Educational Administration: Theory and Practice
2024, 30(5), 13686-13698
ISSN: 2148-2403
https://kuey.net/

Research Article

Artificial Intelligence On Human Resource Management- Innovation, Challenges And Path Forward

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Citation: Dr. N. Roopalatha et al (2024), Artificial Intelligence On Human Resource Management- Innovation, Challenges And Path Forward, *Educational Administration: Theory and Practice*, *30*(5), 13686-13698
Doi: 10.53555/kuey.v30i5.5980

ARTICLE INFO

ABSTRACT

The introduction of the Artificial Intelligence (AI) technology has been a revolutionary innovation that has made several industries to sustain and grow in the current market. The implementation of AI in the Human Resource Management (HRM) has brought many positive changes to the system. Most of the studies demonstrated the benefits of implementing the AI based HRM process in the organization. Nonetheless, they failed to illustrate the prevailing HRM challenges which affects the organization and employees' performance. In this regard, this research is focused on conducting an empirical study on the impact of the AI in HRM system. The employees from different organizations and sectors of Hyderabad city in Andhra Pradesh were identified as the population for study and were presented with a survey questionnaire. The correlation test and one-way ANOVA tests were performed through the SPSS software package to validate the results. The outcome of the study identified that the possibility of errors and delay in attendance and salary management without AI assistance, replacement of manual work of HR management with AI-based applications has made the work simpler, and organizing activities for employees to maintain work-life balance through AI-based systems. Thus, the study concludes that the implementation of the AI-based tools for the HR management system is preferred and practiced by most organizations. The present study contributes in depicting the significance of AI driven HRM process in a non-IT organization. The AI-based HRM system effectively handles the salary and appraisal process of the employees which in turn simplify the recruitment and documentation process.

Keywords: Artificial Intelligence (AI), HRM, demographic, statistical analysis, correlation, ANOVA, SPSS.

1. Introduction

The modern systems of the Human Resource Management (HRM) has gained more popularity in recent days, as the tedious and complex processes of various operations are digitalized [1]. The HRM has also found its way to gain attention in increasing the productivity, improving cost effectiveness and challenging market competitions through the implementation of electronic inventions of computer and internet [2]. The organizational, task-based and personnel data handled by the HR department are very large and thus caused the implementation of AI in strategic HR processes, thereby, improving the sustainability of the business models [3].

The major challenges faced by the HRM are related to working condition, strategies and practices. The managing the staffs, training and development, health management, performance management and employee relation are considered as the significance issues faced by the HRM. Nonetheless, these challenges can be overcome by the implementation of AI based HRM [4].

Many organizations have initiated the incorporation of the IT with their business through the implementation of advanced artificial intelligence, automation and machine learning technologies. The processing of complex and time-consuming tasks performed by the HRM functions have increased the influence of the AI-based solutions, in the perspective of HRM. The recent transformation of the HRM is significantly due to the innovations in the IT sector. The earlier technologies of the HR Information System (HRIS) and electronic-HR (e-HR) has helped the organizations to process digitally, store the processed data and then distribute it among the stakeholders of the organization. Nevertheless, the dependency on AI-based solutions, automation and interconnectivity in HR task processing, like the talent acquisition, has become popular and is developing swiftly [5].

The managerial HRIS highlights the significance of enhancing the motivation techniques towards employees to improve relationships at the workplace among the employees and organization [6]. The managerial HRIS elements corresponds to the technological advancements that improves the ability of the organization to develop and sustain with effective and professional intrapersonal and interpersonal relationship. In contradiction to the managerial HRIS, the practice of technical HRIS has a historic recognition reproducing the technical and data-controlled skills and capacities within the organization [7, 8]. The HRIS which is concerned of the managerial functions centralizes itself with the technologies of HR which enables to establish intrapersonal or interpersonal association in the organization. However, the HRIS which is concerned of the technical functions surrounds the information systems and technologies which establishes the technical understanding, analysis of data and effective flow of work [1].

The application of AI allows the organizations to develop innovative language translation and patterns of recognition through several algorithms to perform business in a global environment. Several research works have been carried out to understand the significance of AI in different business operations such as marketing, supply chain and operations management, and few research works included the functions of HRM [9]. The implementation of IT-oriented applications has enhanced the functioning of several business processes which includes the recruitment, marketing and finance [10]. The implementation of the AI-based technologies in the HR management system has also enhanced the effectiveness, precision and speed in various business processes. Therefore, the organizational transformation at a minimum investment can be achieved by integrating the machinery, manpower and methods through intelligent technologies [11].

The evolution of the Industry 4.0 (I4.0) has been a start for wide range of developments in the industrial era. The development of the artificial intelligence is also one among the revolutionary contribution of the I4.0 [12]. The implementation of the artificial intelligence technology in the HR management system for all the processes is still a challenge faced by many industries [13]. Despite the significance of implementing AI for the maximum of the functions of the HR management is recognized by the employees, these challenges still act as a barrier for the effective implementation and utilization. Hence, this concludes that the transformation of the AI-based HR management system is still in a developing stage and requires more focus and importance for a complete transformation [14].

The AI and AI-based technologies are incorporated in several organizations in the HRM department for people management. Over the past decade, the development in implementation of AI technologies in the HRM has increased, thereby initiating research in several relevant topics such as social impact of robotics and AI, impact of adoption of AI in the outcomes of business and individual levels, and assessing the AI-based HRM operations [15].

According to the IBM, 2020 [16], the AI is recognized as the most advanced improvement in the HRM system. These AI-based technologies facilitate the implementation of machine learning, deep learning and big data analytics in the HRM system, thereby increasing its efficiency [17]. It is well known from the earlier researches that the implementation of AI-based HRM tends to cause concerns with employees and adversely [18, 19] or positively impact employee and outcomes of business [20, 21].

Many researchers [22-24] investigated the benefits of AI oriented HRM system such as development, retention, talent acquisition and assessment in advanced technology multinational enterprises. Meanwhile, the current study investigated the variation between the HRM process before and after the implementation of AI. The issues without AI assistances are finance-oriented tasks, difficulty in planning activities for employees to maintain work-life balance, employee attendance and salary management. Nonetheless, these issues could rectified with AI-based HRM.

Most of the studies demonstrated the benefits of implementing the AI based HRM process in the organization. Nonetheless, they failed to illustrate the prevailing HRM challenges which affects the organization and employees' performance [25]. The previous research works have focused on several technologies that could be implemented for enhancing the HRM, but the feasibility of comprehensive transformation of the system has a very few research. Thus, the current study intend to fulfill the gaps in the prevailing research and depict the challenges of HRM process without AI.

Therefore, this research work is focused on different dimensions of the implementation of AI technologies in the HRM. An empirical study is conducted to evaluate the magnitude of impact on the different organizations through a survey conducted on sample population in a quantitative approach. The outcomes of this survey is inferred and the significance of the objectives and proposed hypotheses is statistically analyzed and validated.

The following Section 2 discusses the previous research literatures on the AI-based HR management systems. The research design and proposed methodology is discussed in Section 3. The Section 4 provides the result

interpretation of the demographic and statistical analyses. The overall conclusion of the empirical study is concluded in the Section 5.

2. Literature review

The simulation of interactions among the humans which is made autonomous through technology-oriented communication systems was investigated by Pratt and his research team [26]. The model proposed in this research provided an insight regarding the employee performance and satisfaction with respect to motivational and cultural factors, communication methods and descriptions of work for the employees, individually. The model established the necessary factors that has to be considered for the AI-oriented tools for communication and their interaction between one another. The satisfaction of employees through motivation and direct influence is a bigger challenge for the AI-based communication tools since it is not equally effective as the Face-to-face methods. Therefore, the study revealed that the tactical methods of interacting with employees and creating a bond was challenging for the AI-based systems [1].

In another study, Garg and other researchers [25] established an understanding for the satisfaction of the employee within freight and logistics forwarding corporations through a novel approach developed to analyze satisfaction and feedback of the employee through the AI-based algorithms. These algorithms further allow the employees to undertake a climate-based survey relevant to their experience, thereby analyzing the input of the respondent and providing the organization stakeholders an insight to enhance the employee performance, commitment and retention. This analysis enables the researchers to establish an insight, both academic and professional, regarding the deep effect of AI utilization on the employees and their corresponding organizations. These AI-based technologies act as a benefit for the employees to voice their opinion and concerns to the organization directly [1].

As revealed by Malik and other researchers' [21] analysis, the AI-based algorithms enhances the cost-effectiveness of the HR and overall experience of the employee, thus, leading to an increase in satisfaction and commitment of employee in an organization. The differences in two generation employees, X and Y, and their adaptability towards the AI-driven social networking technologies is suggested by Kaminska and Borzillo [27]. The influence of the AI on the performance review of employee, relation of cognitive factors with quality of rating and differences of personality-oriented factors within HRM functions was systematically reviewed by Koch and other researchers [28].

The dissemination of IT in the theory of human resource management is investigated by Bilal H [5]. The study revealed that the leaders and executives of HR possess a positive attitude towards the implementation of AI to enhance the quality and efficiency of HRM. The positive attitude of the employees towards the implementation of the AI-based technologies for human resource management and their intention to involve themselves for the use of such technologies has supported the outcomes revealed by the study.

The technology of e-recruitment has gained more popularity recently and has been implemented by most of the organizations. This system enables the organizations to process the recruitment at a fast pace by reducing the expenses for the process and thus, attracts candidates with high potential globally. The corporate websites of the organizations provides the availability of various vacancies and opportunities in an organization to facilitate the recruitment process. Several websites, including careerbuild.com, mosnster.com, naukri.com etc. enables the recruiters to find the potential candidates for the appropriate position, and also enables the job seekers to find the links for various positions currently available in an organization [10]. The era of the internet facilities have made many contributions for several applications development, which enables various organizations to organize their business-oriented functions at a managerial level. This demands relevant competencies for decision-making processes to organize interactions with the stakeholders through Ai-oriented technologies, like the e-commerce [29]. The application of different technologies has substituted the human intervention as the advanced machines are programmed with AI-based algorithms that possess skills equal to humans [30].

S Kot with few other researchers [9] conducted an empirical study on the significance of AI-oriented recruitment process and the quality to identify the reputation of employer by adopting the technologies of artificial intelligence. The investigation of the effectiveness of AI adoption on AI-based recruitment was conducted in the Indonesian pharmaceutical industry. The study established the statistical significance of the AI quality and AI adoption relation with the reputation of the employer. The endogenous and exogenous structure of the effect of research revealed the effect of mediation due to AI adoption. In a brief, all the mediating and direct hypotheses relations were statistically observed to be significant, and it was recommended to the Indonesian pharmaceutical industries to implement the AI-based technologies for organizing effective business operations.

The socio-economic, political and, particularly, the technological transformations has brought a tactical popularity for the HRM in organizations [31]. However, few departments have not embraced these transformations, thereby, leading to slow and complex strategies [32]. In such circumstances, the implementation of advanced technologies, such as the AI, has to be considered [33]. The significance of implementing AI technologies is to enhance the effectiveness and performance efficiency of the HR-oriented operations to make different processes of management to be accurate and agile [34]. The control and understanding of data collection is performed through the AI technologies for the HRM processes, thereby,

including these processes in the tactics of economic and organizational efficiencies [35]. The HR managers and executives can provide more focus and contribution towards value-added tasks which seeks unique abilities and skills by making the time-consuming and repetitive tasks to be automated through the AI-based technologies [36]. The minimization and reduction of error through the machine learning enables to enhance decision-making through the provision of more information that are better-processed [33].

It is necessary for the HR departments to formulate a safe strategy to implement the AI in the organization by avoiding possible drawbacks, since the AI itself has its own weaknesses and strengths. The implementation of several disruptive and unsafe technologies will be essential to sustain the organization in the market [14].

In recent days, the investigation of AI and its effect on HRM operations has increased. For instance, according to several researchers, the developing AI-oriented HRM systems are useful in development, retention, talent acquisition and assessment in advanced technology multinational enterprises [22-24]. The AI technologies assists the HRM from the recruitment process till selection, evaluating and interviewing best candidates [37, 38], creating I4.0 advertisements regarding new profiles of jobs [39], and evaluate the effectiveness of employees' training [40]. Nevertheless, in spite of several options delivered through implement advanced technologies in the human resource management, the employees themselves are capable of performing many tasks which are not able to be performed by the machines [41, 42]. Hence, several researchers suggest that, the integration of AI with human support, instead of human being replaced completely, provides an optimum benefit to the organization [43].

Many recent research works also support the fact that the integration of human with AI-based technologies to perform HRM functions will improve the efficiency of the management in data collection, maintenance and validation [11]. The applications of the AI technologies enables the HRM to organize interviews in video mode through the internet facilities with the appropriate candidates, by evaluating the candidates' interaction, body language and attitude, and identify the potential candidate who would best fit the demand of organization [44]. These processes could be done completely without the intervention of humans.

3. Methodology

The current study embraced quantitative research method for evaluating accumulated data. The quantitative approach demonstrates the happenings through accumulating numerical unchangeable data that have been assessed with aid of mathematical techniques. This approach gives statistics allied to the interrogations of how, where, when, how much, what and how many. The quantitative approach includes objective, number stance and logic [45]. This research work employed an empirical study through a semi-structured questionnaire, and the data was collected from individuals of different age group and working domain. The questionnaire was categorized based on the study variables and the data are performed with the purposive sampling analysis. The hypothesis for the empirical study is defined based on the research objectives and interpreted through the quantitative assessment. A summary of the proposed research design is shown in Figure 1. The demography of the studied population was also observed and their corresponding responses were analyzed.

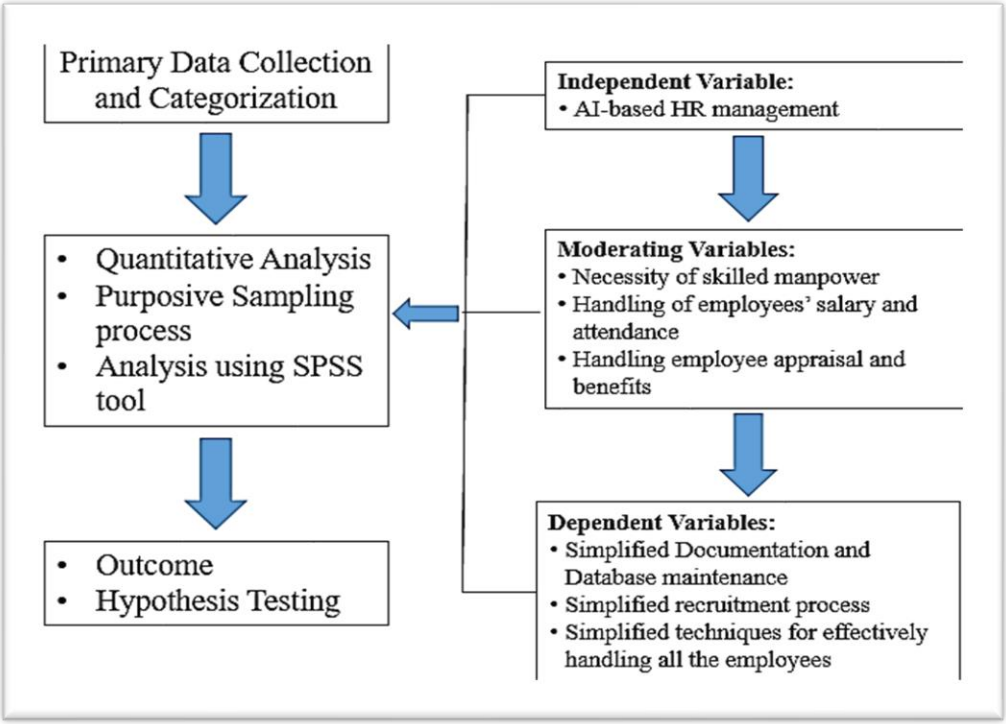

Figure 1. Research Design

The objectives of the present study are:
- To analyze the existing challenges in human resource management in an organization from different sectors.
- To study the impact of implementation of AI-based HR management in simplification of the various HR process.

Research questions are as follows:
- What are the challenges in existing HR management processes?
- How has the AI-based HR management implementation impacted in simplification and effective HR management?

The hypothesis of present study are:
H1: The implementation and functioning of AI-based HR management system has relationship with challenges in existing HR management processes.
- **H_10:** The implementation and functioning of AI-based HR management system has significant relation with challenges in existing HR management processes.
- **H_11:** The implementation and functioning of AI-based HR management system has no significant relation with challenges in existing HR management processes.

H2: The simplified and effective HR management processes has relationship with the implementation of AI-based HR management system.
- **H_20:** The simplified and effective HR management processes has significant relation with the implementation of AI-based HR management system.
- **H_21:** The simplified and effective HR management processes has no significant relation with the implementation of AI-based HR management system.

The study population is identified from various organizations of the Hyderabad district from the Andhra Pradesh state of India. The population are from different working sectors and domains. However, the perspectives and preferences of every individual on the implementation of the AI-based HR management system was understood through the study.
The study population was generalized, and hence, a total of 126 participants had registered their responses to the questionnaire. As mentioned, the respondents were from different organizations where the AI-based HR management system was implemented. However, all the individual respondents had the awareness about conventional HR management system and AI-based tools for executing HR-oriented activities. The identified participants were not restricted to HR management designation only, but employees working under different departments with different designations were also surveyed.
A sampling technique is significant to pile up the data from particular populace rather than focusing on entire populace [46]. Hence, it is significant for selecting relevant sample size to involve in the statistical study. Moreover, the sample size aids in making an implication based on the data gathered from sample populace [47]. Thus, the data were collected and the purposive sampling method was identified for conducting the statistical quantitative analysis. The participants of the survey were irrespective of their age, occupation, sector and designation. After the required data for the analysis was collected, the questionnaires were categorized based on the study variables.
Primary data is regarded as significant optimal data because the data are accumulated directly from the selected respondents. This data collection process incorporates structured questionnaire, survey and polls etc. [48]. The primary data required to perform the analysis of the study is collected through a semi-structured questionnaire. The general public are the participants for the survey, who work with different organizations in different positions. The researcher reviewed and verified the responses to each questionnaire for its completeness.
A standardized semi-structured questionnaire was adapted for the analysis of the primary data based on the five-point likert scale. The rating scale denoted 1 – Strongly Agree, 2 – Agree, 3 – Neither agree nor disagree, 4 – Disagree and 5 – Strongly Disagree. The responses of the questionnaire is converted to the likert scale and presented for analysis in the SPSS software.
The collected data is converted to a worksheet format for simplicity of analysis. The quantitative analysis of the collected data is performed based on the statistical approach. For this purpose, the Statistical Package for Social Sciences (SPSS) software package is used. The demography of the respondents is studied through the graphical analysis of the data presented in the worksheet. The survey questionnaire is encoded to corresponding factors and given as input to the SPSS software. The software performs the analysis based on the study variables and provides the outcome of the study. The input variables of the study are analyzed through three different approaches, namely one-way ANOVA and correlation.

4. Results

The data collected through the survey questionnaires are processed through the SPSS software and analyzed for its outcomes based on the study variables. The results satisfy the objectives of the study through the research design. Moreover, the detailed analysis of the responses based on the different demography is performed.

4.1. Demographic data and inferences

The Figure 2 represents the age group of the respondents to the questionnaire. It can be observed from the chart the only very few respondents are among the age group of above 55 years (13%). The impact of the implementation of the AI-based HR management system has made more influence towards the youngsters and middle-aged workers. About 28% of the respondents are below 35 years of age, another 28% of the respondents are aged between 36 year and 45 years and around 31% of the respondents are aged between 46 years and 55 years. The employees aged above 55 years have been practiced and used to the regular HR management processes and methods and thus feel it convenient that way than the AI-based HR management system.

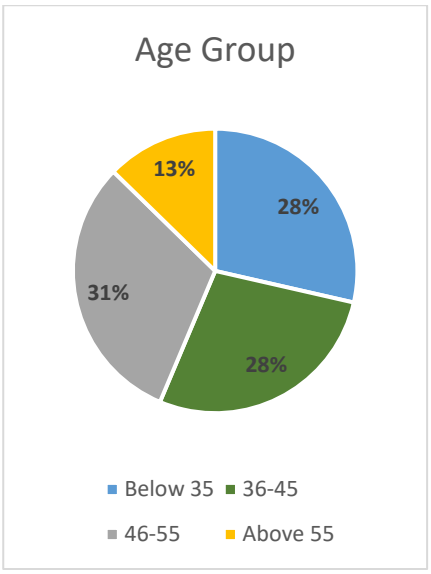

Figure 2. Age Group

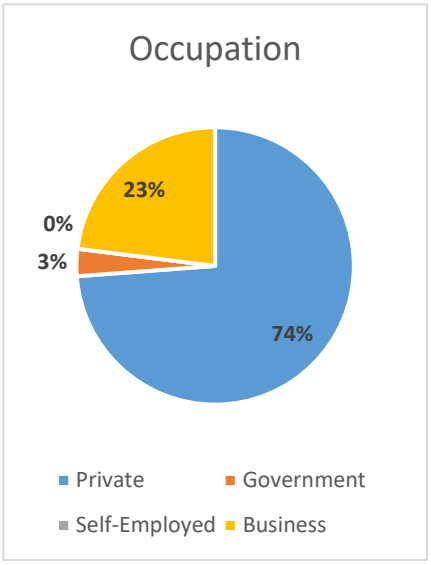

Figure 3. Occupation

The occupation of various respondents is plotted through a chart in the Figure 3. All the respondents are employed by some organization either way, and none of them are self-employed (0%). The majority of the respondents are employed with private organizations (74%), 23% of the respondents are handling their own businesses and only 3% of the respondents are government employees. The AI-based HR management system has been primarily implemented and most frequently used in many private organizations. This is because, the private organizations tend to continue functioning with minimum manpower and produce maximum output. Hence, the application of AI-based technologies enables such organizations to work in ease and with precision. The businesses handled by the young-aged and middle-aged respondents have also employed the AI-based HR management system. This makes to handle their business with more convenience and obtain more productivity. It is also observed from the chart that the government employees among the respondents are very few and they have very minimum exposure to the AI-based system for HR management. It is because most of the governmental departments and organizations are still functioning on the conventional methods and have not adapted for the advanced technologies. The government maintains enormous data which dates from the past 100 years. It is very difficult to convert those data to digital platforms and keep them under regular maintenance and update. However, few government departments have taken necessary procedures to digitalize few of their records and working functions, which is still far from digitalizing the HR management system.

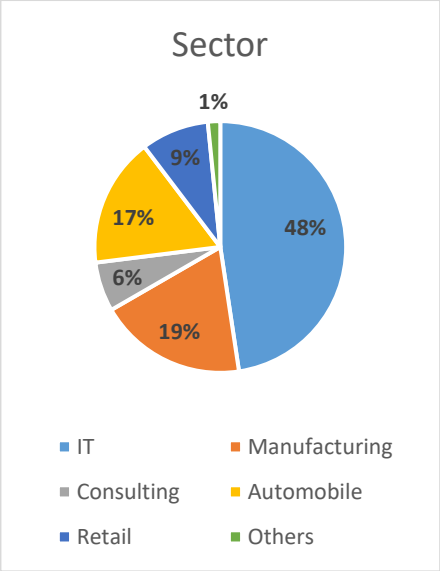

Figure 4. Sector

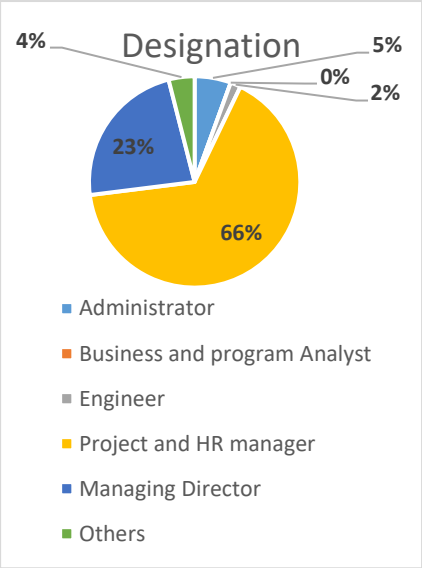

Figure 5. Designation

The respondents were identified from different industrial sectors (Figure 4). The purpose was to understand the awareness of AI-based HR management among different industries, and not only the IT industries. However, almost half of the respondents were from the IT sector (48%). 19% of the respondents were from the manufacturing sector, 6% of the respondents were from the consulting sector, 17% of the respondents were from the Automobile sector, 9% of the respondents were from the retail sector and only 1% of the respondents were from other domain of industry. Though the respondents from different sectors had sufficient awareness about the implementation of AI in HR management and its benefits, they still wanted to function on the conventional methods. This is because most of the manufacturing industries and automobile sectors had more number of employees, and managing of all employees through only AI system was not possible. Moreover, the nature of work for most of the employees is with machines and tools, but not computers or laptops. Whereas the IT industry employees are working with their computer and laptops only, hence, it is usually convenient for the HR department to handle their employees through the AI-based technologies.

The responses based on the designation of the participants is plotted in the chart shown in Figure 5. Although most of the organizations function with a separate HR management department, there are few organizations that controls the HR functions through other department executives and heads. Hence, this study has broadened its field of designation to other departments also. From the Figure 5, it can be observed that 5% of the respondents work as administrators, 2% of the respondents work as engineers, 66% of the respondents work as project manager and HR manager, 23% of the respondents work as managing directors and 4% of the respondents work in other designations. It is also noted that none of the respondents work as Business and program analyst. The task of HR management is tedious and hectic in large organizations. In such organizations, when any individual works with a different department, but holds the responsibility of the HR management, then the AI-based HR management system would be more convenient. Since the AI incorporates automated processes and involves less paperwork, it is simple and can be handled by an employee from different domains.

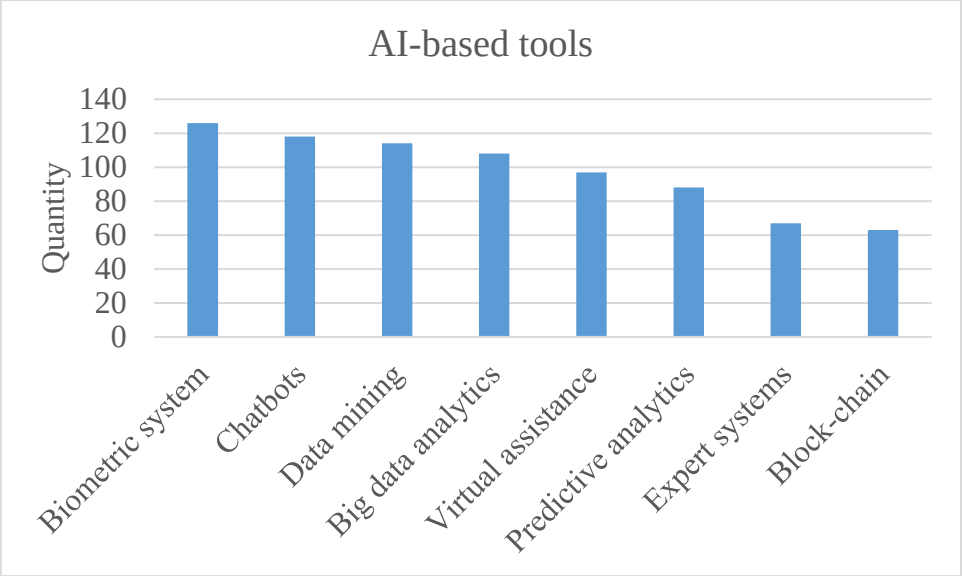

Figure 6. AI-based Tools

Each organization is transforming to AI-based technologies in many applications in order to simplify the working procedures and improve certain accuracy. Though the AI is capable of replacing most of the works done by humans, still it requires human assistance and monitoring for continuous progress and updates. Hence, most organizations have partially implemented AI-based applications in the HR management functions. The Figure 6 represents the different AI-based tools used in various organizations of the respondents. It can be observed that the face recognition and biometric system for registering the attendance of the employees has been implemented in all organizations of the respondents. The Chatbots are the user-friendly automated guide that pops-up when you open a webpage of an organization. The Chatbots enable the user to understand and know basic details of the organization and is capable of responding to primary enquiries of the user. The data mining and big data analytics are more useful and the mostly used tools of the AI. The virtual assistances are similar to the Chatbots and provide assistance to the user while opening the webpage of the organization. The blockchain technology, predictive analytics for the decision support and expert system are other tools of AI that are used in the HR management. Most organizations prefer the implementation of man-machine integrated systems for most of their operations to ease the work of manpower and also to improve the precision and time management of the task.

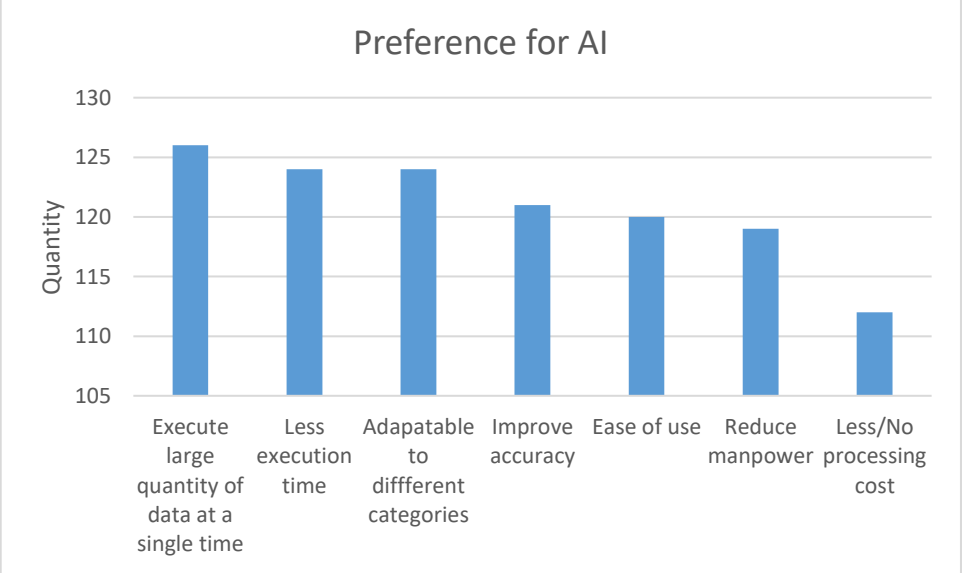

Figure 7. Preference for AI

The AI-based technologies are preferred for implementation in organizations due to various reasons. The AI provides many benefits and at the same time it is also considered a drawback in some cases. The various reasons for an individual to prefer the AI-based HR management system is depicted in the Figure 7. The different advantages considered for prioritizing AI are ease of use of tools, less time consumption for execution of given task, reduced manpower, improved precision, more data can be processed at a single time, the tool can be adapted based on the requirement, and the processing and maintenance cost is very lower. Although the AI tends to offer so many advantages, some category of people are still uncomfortable with the

use of AI-based tools. The study revealed that the individuals who were aged above 55 years and few individuals under the category of 46-55 years of age are used to the conventional HR management system which they had practiced throughout their tenure. These category of participants showed very less interest in the advancements of the AI-based technologies, finding it difficult for them to adapt and access.

4.2. Statistical analysis of the data

The data collected through the questionnaires were analyzed through the SPSS software package. The statistical analysis provides the relationship between the study variables and the objectives. This relationship enables us to understand the significance of objectives and validate the hypothesis. This study has performed two different statistical analysis procedures, the one-way ANOVA test and the Correlation test.

4.2.1. ANOVA test

The one-way ANOVA test is conducted to analyze the relation between the independent and dependent variables. The significance level of the test was obtained below 0.05, which is the nominal range to prove the hypothesis to have a significant relation to the objective. From the analysis summarized in Table 1, it can be inferred that the study variables of simplified finance-oriented tasks, difficulty in planning activities for employees to maintain work-life balance, employee attendance and salary management, and AI-based training and development programs possess a significant dependency on the independent variable of AI-based HR management at the significance level <0.05. Hence, the outcome of the one-way ANOVA test has proved that the study variables have significant relation to the objectives of the study, thereby validating the hypothesis of the research work.

Table 1. One-way ANOVA Test

		Sum of Squares	df	Mean Square	F	Sig.
Ease of finance-oriented tasks with more precision and less working time	Between Groups	51.819	4	12.955	24.992	.000
	Within Groups	62.721	121	.518		
	Total	114.540	125			
Planning of HR activities for employees to reduce work stress is difficult and time consuming	Between Groups	63.603	4	15.901	37.702	.000
	Within Groups	51.032	121	.422		
	Total	114.635	125			
Employee attendance and salary management is performed by AI with high accuracy without mistake	Between Groups	37.842	4	9.461	31.053	.000
	Within Groups	36.864	121	.305		
	Total	74.706	125			
The AI-based training and development programs are more effective than conventional methods	Between Groups	59.426	4	14.857	15.525	.000
	Within Groups	115.788	121	.957		
	Total	175.214	125			

4.2.2. Correlation test

The correlation test is performed to validate the relationship between the variables and also to estimate the magnitude of the relationship. The relationship between the dependent, independent and moderating variables is analyzed through this correlation test and summarized in Table 2. The significance of the hypotheses has been once again validated through this test. The significance was maintained below 0.05 throughout the analysis. The possibility of errors and delay in attendance and salary management without AI assistance, replacement of manual work of HR management with AI-based applications has made the work simpler, and organizing activities for employees to maintain work-life balance through AI-based systems are the variables that were tested for validating the significance of correlation. The significance correlation within the variables were all observed to be at the level of 0, thereby satisfying the 2-tailed significance condition of the bivariate correlation test. Hence, the correlation test also has proved that the independent, dependent and moderating variables possess significant correlation with one another.

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).				

5. Discussion

The current study focused on the various dimensions of the implementation of AI in the HRM. It evaluated the impact of AI-based HRM on the HR process. Also, it demonstrated the challenges of HRM process. The effective HRM process after the implementation of AI has also been evaluated. The outcome of the study identified that the possibility of errors and delay in attendance and salary management without AI assistance, replacement of manual work of HR management with AI-based applications has made the work simpler, and organizing activities for employees to maintain work-life balance through AI-based systems. The study was focused on the impact of AI-based tools on the HR management system, and hence it was identified as the independent variable. The dependent variables were the tasks which were made simpler on implementing the AI-based tools. From the statistical analysis, the significance of the various dependent parameter with reference to the independent variable was established. The one-way ANOVA test revealed that the dependent variables and the moderating variables proved the hypotheses to be significant with the objectives and thus, validated the independent variable. The outcomes of the test established a dependency of the dependent and moderating variables on the independent variable. On the other hand, the correlation test was performed to establish the significance among the various study variables. The independent variable AI, has replaced manual work process of HR management and has made work simpler, moderating variable, Errors and delay in attendance and salary management work is possible without AI assistance, and the dependent variable were used for establishing the significance of correlation. The significance level among all the variables were observed to be well below the marginal level ($P<0.05$). Hence, the correlation test also validated the hypotheses.

The existing study [5] investigated dissemination of IT especially AI in the HRM. The study revealed that the leaders and executives of HR possess a positive attitude towards the implementation of AI to enhance the quality and efficiency of HRM. Meanwhile, the current study inferred that simplified finance-oriented tasks, difficulty in planning activities for employees to maintain work-life balance, employee attendance and salary management, and AI-based training and development programs are the prevailing challenges in HRM process. Nonetheless, these challenges can be rectified through the implementation of AI-based HRM system. The prevailing study [34] illustrated the significance of implementing AI technologies is to enhance the effectiveness and performance efficiency of the HR-oriented operations to make different processes of management to be accurate and agile. Similarly, the current study depicted the possibility of errors and delay in attendance and salary management without AI assistance, replacement of manual work of HR management with AI-based applications has made the work simpler, and organizing activities for employees to maintain work-life balance through AI-based systems.

Many researchers [22-24] investigated the benefits of AI oriented HRM system such as development, retention, talent acquisition and assessment in advanced technology multinational enterprises. Meanwhile, the current study investigated the variation between the HRM process before and after the implementation of AI. The issues without AI assistances are finance-oriented tasks, difficulty in planning activities for employees to maintain work-life balance, employee attendance and salary management. Nonetheless, these issues could rectified with AI-based HRM.

6. Conclusion and limitations

The human resource management plays a significant role in any organization, and thus needs continuous focus and improvement in its processes. The idea of implementing the AI-based technologies in the HR management system was revolutionary and has brought so many changes that has benefited the system. The present research work focused on the study of impact of implementing AI tools in the HR management system.

The major challenges faced by the HRM are related to working condition, strategies and practices. The managing the staffs, training and development, health management, performance management and employee relation are considered as the significance issues faced by the HRM. The salary management, errors and attendance management are also some of the significance issues faced by the HRM. In order to overcome those challenges, implementation of AI based HRM practices has been illustrated through the current study.

The participants aged above 55 years were dependent on the conventional HR management system and gave very less importance to the AI-based tools for HR management. Moreover, the participants from non-IT industries also preferred the conventional HR management system for most of the HR operations. This is because most non-IT industries function with large number of employees who do not have a direct access to computer or laptops or mobile phones to access the AI-based HR tools. Hence, these industries perform most of their HR task in the conventional methods only. However, some tasks such as attendance monitoring and salary calculation are done through AI-based tools only. The respondents were not only identified from the HR-oriented designations, but also were from other departments and designations. The AI-based tools made the tasks of the individuals who were from other designations than the HR-oriented. This platform gave them a simplicity to understand their work and also helped then to do it with very less or no errors or mistakes.

Thus, the study is concluded that the implementation of the AI-based tools for the HR management system is preferred and practiced by most organizations. This system has also eased the human efforts and increased the accuracy of various tasks that were performed. The present study contributes in depicting the significance of AI driven HRM process in a non-IT organization. The AI-based HRM system effectively handles the salary and appraisal process of the employees which in turn simplify the recruitment and documentation process. However, this study has also established certain limitations for the implementation of this system. The AI-based system, however, is automated and possess improved performance, it still requires human assistance and monitoring at certain stages. The present research has also been conducted for a specific population, and thus, the outcomes of the study are valid only for that populace. The upcoming study will keep this study as base to elaborately illustrate the technique of implementing the AI-based HRM system in the organization. Also, the future study will attempt to evaluate the benefits of AI-based HRM process in developed countries to make suggestion for effective implementation of AI in firms in the developing nation.

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