ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCES

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ABSTRACT

Artificial Intelligence has opened up tremendous opportunities in the workplace through robotics innovation, which envolves both AI and IOT (internet of things). Precision, Efficiency and Flexibility are considered the potential benefits of industry rapidly revolutionizing so many industries at such an alarming rate that one such advanced AI robot, Sophia, joined the panel and was pitched questions during the United Nation's convention on sustainable development. Artificial intelligence is producing multiple solutions for hiring managers including basic recruiting tools, intermediate applications and advanced AI solutions. Together or independently, these tools are creating a more effective way for human resources to predict a candidate's future success with their company. artificial intelligence (AI) is transforming the human resources field altogether. The current study would throw some light on artificial intelligence breakthroughs and implications with respect to HR.

KEYWORDS: Artificial, Intelligence, Human, Resources, Functions, Implications and Implimentation

I. INTRODUCTION

 In computer science artificial intelligence (AI) sometimes called machine intelligence or Machine learning intelligence and it's intelligence demonstrated by machines, in contrast to the natural intelligence displayed and performed by humans. And In the era of intelligence the Human Resources (HR) function play a critical role in bridging the gap between technology and human resources and The Computer science defines AI research as the study of "intelligent" any device that perceives a new concept of AI which has the ability to move quickly and smoothly, is not a new concept and has been adopted by major companies such as Google, Apple, Face book, Amazon, and Microsoft and many more. In the context of HR, it has ability to adapt and develop individuals and processes in response to rapid and unpredictable changes, to support people, key strategies, and organizational adaptability. The rapid advancement of technology, especially the implementation of AI in HR, has brought about significant changes in HR processes and practices. As organizations increasingly move towards digitalizing their HR operations, it is crucial to understand the effects of AI on different aspects of HR such as employee productivity, health and safety, payroll processing, employee comfort, and real-time feedback
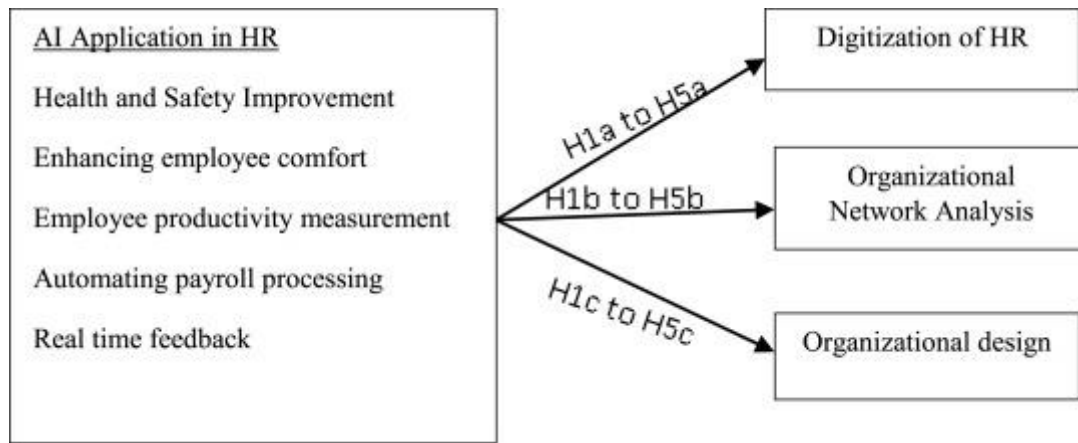
II.METHODOLOGY

The methodology behind HRM recognize the value of employees bring to an orgnaisation, also know as human capital. Investing in employees and strategically supporting their needs can improve job satisfaction, resulting in greater success in their role within an organization

2.1. Research design
The study utilized a descriptive research design that follows a cross-sectional approach. The research design is appropriate for investigating the impact of AI on human resource digitalization in Industry 4.0 as it allows for the collection of data from a large population at a specific point in time.

2.2. Population and sampling
The population of this study consisted of human resource professionals working in IT, ITES, Manufacturing, and service sectors in Chennai and Bengaluru. These two cities were selected as they encompass various industry types. Private sector banks were included under the service sector. A multi-stage sampling technique was used, with the first stage being the selection of geographical location, the second stage being the ranking of firms in each sector, and the third stage consisting of the selection of respondents from the selected firms. A total of 360 questionnaires were sent through a google form, and 271 questionnaires were eligible for analysis after further scrutinizing, with a response rate of 75%. A sample size of 271 can be justified based on previous research studies. According to , a sample size of at least 200 is recommended for SEM analysis. Additionally, suggest that a sample size of 200 to 400 is considered adequate for structural equation modeling. Furthermore, state that a sample size of at least 100 is required for SEM analysis, and larger sample sizes are always better.

2.3. Scale development and validation
To measure the constructs used in the research model, new scales were developed by modifying closely relevant literature. The scales were then tested for various validity and reliability measures to ensure their effectiveness in measuring the constructs . According to validity refers to the extent to which a scale measures what it is intended to measure, while reliability refers to the consistency of measurement over time. In this study, the validity and reliability of the scales were tested using confirmatory factor analysis (CFA). The results of the CFA indicated that the scales had good construct validity and reliability. Specifically, the composite reliability (CR) values of all constructs were greater than the recommended threshold value of 0.7, indicating high internal consistency. Additionally, the average variance extracted (AVE) values of all constructs were greater than the recommended threshold value of 0.5, indicating good convergent validity. Therefore, the scales used in this study were deemed suitable for measuring the constructs of interest.

2.4. Data collection
A structured questionnaire was used to collect the data to support the research. The instrument consists of three parts, with the first part consisting of demographic questions. The second part is related to AI applications in

HRM, and the third and final part consists of statements measuring Human Resource Agility. Both parts two and three used the five-point Likert Scale.

2.5. Data analysis

The collected data were analyzed using SPSS for primary statistical analysis, and the proposed model was tested using AMOS. The scales used in this study were tested for various validity and reliability measures, and the result proved to be good to proceed with the investigation.

III. DISCUSSION AND FEATURE REASERACH DEGINE

Employee health and well-being are a significant worry for managers as a solid specialist give different advantages to them, leading to expanded efficiency and income. HR groups can use associated gadgets to screen and track worker well-being. Wearable can accumulate different information like food admission, strolling distance, and indispensable readings of representatives. Given the data accrued, HR staff can locate issues that are affecting well-being and causing medical problems and take suitable measures to keep away from them. HR needs to improve laborer well-being, and they can utilize AI to achieve that task. They can screen machines, hardware, and gas pipelines to protect their representatives.

For example, AI sensors can use in very difficult situation because of the higher critical factor. The study identified that employee health and safety improvement is a highly influencing element in bringing agility in HR and organizational design.

A technology tracks the employee's eyes and hand using sensors to identify the timing which they come of leave the office it is movement based technology on which HR personnel can distinguish factors like explicit work hours or foundation commotions that divert a worker. It can help HR people. HR can facilitate their employees to balance between their healthy living and working by arranging a life skill training program. This will ensure the employees actively concentrate on their work while they are on duty and promise higher productivity. This is the result of digitizing the HR process, which enhances agility. Here the results support the previous literature by.

It is sporadic to get honest feedback from employees in terms of official issues. Often, the HR department finds it hard to understand employees' real feelings and emotions and come out with a lot of strategies, but none of them are giving fruitful results. This can be sorted out by incorporating AI applications. AI gadgets can help the HR personnel to understand the genuine emotions of their workforce while gathering criticism. Cameras can catch pictures of a representative after a gathering to accomplish constant criticism. The images can be sent absurd to the workers where computerized vision can identify feelings of the representative and send cautions to HRM's if a worker is not sincerely glad. Designing an effective organization to adopt a dynamic environment can be possible with the correct feedback. AI made this possible ensures agility in the HR function. The result adhere to previous studies proposed by

With the assistance of AI, AI can recognize designs characteristic of sadness and other psychological maladjustments in workers. Automated cameras can click pictures of workers at specific interval during the whole day. Computerized vision can remove personal conduct standards data from those pictures and contrast them, and those of discouraged individuals decide if a worker is experiencing uneasiness or desolation. Assuming computerized vision tracks down that a worker feels discouraged, it can impart signs to AI gadgets that can alarm HR. HR staff can coordinate guiding meetings for that worker to improve his consolation at work. This may negatively impact the organizational design as identified by the results from existing study, and it is in contrast with the study by.

AI sensors to follow truancy can be executed for all positions, yet not to screen exact work hours. For example, administrative center positions expect workers to sit on their work areas for being profitable, and thus sensors can be executed for such jobs.

IV) IMPLIMENTATION OF AI IN HR

a) Employee records management.
b) Recruitment and hiring processes.
c) Payroll processing.
d) Performance management and assessments.
e) Benefits administration.
f) On boarding new employees.
g) HR support or service desks.

A). Recruitment and Selection

The HR professionals are responsible for the recruitment of talent for the organization and the right candidates need to be hired. Finding the right candidate can be difficult as you try to locate the right person in a pool of many talents. Shortlisting candidates and screening resume to find a suitable candidate for the job can be a challenging task for HR executives.

They need to reach out to the right candidates while trying to fill up job positions as fast as possible because a vacant position may cost the organization lots of money due to delays in operations. Ensuring good candidate experience is key as it increases the chances of the candidate accepting the offer. It must be ensured that the future team has a great experience from the first contact. AI can help speed up the recruitment process even as the hiring requirement continually increases. It can be involved in automating repetitive tasks by first working on large data analytics to get trends. It can also be used to streamline the hiring process during recruitment. AI technology such as chatbots can be added to organizations' websites to engage visitors and increase conversation rates. Prospective candidates will be willing to drop their resumes and other basic details while chatting with the bots. Chatbots can ask questions as regards the role the candidate is interested in and answer some basic questions asked by the prospective candidate. This helps to save time as some of the tedious work in recruiting such as collecting candidate information, prequalifying candidates, scheduling meetings and chat times, and providing the candidate with answers to basic questions can be done using chatbots . Machine learning techniques can be used to assist in interpreting the extensive amount of data received and discovering patterns not previously identified by the organization. AI technology can help check resumes and identify the suited candidates for a position. Experience, skills, education levels, and many more interests of the organization are checked before the candidate is taken for the job through machine learning-trained models. This technology can help narrow down the list of all applicants by sorting out those with the most relevant skills. This will consider candidates only based on qualification and help eliminate biases if properly programmed . AI can also perform background checks such as checking through candidates' social media profiles to ensure that the candidate chosen is the most qualified. This will save the recruiter time, ensure a fair recruiting process, and ensure that the best candidate is hired. Most businesses struggle with engaging and re-engaging prospects because it takes time to do so. Companies typically do not hear back from or respond to candidates after applying for a position or after the interview. According to a report, employees currently anticipate hearing back from the business within 10 minutes of submitting a job application. Therefore, following up with them after a job application or an interview is crucial; otherwise, one risks losing them to more responsive competition. Software that incorporates AI, such as Chabot, Applicant Tracking System (ATS), and Customer Relationship Management (CRM), assists in providing real-time answers to all of the questions posed by candidates and provides updates on their progress. Deploying AI in HRM, subjective criteria such as favoritism and nepotism are less likely to play out in prospective candidates' recruitment and selection process . A Recruiter's perspective may be influenced by ethnicity, language, gender, and even race during the process. Biases are being eliminated by integrating algorithm assessment platforms with automation and AI. The advantage of this platform is that, if prejudice is discovered after an audit, it can be changed to lessen or eliminate it.

B. On boarding

On boarding is a process of integrating new hires within the organization's culture, and policies quickly and smoothly. On boarding is an important facet of the HRM process. It is not just the demonstration of the company culture but also defines and promotes this culture . A good on boarding process will make recruits feel better about the organization, stay more engaged, and be more eager to stay longer with the organization. However, these recruits require more attention, and attending to them individually is a challenging task. AI can automate the onboarding process thereby making the process a self-service process, allowing these recruits to easily coordinate with the workforce and management team and help streamline manual and time-consuming tasks. The onboarding process from the early stage is important as this is where the recruits form their impression of the organization. Smart chatbots also play a role in this process. AI-based chatbots can help in the collection of data, provide the information needed by recruits, organize information, present the recruits with every necessary form to fill, request necessary documents from the recruits, and provide any online guidance necessary. These chatbots can also help set up new accounts for these new hires and integrate them into the organization's system without IT support. AI's automated onboarding process provides flexibility concerning time and location as it allows the recruits to integrate into the system at their own pace . This also reduces administrative tasks and results in a faster integration process. These chatbots can also get feedback from the recruits to help serve them better and provide a better onboarding experience

C. Training and Development

The HR professionals are to ensure that employees have the right skills and experience to fulfill individual and organizational needs and ambitions through learning and development. The learning and development will help deal with changes, track skills application, keep the learners engaged, develop soft skills, develop leaders, instill conflict management skills, upskilling and reskilling. A proper training facility is necessary for any organization to have a professional and technically skilled workforce. Employees need to be abreast of the latest trends, and developments, related to their fields. HR departments may now train and evaluate personnel using AI-based tools. AI tools have made it feasible to discover skill gaps and create training plans for staff members in accordance with their needs. . AI can help create customized learning paths for new hires based on their skills and match them based on their interest . Large organizations will find this very helpful in understanding their employee's base skills and interests, which helps them align these skills and interests to their learning paths and the skills needed for projects. This technology can also be used to analyze employees' training metrics and determine which employees need more training and the training needed by each of these employees. The right AI tools and implementation would help the employee learn better and faster leading to better personal and professional growth which will, in turn, lead to higher productivity. AIbased training programs make it possible for the requirement of every employee to be met as they are all provided with the needed information at the right time. AI-based tools can also automate the learning process by creating learning and development videos . These training videos can be used repeatedly and even translated into different languages without the need to reshoot or rehire voice actors. A learner is most likely to go for a video than a text as video is one of the most effective methods to convey knowledge. A boring text document or text-based learning material can be turned into an engaging video in minutes using AI technology

D. Performance Management

It is very important to have a defined performance management structure in place in any organization. Employees' impact on the job can be tracked with a good performance management structure. The impact of training conducted by the organization can also be tracked with this structure in place. This structure will be able to help employees align their job performances to the organizational goals and objectives . The traditional method of performance management requires some time-consuming steps such as setting the objective, carrying out a self evaluation, managers evaluation, discussing, and signing off AI can help in real-time monitoring of objectives that have been set out and provide feedback with information on what has been done and what is left undone . In managing performance, the appraisal model can be integrated into the system by gathering and examining data regarding employees' work performance. With the help of AI tools, it is easy to manage the behavior and analyze the performance of each employee. Rewards can be recommended for a faster meeting of objectives and AI can help with notifications and suggestions on topics

for increasing productivity when objectives are not met in due time. AI technology can help eliminate possible biases in comparison between employees' performance. This can be done by providing detailed and clear standards for achievement. It helps eliminate the one-way method of leaders judging the worker. AI can help align poorperforming employees to the needed set of goals to improve performance. It can also help to provide information on employees' potential and tell which employee will perform well or not and this can be very important information for HR professionals in succession planning. HR professionals make use of these tools to set goals to track the performance of teams and individuals, gain developments and changes, and save operational time . This amounts to optimal productivity and overall positive results.

E. Employee Engagement

Employee engagement or labour relations deals with how employers and employees work together to create a fair workplace. Some organizations find it hard to effectively understand their workforce and needs. Understanding the workforce will help organizations' HR managers spend lots of time trying to manage workplace conflicts. It is the responsibility of HR managers to avoid and resolve these issues in an organization where employees face abusive behaviour such as conflicts, sexual harassment, yearly leave disputes, bullying, and other employee relations issues that can negatively influence your firm. Chatbot automation can also help in this regard as communication is an important aspect of employee engagement. This platform can make employees communicate more interactively and speak freely. This can provide real-time feedback to the employees and the HR professionals however good or bad . Employees can freely talk about their feelings without having to meet physically or schedule a meeting. Organizations can now predict the engagement level of their employees via several prediction methods powered by AI. AI analytics models can be applied in scanning through different text in form of emails, chatbot messages, memos, media comments, and the like to extract needed insights to analyze employee engagement. The employees' present and future engagement levels are now predicted by analyzing large datasets and deriving important outputs from them. Natural language processing (NLP) technology can convert the information got from various media into structured data for analysis. This technology can perform sentiment analysis and topic analysis. This technology can also help interpret the feeling behind a textual answer given by an employee in a survey. This can help assess the general satisfaction of employees with the organization's performance. This AI-based technology helps to save time in analyzing engagement surveys and helps HR professionals identify the needs of the employees and provide fast solutions to these needs.

F. Compensation Management

This is a crucial aspect of HRM. It is the process of analyzing, managing, and determining the incentives, and benefits received by each employee . Compensation and benefits offered by a company go a long way in determining the retention of employees. It is becoming difficult for organizations to keep up with benefits and compensation with the cut-throat competition in today's corporate world. The HRM needs to set up compensation structures and other benefits to meet up organizational demands. Employee compensation is expected to be fair and competitive as this will enable companies to attract and retain the best talents.

An effective compensation management system will help enhance both individual performances as well as group performances. Artificial intelligence neural networks can be a useful tool in establishing a level of fairness in employee compensation evaluation . With the help of big data, this technology can be utilized to create an intelligent support system to create a fair compensation evaluation system. AI can save time and help organizations stay up to date on the changing market and employees' preferences. Through big data analytics, historical and relevant data can be gathered and used in predicting future trends in employee compensation. AI can be used to monitor changes in the labour market, ensure employees are paid competitive wages and create a system to adjust employee compensation based on performance thereby encouraging employees to work smarter and diligently. AI can help HR professionals create an ideal compensation package for their employees and provide a fair compensation package based on education, experience, skill sets, and more ensuring businesses move closer to closing pay gaps.

G. Employee Retention

Retention rates in many industries today are very low, which can negatively impact the organization's productivity. In a competitive environment, when a staff leaves, it leaves a negative impact on the remaining team members in terms of motivation and productivity. Employee attrition also affects the organization's revenue, increases recruitment costs, and training costs, and slows down organizational growth. It then becomes a task for the HRM to recruit new staff to fill up the gap in manpower. AI machine learning-based solutions can help HR professionals carry out predictions on staff attrition rates and help determine employees who are more likely to leave and plan incentives to motivate employees. Historical data is analyzed to understand patterns from the data . All possible reasons for employee retention are considered in this prediction. AI can be used to monitor employee engagement, check if the employee is happy, get feedback from employees, and address the feedback as quickly as possible in ensuring the employee is happy and motivated to work . With a smooth onboarding process using AI chatbots, acting quickly on employee feedback, ensuring staff are getting the necessary skills for their job roles, and providing a competitive compensation package through AI-enabled solutions, employee attrition will be less likely to occur.

H. Career Path

In the HR sector, artificial intelligence has been used for a long time in learning management systems and training modules to assist employees to find the right career path, developing their abilities so they may excel in their current roles, and fostering their desire for higher promotions. This approach enables AI technologies to mobilize enormous and diversified data sets, such as terabytes of biographies and performance reviews, and mountains of historical data, to demonstrate an enhanced training and education model targeted to a specific professional level or experience. Artificial intelligence techniques are heavily used by many businesses around the world to empower, train, and develop personnel. This improves the work environment in those institutions and makes it a facility for skills and mastery. Recently, the use of emotional analysis tools to uncover biases and employees' attitudes about everything from using social media sites like Twitter and Instagram has been put in place. In the upcoming years, we will witness the expansion of emotional analysis apps to a wider level inside the human resources sector to gauge employee attitude, engagement, and role. This is because many entrepreneurs are starting to venture and use these technologies. The World Economic Forum previously reported in October 2018 that the most significant difficulties facing the future workforce are the lack of required competencies necessary to keep up with rapid technological advancement . The workforce's ability to support new technology must be ensured. The difference between industrialized and poor nations has dramatically expanded because of the digital divide. More seriously, not only due to some decisions made regarding the price of those technologies, but also due to the nature of high-level professional and technical skills needed to design, operate, and maintain digital infrastructure, the requirement to master fundamental skills, and the mastery of information and communication technology. The idea is that skills are crucial to decrease inequality and the knowledge gap in the workforce.

V. BENEFITS

Artificial Intelligence provides benefits to a variety of industries by reducing the amount of time and effort required to complete complex tasks, resulting in higher accuracy and better results . The amount of time required for data analysis increases along with the number of human resources data. AI-powered software can now easily identify data patterns and manage critical data-intensive tasks. This has helped computers to detect errors and discrepancies faster and more accurately than HR personnel. This significantly saves time leading to a higher profit margin. One of the key aims of every organization is to generate revenue and this has resulted in businesses maximizing the advantages of AI and employee-machine collaboration. Furthermore, the use of AI provides the opportunity for HR employees to focus on more challenging activities requiring significant human involvement. This includes building relationships with clients, a more engaged workplace, career development of employees, and a focus on strategies. Although many companies continue to use online learning tools for ongoing training, they are often disorganized, and employees do not receive the most benefit from them. A more effective learning experience is provided by carefully arranging and presenting programs using artificial intelligence techniques . As a result of AI, different functions within an organization such as

recruitment and training can be reduced in cost. Through its analytical and forecasting prowess, it provides solutions that are relevant and effective, enabling better preparation for future problems.

VI. CONCLUSION

As much as the HR technology landscape continues to be disrupted by AI. HR teams need to balance these cognitive tech advancements with transparency. HR leaders and practitioners need to have a clear understanding of how decisions are being made to mitigate unknowingly injecting bias into their programs,. This transparency will be essential in making sure that employees trust the new technology. As you've gathered by now, there are multiple advantages to utilizing AI technology for your human resources and recruiting needs, but nothing is perfect in life, certainly not a budding form of technology that has yet to reach its maximum potential. Many services and programs offered could lack different aspects one might be accustomed to in manual the non AI world, such as the ability to leave feedback to a candidate after a video interview, or specific CV search criteria. One major aspect that AI technology lacks is empathy and human interaction or the opportunity to handpick a candidate and get to know them personally during the recruitment process which simply cannot be done at this time while relying on AI technology to do all the work for your company. AI sees data whereas humans sense emotion and this is something that will not be changing in the foreseeable future. Therefore, it is up to you to decide if AI technology is the right solution for your businesses' needs. Are you a corporation with thousands of employees, spending big bucks on recruitment annually and desperately need a way to streamline the process and cut costs? Are you a mom-and-pop shop that has less than 15 employees and takes pride in getting to know each employee like family? Every business has different goals, budgets, and desires, but the beauty of the AI industry is that there is a solution for everyone, no matter how big or how small. It is up to you to decide what works for your business, whether that is adapting to the constant growing AI industry or keeping things as they are or just introducing small changes over time. Either way, AI technology is only going to keep growing and at some point in the future AI will be the norm and the old-fashioned ways of recruiting and human resource processes will seem like the stone ages.

VII. REFERENCES

[1] Joshbersin.(2018). AI in HR: A Real Killer App.

[2] HR TECHNOLOGY Nicastro, D. (2018).

[3] 7 Ways Artificial Intelligence is Reinventing Human Resources
.
[4] CMS Pay, V. B. (2018). How Artificial Intelligence Is Reinventing Human Resources.

[5] C. Vilani, "WHAT IS ARTIFICIAL INTELLIGENCE?

[6] B. Garima, S. Vikram, and K. Vinay, An Empirical Study Of Artificial Intelligence and its Impact on Human Resource Functions. 2020 International Conference on Computation, Automation and Knowledge Management (ICCAKM) Amity University, 2020.

[7] G. George and M. R. Thomas, "Integration of Artificial Intelligence in Human Resource," International Journal of Innovative Technology and Exploring Engineering, 2019, doi: 10.35940/ijitee.L3364.129219.

[8] M. Vivek and V. Yawalkar, "A Study of Artificial Intelligence and its role in Human Resource Management," IJRAR19UP004 International Journal of Research and Analytical Reviews, 2019, [Online]. Available: www.ijrar.org

[9] K. A. Kovach and C. E. Cathcart, "Human Resource Information Systems (HRIS): Providing Business with Rapid Data Access, Information Exchange and Strategic Advantage," Public Pers Manage, vol. 28, no. 2, pp. 275–282, Jun. 1999, doi: 10.1177/009102609902800208.

[10] Skil AI, "AI Recruiter Bot for Candidate Acquisition | Chatbots Life," Feb. 21, 2020. https://chatbotslife.com/ai-recruiter-bot-for-candidateacquisition-467812712262 (accessed Dec. 07, 2022).

[11] S. Aldulaimi, M. Mohamed Abdeldayem, and S. Hameed Aldulaimi, "Trends And Opportunities Of Artificial Intelligence In Human Resource Management," INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH, vol. 9, p. 1, 2020, [Online]. Available: www.ijstr.org

[12] N. A. Parveen, V. S. Palaniammal, N. Of 3 Rd Author, and M. Phil Management Scholar, "A STUDY ON ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMET TODAY AND TOMORROW," International Journal of Research and Analytical Reviews, 2019, [Online]. Available: www.ijrar.org

[13] I. Tewari and M. Pant, "Artificial Intelligence Reshaping Human Resource Management : A Review," in 2020 IEEE International Conference on Advent Trends in Multidisciplinary Research and Innovation (ICATMRI), Dec. 2020, pp. 1–4. doi: 10.1109/ICATMRI51801.2020.9398420.

[14] T. N. Bauer, "SHRM Foundation's Effective Practice Guidelines Series Maximizing Success," 2010. [Online]. Available: www.shrm.org/foundation.

[15] M. L. Stanley and L. J. Terry, "AN EXPLORATORY QUALITATIVE STUDY OF NEW EMPLOYEE ORGANIZATION ONBOARDING FROM A HUMAN RESOURCE PROFESSIONAL'S PERSPECTIVE," 2012.