-life balance. Since this research set out to determine how HR management system-based AI technologies affected the whole system, this technology was chosen as the independent variable. The activities whose complexity was reduced as a result of using the AI-based technologies were st.

**Conclusion**

AI has streamlined processes, reducing errors and delays in attendance and salary

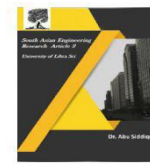
the dependent variables. It was determined that each dependent parameter was statistically significant in relation to the independent variable by the statistical analysis. The independent variable was verified by the results of the dependent and moderating factors proving the hypotheses to be significant with the goals, as shown by the one-way ANOVA test. Findings from the tests demonstrated that the independent variable was crucial in determining the dependent and moderating factors. Artificial intelligence (AI) has simplified HR management's once labor-intensive manual processes and replaced them with automated ones. The dependant variable was used to establish the importance of the association, and mistakes and delays in attendance and wage management job are conceivable without AI aid. The observed significance level ( $P < 0.05$ ) for all variables was significantly lower than the marginal threshold. Therefore, the assumptions were also confirmed by the correlation to management while replacing manual workflows with more efficient, automated systems. Moreover, AI-powered tools facilitate the organization of virtual activities, promoting a balanced work-life



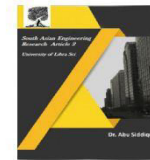
environment and addressing employee stress proactively. In summary, AI's impact on HR digitalization is undeniable, offering improved efficiency, accuracy, and employee satisfaction. As organizations continue to embrace AI technologies, HR digitalization will likely advance further, positioning HR as a critical driver of organizational success in the digital age. This platform made it easy for them to comprehend their work and allowed them to complete it with few or no mistakes. The study's findings indicate that most firms prefer and use AI-based technologies for HR management systems. Additionally, this technology has improved the precision of a number of processes while decreasing the burden on humans. Simplified paperwork and

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