# Title:“Impact of Artificial Intelligence on effectiveness of human resource management functions in IT sector”

**ABSTRACT**

Artificial Intelligence (AI) has opened up tremendous opportunities in the workplace through robotics innovation, which envelops both AI and the Internet of Things (IoT). Precision, Efficiency, and Flexibility are considered the potential benefits of Industry 4.0. The implementation of Industry 4.0 requires a lot of changes, including the Human Resource (HR) function. In Industry 4.0, the HR capability is more critical and gives an upper hand to the organization. The HR capability should be more cautious and adaptable to adjust to the difficulties and requirements. We study the contributions of AI in HR digitalization and practices in Industry 4.0. 271 HR experts working in Information Technology (IT), Manufacturing, and administration are selected to participate in this review focusing on five AI applications in HR capability and three elements of HR readiness. The information collected was examined utilizing the Statistical Package for Social Sciences (SPSS) tool and Analysis of Moment Structures (AMOS). The results uncovered that hierarchical organization examination is a fundamental part of acquiring sustainable development. Adaptability and human asset capability are upheld by each of the five components of AI application areas of HR. Well-being and Safety improvement were viewed as vital components under the AI application in HR.

# INTRODUCTION

In the era of Industry 4.0, the Human Resource (HR) function plays a critical role in bridging the gap between technology and human resources. Although technology is taking over most of the tasks traditionally performed by human resources, there is still a growing need for flexible HR functions to address the challenges of managing people. To achieve this flexibility, technology can help bring agility to the HR process. Agility, which is the ability to move quickly and smoothly, is not a new concept and has been adopted by major companies such as Google, Apple, Facebook, Amazon, and Microsoft. In the context of HR, agility means the ability to adapt and develop individuals and processes in response to rapid and unpredictable changes, to support people, key strategies, and organizational adaptability. As an HR or Learning and Development (LandD) professional, being agile means being able to drive employee engagement and retention in alignment with the company’s overall objectives. HR Agility is particularly suitable for volatile HR functions where standardization of functions is difficult.

To take advantage of the possibilities presented by the new technologies, especially those related to Artificial Intelligence (AI), many businesses have shifted their strategic focus and are making greater efforts to integrate these innovations. The advent of digital technologies has brought about a significant transformation in the operational landscape of businesses. The phenomenon has led to a fundamental change in the nature of the offerings provided to both customers and employees in terms of their experience, as well as the corresponding expectations of these stakeholders. Businesses are functioning within a constantly evolving environment as a result of the process of digital transformation. The advent of digital transformation has prompted enterprises to reassess their fundamental identity and essence.

**IT Sector and HRM Functions**

The IT sector, which stands for Information Technology sector, refers to the industry that consists of businesses and organizations engaged in developing, implementing, and managing computer-based technologies and systems associated with computing, including software development, hardware manufacturing, networking, data storage and analysis, IT consulting, and digital services. The IT sector plays a crucial role in driving technological innovation and facilitating digital transformation across various industries and sectors of the economy. It empowers organizations to leverage technology to enhance efficiency, improve communication, and make data-driven decisions. This sector encompasses diverse fields such as software development, telecommunications, cloud computing, artificial intelligence, and the Internet of Things (IoT). These areas contribute to technology-driven solutions‘ continuous advancement and evolution in today‘s digital era.

The integration of specific HRM functions, including recruitment selection, training and development, and performance management, with artificial intelligence (AI), aims to enhance the productivity of HR professionals.

# AIMOFTHESTUDY

The aim of the study on **"Impact of Artificial Intelligence on the Effectiveness of Human Resource Management Functions in the IT Sector"** is to investigate how the adoption and integration of artificial intelligence (AI) technologies influence the effectiveness and efficiency of human resource management (HRM) functions within the IT sector. This research seeks to achieve the following objectives:  
  
**1. Assessment of AI Adoption:** Evaluate the level of AI adoption within HRM functions in the IT sector, including recruitment, employee performance management, training and development, and workforce planning.

**2. Analysis of HRM Effectiveness:** Examine the current practices and effectiveness of HRM functions in IT companies, identifying challenges and areas for improvement.

**3. Exploration of AI Applications**: Investigate the various AI applications and tools utilized in HRM processes, such as AI-powered recruitment platforms, predictive analytics for talent management, and chatbots for employee engagement.

**4. Understanding Organizational Impact:** Explore the impact of AI adoption on organizational performance, employee satisfaction, and overall HRM effectiveness within IT companies.

**5. Identification of Opportunities and Challenges:** Identify the opportunities and challenges associated with integrating AI technologies into HRM functions, including technological barriers, ethical considerations, and workforce implications.

**6. Development of Best Practices:** Formulate evidence-based recommendations and best practices for IT companies to optimize the integration of AI into HRM functions, enhancing efficiency, effectiveness, and employee experience.

# RESEARCHOBJECTIVES

1. **Assessment of Current Practices:** Recognize the current state of talent management, employee engagement, performance reviews, and recruitment within the IT industry.
2. **Finding Applications of AI:** Determine and examine how AI technology may be used to improve a range of HRM operations, including automated administrative processes, personnel management with predictive analytics, and AI-driven recruitment tools.
3. **Assessment of Advantages and Difficulties**: Examine the advantages of incorporating AI into HRM processes, such as better productivity, better judgment, and a better work environment, as well as the drawbacks, such as algorithmic bias, data privacy issues, and possible job displacement.
4. **Examining Ethical Considerations:** Examine the moral ramifications of AI use in HRM, taking into account concerns about accountability, justice, and transparency as well as how it may affect workers' well-being.
5. **Suggestions for Put into Practice:** Provide advice and insights, including risk-reduction tactics, best practices for using AI, and ways to ensure its ethical and responsible use, to companies wishing to strategically incorporate AI technologies into their HRM procedures.

**The objectives of the study are as follow:**

• The objective of this study is to know the impact of Artificial Intelligence on Human Resource Management

• To identify the role of AI based software in hiring the best talent from industry

• To evaluate the function of AI based software specifically towards the screening process which is the primary process of hiring and cost of using such systems

• To understand the effect of AI based software on recruiters’ job

The study intends to contribute to a deeper understanding of the possible advantages, difficulties, and ethical issues related to the integration of AI in HRM functions within the IT sector by addressing these research objectives. This will ultimately result in the provision of insightful information forpractitioners, policymakers, and researchers in the field.

# SCOPEANDLIMITATIONS

1. **Limited Generalizability:** Results from in-depth research carried out in certain IT companies might not apply entirely to other businesses or sectors. The application of study findings can be impacted by differences in organizational size, culture, and technology infrastructure.
2. **Potential Bias:** Personal prejudices or assumptions may have an impact on the interpretations and observations made by researchers when conducting fieldwork. It is crucial to make deliberate attempts to reduce bias through reflexivity and the triangulation of data sources.
3. **Time and Resource Restrictions:** Planning, carrying out, and analyzing fieldwork take a substantial amount of time and resources. Fieldwork activities may be limited in scope and duration due to logistical obstacles and participant access limitations.
4. **Subjectivity of Interpretations:** Fieldwork-derived qualitative insights and observational data interpretations are by their very nature subjective. The perspectives of other researchers as well as reflexivity might lessen personal prejudices and improve the accuracy of interpretation.
5. **Access Restrictions:** IT businesses may impose restrictions on access to specific AI or HRM processes because of proprietary or confidentiality-related issues. Restricted access may make fieldwork observations less thorough.
6. **Organizational Dynamics:** During fieldwork, participants' actions and reactions may be influenced by organizational dynamics such as power dynamics, hierarchies, and communication styles. Sensitive navigation of these dynamics is necessary for researchers to extract true findings.
7. **Temporal Dynamics:** Over time, fieldwork data may become less relevant or outdated due to the IT sector's quickly altering organizational practices and fast evolving technologies. Accurately capturing changes and trends may need ongoing observation and follow-up research.

# LITERATUREREVIEW

(Parry & Tyson, 2011; Bondarouk& Brewster, 2016) say that the integration of technologies with human resource management (HRM) has resulted in an increase in operational effectiveness. The change in HR technologies has also changed the way HRM is done. For example, online recruitment, training, and management of skills are all examples of how HRM has changed (Stone et al., 2015).

Anupamjauhari (2017): In the paper title how AI and machine learning can affect HR practices today. AI is becoming increasingly relevant and reshaping the way businesses employ and do every activity recruitment is simple for practitioners as machine learning technology will use chatbot to carry out all activities, AI will screen candidates and send the confirmation or rejection email to the candidates. according to the analysis of India report of Delloite 5th annual global human capital trends 53% of companies are ready to deploy digital tools while 22% have already deployed their tools.

Barbara van pay (2018): In this article how AI is reinventing HR it was clearly stated that all the organizations mostly looking for AI solutions for their business and they are scared of letting a non-human entity handle the procedures of business. By using the AI in organization it can reduce the time consumed for filling and hiring the candidates who applied for the job, through screening multiple candidates, gathers data they rank the candidates by considering other information like experience ,skill set etc., to find right person. After finding the perfect fit for the role next main part is interviewing, now days AI interviewing software such as hike are used mostly. AI technology takes care from sourcing to interview which drastically reduces the recruitment timeline and help to hire right candidates with ability to perform in specific roles and make placements much easier and at faster rate.

# METHODOLOGY

Quantitative methods will be employed to gather numerical data on the adoption and usage of AI technologies in HRM functions, while qualitative methods will be utilized to explore the experiences, perceptions, and attitudes of HR professionals and employees towards AI integration.

Quantitative methods will involve the design and distribution of structured surveys to HR professionals and employees within IT companies. These surveys will include Likert scale questions to measure the level of AI adoption, effectiveness of HRM functions, and employee perceptions of AI integration. Additionally, multiple-choice questions will capture demographic information and specific AI applications used in HRM processes. Statistical analysis techniques such as descriptive statistics, correlation analysis, and regression analysis will be employed to analyze survey responses, quantify the extent of AI adoption, identify patterns and trends in HRM effectiveness, and examine relationships between AI usage and organizational outcomes.

# TYPESOFRESEARCH

**Thebasictypesofresearchareasfollows:**

* **Descriptivevs.Analytical:**

Descriptive research may involve identifying and categorizing the current usage of artificial intelligence (AI) in various human resource management (HRM) functions within the IT sector. This type of research aims to describe the characteristics and patterns of AI adoption and its impact on HRM effectiveness.

Analytical research, on the other hand, delves deeper into understanding the underlying factors and causal relationships behind the observed phenomena. It may involve analyzing the effectiveness of different AI applications in specific HRM functions and identifying the key drivers or barriers influencing AI adoption and its impact on HRM outcomes.

* **Appliedvs.fundamental:**

Applied research in this context focuses on addressing practical problems or issues faced by HR professionals and IT companies in integrating AI into HRM functions. It aims to generate actionable insights and recommendations for improving HRM effectiveness through AI adoption.

Fundamental research may involve exploring theoretical frameworks or models to explain the mechanisms through which AI affects HRM functions in the IT sector. It seeks to expand theoretical knowledge and understanding of the underlying principles governing AI's impact on HRM, without immediate practical application.

* **Quantitative vs. Qualitative:**

Quantitative research involves the collection and analysis of numerical data to test hypotheses and identify patterns or relationships. In the study on AI's impact on HRM effectiveness, quantitative research may involve conducting surveys to quantify the level of AI adoption, measure HRM outcomes, and assess the correlation between AI usage and HRM effectiveness.

Qualitative research focuses on exploring subjective experiences, perceptions, and attitudes through methods such as interviews and focus groups. Qualitative research in this study may involve conducting interviews with HR professionals and employees to understand their experiences with AI in HRM functions, as well as the contextual factors shaping AI adoption and effectiveness.

* **Conceptual vs. Empirical or Experimental type of research:**

Conceptual research involves the development of theoretical frameworks or models to explain or interpret phenomena. In the context of AI's impact on HRM effectiveness, conceptual research may involve developing models that conceptualize the mechanisms through which AI influences HRM outcomes.

Empirical or experimental research tests hypotheses and theories through observation or experimentation. Empirical research in this study may involve conducting experiments to evaluate the effectiveness of specific AI interventions in improving HRM outcomes, such as employee performance or satisfaction.

# DATACOLLECTIONMETHODS

This study utilized both primary and secondary data. The primary data was gathered with the help of a structured questionnaire. The questionnaire was distributed to 150 respondents. After considering the reliability and the plausibility of the data, 19 completely filled questionnaires were used for data analysis. The secondary data was collected from articles, journals and PDF’s. Primary and secondary data was interpreted and analyzed to arrive at logical conclusion.

**Surveys and questionnaires:**Designing and distributing surveys to HR professionals, managers, and employees within IT companies can provide quantitative data on their perceptions, attitudes, and experiences regarding AI adoption in HRM functions. Surveys can include close-ended questions with predefined response options as well as open-ended questions to allow for qualitative insights.

**Document Analysis:**: Analyzing existing literature, reports, case studies, and company policies related to AI adoption in HRM within the IT sector can provide valuable secondary data. This method helps contextualize findings and identify trends, challenges, and best practices.

**Observational Studies:**Observing HRM processes and interactions within IT companies firsthand can offer valuable insights into how AI technologies are currently utilized, as well as any areas for improvement or optimization.

**Interviews:** Conducting structured or semi-structured interviews with HR managers, AI specialists, IT professionals, and other relevant stakeholders can offer in-depth qualitative data. Interviews can explore topics such as current HRM practices, challenges faced, perceptions of AI, and future expectations.

**Focus Groups:**Organizing focus group discussions with HR teams or mixed groups of HR professionals and IT personnel can facilitate interactive discussions on specific topics related to AI integration in HRM functions. Focus groups encourage participants to share diverse perspectives and insights.

**Experimental Research:** Designing experiments to test the efficacy and impact of specific AI-driven HRM interventions, such as recruitment algorithms or performance evaluation tools, can provide empirical data on their effectiveness and potential benefits.

**Secondary Data Analysis:**Utilizing online platforms and social media to collect data through online surveys, polls, or discussions can reach a wider audience and gather diverse perspectives from HR professionals, IT employees, and other stakeholders.

# RECOMMENDATIONS

Researchers would like to suggest that companies devise a simple and concise organizational strategy to integrate AI into their recruitment process, based on the results of this study. Researcher would like to recommend that recruiters should replace easy and time-consuming tasks with smart AI technology, allowing recruiters and HR managers to concentrate more on strategic functions. Furth more, developers of smart AI technologies needs to develop such platforms keeping in mind the budgetary issue of small to medium organization as well, so that they can adopt AI in their recruitment process.

AI in recruitment is still a relatively new topic. More AI-related research should be conducted in the future to get a better picture of the subject. Although empirical findings from several organizations were used in this study, when more information about AI becomes available, an organization-specific study could be conducted. Organizations that do not currently use AI but intend to do so in the future could be included in the study to gain a broader perspective on the subject. Despite the potential benefits of AI in HR, there are also challenges and concerns that need to be addressed. One of the main concerns is the potential for bias in AI algorithms. If AI algorithms are trained on biased data, they may perpetuate and even amplify biases in the HR practices. Another concern is the potential for job displacement due to automation. As AI takes over more HR functions, there is a risk that some HR professionals may lose their jobs.

# CONCLUSION:

The incorporation of HR activities for candidates based on AI undoubtedly has a greater effect in enhancing the efficiency of the organisation. Although AI applications do not possess emotional and cognitive abilities like humans, these powerful AI-based HR applications may be able to interpret, forecast, diagnose, and it is a powerful tool for any kind of organization. Yet the real concern that is overwhelming the Global workforce is how AI is demonstrating its impact in cutting jobs across various industries around the world. But, the truth is that it's not the advanced technologies that replace humans, but it's more about how humans can adapt and use these developments in wealth and prosperity development. In the true sense, the AI-based functions would affect certain percentage of workers, and it is the responsibility of HR leaders and companies to reflect on their employee needs and future outcomes. And, eventually, based on our research, most companies effectively incorporate AI-related methods into recruitment, but AI is everywhere in HR in the near future: May be in recruitment, training, on boarding, performance analysis, retention etc., But most companies are still lagging behind in incorporating AI into their HR activities due to their integration-related costs. In conclude, the application of AI should be regarded as a positive opportunity, because AI improves life, AI produces a better future if it is clearly understood and properly used.

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**Thank You**