CHALLENENGES OF IMPLIMENTATION OF ARTIFICIAL INTELLIGENCE IN
MANAGERIAL HUMAN RESOURCE

by

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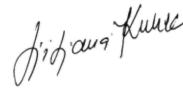Gunjan Khare

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Dedication

I want to dedicate this work to my late father, Mr. Shyam Bahadur Khare whose unwavering belief in my abilities gave me the courage to pursue every dream without hesitation. Your quiet strength and constant support allowed me to explore the world freely, knowing that you would always be there with me in spirit and as a guiding light, encouraging me to chase every opportunity.

To my mother,Mrs Neelima Khare whose gentle guidance and unyielding motivation pushed me to carve my own path with independence and determination. You taught me the importance of resilience and self-reliance, instilling in me the confidence to walk the road less traveled.

To my brothers, Mr. Siddhartha Khare, Nishant Khare and Varun Khare who have always been my protectors and cheerleaders. Your love and support have been my haven, and your encouragement has fueled my passions. You have helped me realize that with family by my side, I could accomplish anything I set my mind to.

To my husband, Mr. Vinaykumar Patil who constantly challenges me to grow and be the best version of myself. Your belief in my potential and your unwavering support have been the wind beneath my wings. You have been my partner in every sense, pushing me to strive for excellence and never settle for less.

And to my son, Vihaan Patil whose innocent curiosity and endless questions have taught me more about life than I could have ever imagined. You have made me a better person, pushing me to see the world through your eyes and inspiring me to be a role model worthy of your admiration.

This work reflects the love, support, and encouragement that each of you has given me. I am eternally grateful for the strength you have provided, which has carried me through this journey. This achievement is not mine alone but belongs to all of you who have walked beside me every step of the way. Thank you for being my guiding lights and for believing in me, even when I doubted myself.

ABSTRACT
CHALLENENGES OF IMPLIMENTATION OF ARTIFICIAL INTELLIGENCE IN
MANAGERIAL HUMAN RESOURCE

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2024

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The incorporation of Artificial Intelligence (AI) into Managerial Human Resource (HR)

management shows potential for improving decision-making processes, but it confronts

considerable hurdles. This study investigates these challenges using survey responses to

highlight critical areas for improvement, including defining and measuring staff

performance, trust in AI-driven judgements, data privacy concerns, technical knowledge,

and AI system costs.

Key findings show that the subjective nature of performance evaluations, fragmented HR

data, and transparency issues greatly impede AI implementation. To solve these issues,

the report suggests standardising performance measurements, integrating HR systems,

increasing AI transparency, and rigorously resolving data privacy concerns.

The recommendations include developing clear, quantifiable performance criteria, unifying HR data into a unified platform, making AI processes public, and establishing strong data protection measures. These measures aim to establish a foundation of trust and efficiency, allowing for more seamless AI integration in HR tasks.

Future study should look into the impact of standardised metrics on AI decision-making, the efficacy of integrated HR systems, the importance of transparency in fostering trust, and approaches to balance innovation and data privacy. By tackling these issues, organisations can better leverage AI's promise, assuring fair and successful HR decisions.

This study emphasises the significance of strategic implementation and ethical issues in the use of AI in HR, proposing a path for overcoming current limits and optimising the benefits of AI technology in managerial HR.

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CHAPTER I:

INTRODUCTION

1.1 Introduction

Introduction of Artificial Intelligence in Human resource Management has been around for two decades now and a lot of work has gone into using technology to bridge the gaps around efficiency and appropriateness.

Artificial Intelligence (AI) is a technology that attempts to simulate human reasoning in computers and other types of machines ((Rodgers *et al.*, 2023)). AI can be described as the theory and development of computer systems that can undertake assignments typically driven by algorithms ((Rodgers *et al.*, 2023)). AI refers to a broad class of technologies that allows a computer to perform tasks that generally require human cognition, including adaptive decision-making ((Cappelli *et al.*, 2018)). A growing debate in academic research examines different types of AI digital tools and techniques and whether firms can benefit from such business solutions (Castellacci and Viñas-Bardolet, 2019)

In this regard, the recent calls for academic scholarship on AI in HRM have received considerable attention in premier HRM journals, including other related disciplinary areas such as international management, information technology, and general management (see ("Human Resource Management", n.d.); (Kaplan and Haenlein, 2020); (Meijerink *et al.*, 2018)

Thus, research at the interface of AI and HRM assumes an increasingly multidisciplinary character (Connelly *et al.*, 2021). However, there is still limited understanding in the AI-HRM literature about how AI and related technologies can offer solutions for effective HRM and sub-functional areas and how AI-enabled HRM functions link to other operational tasks to deliver better results outcomes for their organisations (Agrawal *et al.*, 2019)

HRM has found a way to navigate these advancements to electronically increase productivity, cost effectiveness, and market competition and HR leaders have a positive attitude towards the adoption of the of AI applications in the talent acquisition function (Hmoud and Várallyai, 2022)

Introduction of the AI based technology in HR function has opened opportunities to automate repetitive, low value add tasks and many tools are made available which has led to the incorporation of AI in many tactical HR processes, as it enhances sustainable business models (Di Vaio *et al.*, 2020) . Organizations too have started realizing the efficiency-based advantages (Cappelli *et al.*, 2018) obtained by leveraging AI systems in a variety of applications as well as higher-order decision making functions (Evans and Kitchin, 2018) (Merendino *et al.*, 2018)

The main focus of this study is to understand the challenges and adoption of AI in the Managerial human resource. The Managerial human resource management refers to the

unique people-centred organizational strengths that contribute to making decisions relating to employee skills, expertise, culture, and commitment (Stewart, 2007)

1.2 Research Problem

Although we are marching ahead in the adoption of AI in the tactical HR process there are scope of further studies to identify the challenges faced in the adoption of the AI in the managerial HR processes. There is a lot of work that has happened in the past to understand the use of AI in HRM for Talent acquisition, HR operations and tactical HR processes.

While understanding the use/implementation of AI in HR, it was observed that the organisation face challenges in the adoption of AI tool for taking decisions affecting employees in the managerial HR where ethics and decision making is involved leading to fairness in action and removing biases. These challenges are inherent due to the way AI adopt to function that involves machine learning algorithms

Services connected with high emotional or social complexity require emotional authenticity, which typically humans are more adept at displaying. Moreover, tasks that are highly complex and need high emotional-social skills need to be performed by humans. However, such tasks may be augmented by robots and AI. Therefore, service robots may not be a key source of competitive advantage beyond the short-to-medium term (Budhwar *et al.*, 2022)

The challenges that are faced, point out that limitations usually happen when adapting AI in HRM due to the complex nature of HR phenomena, constraints of the small data sets, accountability questions associated with fairness and other ethical and legal issues, and possible adverse employee reactions to management decisions via data-based algorithms (Budhwar *et al.*, 2022)

How organisations make decisions on employees based on the outputs provided by AI-based systems is not primarily transparent to employees (Connelly *et al.*, 2021).. There is an argument about how employees like gig workers and workers who work distantly from customers and organisations, monitor through AI-based technologies (Connelly *et al.*, 2021). . Scholars further claim that when employees do not understand how decisions have been made using AI-based systems or cannot accept these decisions, it leads them to adversarial behaviours in organisations (Budhwar *et al.*, 2022)

1.3 Purpose of Research

After carefully going through the previous research during the literature review phase it was clear that the implementation of AI in for managerial HR has challenges associated with complexity of HR processes and phenomena, limitations due to small data sets, lack of accountability to address fairness and bias considering ethical and legal discourse and also the possible adverse reaction of employees to the AI driven decisions.

As the organisations are trying to adopt AI in the managerial HR processes it is very important to understand and mitigate the challenges associated with the implementation of

AI. This research will expand and explore the details around complexity of HR processes and phenomena, limitations due to small data sets, lack of accountability to address fairness and bias considering ethical and legal discourse and also the possible adverse reaction of employees to the AI driven decisions.

1.4 Significance of the Study

This research wants to facilitate a more effective and responsible adoption of AI and HR management. The significance of this research lies in its potential to address and mitigate the challenges associated with the implementation of AI in managerial HR processes. By exploring the complexity of HR processes and phenomena, understanding the limitation posed by the small data sets and addressing issues of accountability, fairness and bias within ethical and legal frameworks the research aims to provide valuable insights. Additionally, it seeks to consider and manage the possible adverse reactions to employees to AI driven decisions

1.5 Research Purpose and Questions

The purpose of this research is to understand and mitigate the challenges which are associated with their implementation of AI in managerial HR processes effectively.

- It aims to understand the complexity of HR processes and phenomenons that impact the AI integration
- Understand the limitations which are posted by the small data sets that we have been discussing in developing effective AI solutions
- Exploring issues of accountability fairness and biases within the context of ethical and legal considerations
- Assess the adverse reaction of employees to AI driven decisions and develop strategies to manage these reactions

Ultimately this research wants to provide actionable insights and guidelines for

organization to adopt AI in HR management responsibility and effectively

CHAPTER II:

REVIEW OF LITERATURE

2.1 Theoretical Framework

The Fourth Industrial Revolution (4IR) marks an increased use of emerging technologies, such as artificial intelligence (AI), big data, machine learning, mobile technology, the Internet of Things, geo-tagging, virtual reality, speech recognition, and biometrics (Yazdanparast *et al.*, 2018) (Budhwar *et al.*, 2022) The application of these advanced technologies transforms the way business is conducted locally or globally and has had a considerable impact on the way work is designed, workers are engaged, and workplace processes changed (Duggan *et al.*, 2019) (McColl and Michelotti, 2019)

2.2 A brief overview of Artificial Intelligence

AI is one segment of the technology landscape with growing relevance. AI is not easily defined (Böhmer and Schinnenburg, 2023) because the term covers a large field of diverse applications Budhwar *et al.*, 2022. Scholars characterize the field as multifaceted with impacts from various academic disciplines (Vrontis *et al.*, 2021). Moreover, laymen often conflate AI with other technological achievements, such as filters in databases. A "machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments" (Yeung, 2020) is defined as an AI system. AI systems can operate with different levels of autonomy, and they can (1) use inputs from machines and/or humans to sense real and/or virtual environments; (2) build models on this basis; and (3) apply the implications of these

models to provide options for action or information (Dobbe *et al.*, 2021). Consequently, automation of work processes, including the potential to replace human work on the one hand and the augmentation of human skill on the other hand, are possible ("Markoff, J. (2016). Machines of Loving Grace The Quest for Common Grounds between Humans and Robots. Harper Collins. - References - Scientific Research Publishing", n.d.) These possibilities is underlined by the recent discussions about the language processing skills of ChatGPT and the fundamental changes to many organizational roles and functions that may be expected (Böhmer and Schinnenburg, 2023)

AI as artificial tools that can automatically accumulate experience (i.e., make sense of objective environments) and constantly learn from past experience to perform cognitive tasks. (Pan and Froese, 2023)

2.3 An introduction to HRM

HRM is the adoption of certain functions and activities for utilizing employees efficiently and effectively in an organization to achieve its goals which include satisfying the key stakeholders to the possible extent and contributing positively to the natural environment. It involves formulation, implementation, and on-going maintenance of strategies, policies, procedures, rules, practices and systems of managing employees strategically, participatorily, and sustainably (Opatha, 2021)

2.4 Limitation of AI in HRM space

Although the extant literature on AI-enabled HRM reports optimistic outcomes, others argue for examining the negative consequences of these advanced technologies for both organisations and employees (Huang *et al.*, 2019)

AI is generally considered a generic term for machines that possess abilities similar to human behaviour in analysing data and solving problems. If AI has the same intellectual skills as humans in all areas, such as logical thinking, creativity or decision making, these machines are considered 'strong' AI (Giering *et al.*, 2024) To date, technological maturity has not reached this stage.

Therefore, in HRM, 'weak' AI applications provide specific solutions for delimited processes in HRM, such as recruiting or selection. This developmental stage consequently leads to AI-augmented HRM, in which HR practitioners use algorithmic recommendations for decisions (Vassilopoulou *et al.*, 2022). Nevertheless, extreme impacts on employment and workplaces mirrored in respective influences on HRM to be expected in the near future are still discussed (Vrontis *et al.*, 2021). Not attending to adverse aspects may lead to unintended consequences, such as high employee turnover, decreasing job satisfaction, loss of customer satisfaction, incurring high costs, and eventually affecting organisations' overall business performance and goodwill (Li *et al.*, 2019)

Furthermore, scholars point out that limitations usually happen when adapting AI in HRM due to the complex nature of HR phenomena, constraints of the small data sets,

accountability questions associated with fairness and other ethical and legal issues, and possible adverse employee reactions to management decisions via data-based algorithms (Cappelli *et al.*, 2018)

Despite the limited knowledge on AI-HRM scholarship, a growing body of knowledge asserts that contemporary developments in automation technologies offer remarkable benefits for HRM ("I, Human", n.d.); (Prikshat *et al.*, 2023) Further, organisations from local and multinational enterprises (MNEs) have understood the benefits of AI-based tools and techniques to enhanced employee satisfaction, commitment and job engagement (Castellacci and Viñas-Bardolet, 2019) productivity (Wirtz, 2019), job performance, HR cost-effectiveness (Azadeh and Zarrin, 2016); employee retention (Nura and Osman, 2013) , effective decision-making (Azadeh and Zarrin, 2016), while reducing HR-related and other operational costs (Torres and Mejia, 2017)

How organisations make decisions on employees based on the outputs provided by AI-based systems is not primarily transparent to employees (Connelly *et al.*, 2021) There is an argument how employees like gig workers and workers, who work distantly from customers and organisations, monitor through AI-based technologies (Connelly *et al.*, 2021) Scholars further claim that when employees do not understand how decisions have been made using AI-based systems or cannot accept these decisions, it leads them to adversarial behaviours in organisations (Cappelli *et al.*, 2018)

2.5 Challenges of AI in HRM for this study

We will discuss each challenge of adopting AI for managerial HR in detail below and understand if these challenges are deterrent in making the adoption difficult for organisation and people managers

2.5.1 Complexity of HR Phenomenon

The growing interest in examining AI and its impact on sub-functional areas of HRM is rising. For example, scholars argue that emerging AI-based HRM technologies can support talent acquisition, development, assessment, and retention in large technology MNEs (Bersin, 2019); (De Kervenoael *et al.*, 2020)., It can also assist from recruitment to selection, assessing, and interviewing the most suitable candidates (Torres and Mejia, 2017) ; (Van Esch *et al.*, 2019)including Industry 4.0 advertisements to take out new job profiles (Pejic-Bach *et al.*, 2020) and assess employees' training effectiveness (Sitzmann and Weinhardt, 2014)

The most important source of complexity may be the fact that it is not easy to measure what constitutes a "good employee," given that job requirements are broad, monitoring of work outcomes is poor, and biases associated with assessing individual performance are legion. Moreover, complex jobs are interdependent with one another, and thus one employee's performance is often inextricable from the performance of the group: Is it sufficient to be a good individual contributor, and if not, how do we measure interactions with others? Without clear measures of what it means to be a good employee, a great many HR operations face considerable difficulty in measuring performance, which is the outcome driving many HR decisions. (Cappelli *et al.*, 2018)

2.5.2. Constraints of the small data sets

The constraint of small data set is where we see the most challenges as the scholars have argued about the collection of the data as the it has been observed that as the HR phenomenon have such level of complexity so there are specialised vendor who only work in one swim lane of HR data like one vendor for performance management, another for applicant tracking software and another for compensation and payroll data so on and so forth leading to the biggest practical challenge of aggregating the available data base as all these systems are not compatible with each other.

These specialised vendors have harnessed their ability to combine data from various organisation to design the predictive models and benchmarked comparison. The challenge is for organisation to understand their distinct context to make use of these predictive models to make their own effective decisions. The above has implications for IHRM as contextual influences, such as linguistic, cultural, institutional differences across borders will need sufficiently diverse databases for AI applications to minimise any inherent biases in narrow databases and single country contexts.

2.5.3 Accountability questions associated with fairness and other ethical and legal issues

Issues associated with electronic monitoring of employee performance and privacy are not new, (Pearl and Mackenzie, n.d.)but the contemporary context of social media in particular creates new challenges (Goldfarb and Tucker, 2017)

In the words of AI scholar Brian Christian, who wrote a book on the topic: "As machine-learning systems grow not just increasingly pervasive but increasingly powerful, we will find ourselves more and more often in the position of the 'sorcerer's apprentice': we conjure a force, autonomous but totally compliant, give it a set of instructions, then scramble like mad to stop it once we realize our instructions are imprecise or incomplete—lest we get, in some clever, horrible way, precisely what we asked for."

The challenge of building AI that shares, and reliably acts in accordance with, human values is a profoundly complex dimension of developing robust artificial intelligence. It is referred to as the alignment problem.

As we entrust machine learning systems with more and more real-world HRM responsibilities—from making hiring decisions to reviewing termination and promotion decision—solving the alignment problem will become an increasingly high-stakes issue for the industry. Yet it is a problem that defies straightforward resolution. It is impossible to manually catalogue a set of rules that, taken collectively, would guarantee ethical behaviour—for a conversational chatbot or any other intelligent system. Part of the problem is that human values are nuanced, amorphous, at times contradictory; they cannot be reduced to a set of definitive maxims. This is precisely why philosophy and ethics have been such rich, open-ended fields of human scholarship for centuries. (Forbes, 2021)

As noted above, the scope of possible performance indicators is broad and hard to observe and measure precisely. Attempts to dig them out from digital traces of human behaviour within and outside organizations run into severe issues of control, privacy, and ethics and

still do not guarantee that anything worthwhile will be found. And even if tight associations between a set of observable worker characteristics and behaviours within a company is found, this set is unlikely to be fully usable on the pool of job candidates (Cappelli *et al.*, 2018)

2.5.4 Possible adverse employee reactions to management decisions via data-based algorithms

The outcomes of human resource decisions, such as who gets hired and fired, have such serious consequences for individuals and society that concerns about fairness – both procedural and distributive justice – and ethics are paramount. Elaborate legal frameworks also hold employers accountable for making those decisions in a fair manner. Central to those frameworks is the concern with explainability, knowing what attributes are driving the decision, something that is typically absent from pattern recognition methods underlying many state-of-the-art algorithms.

Employment decisions are also subject to a range of complex socio-psychological concerns that exist among employees, such as personal worth and status, perceived fairness, and contractual and relational expectations, that affect organizational outcomes as well as individual ones. As a result, being able to explain, justify, and get employees to accept the algorithms being used is crucial. When lacking acceptance, employees are capable of gaming or other adversarial reactions to algorithmic-based decisions that, in turn, affect organizational outcomes. While a human decision-maker can monitor adversarial behavior and adjust his or her decisions accordingly, even state-of-the-art algorithms find this to be

a challenging problem. Dealing with manipulation of this type is the focus of a machine learning technique known as "adversarial machine learning". (Cappelli *et al.*, 2018)

Hypothesis

Hypothesis 1

Difficulties in defining and measuring employee performance prevents AI from being successfully implemented in HR.

Constraints of the small data sets

The constraint of small data set is where we see the most challenges as the scholars have argued about the collection of the data as the it has been observed that as the HR phenomenon have such level of complexity so there are specialised vendor who only work in one swim lane of HR data like one vendor for performance management, another for applicant tracking software and another for compensation and payroll data so on and so forth leading to the biggest practical challenge of aggregating the available data base as all these systems are not compatible with each other.

These specialised vendors have harnessed their ability to combine data from various organisation to design the predictive models and benchmarked comparison. The challenge is for organisation to understand their distinct context to make use of these predictive models to make their own effective decisions. The above has implications for IHRM as contextual influences, such as linguistic, cultural, institutional differences

across borders will need sufficiently diverse databases for AI applications to minimise any inherent biases in narrow databases and single country contexts.

Hypothesis 2:

The fragmented nature of HR data across specialized vendors working in different swim lanes like performance management, compensation, application tracking negatively impacts organizations ability to leverage the full potential of AI for informed decision-making in global HR management.

Accountability questions associated with fairness and other ethical and legal issues

Issues associated with electronic monitoring of employee performance and privacy are not new, (Pearl and Mackenzie, n.d.)but the contemporary context of social media in particular creates new challenges (Goldfarb and Tucker, 2017)

In the words of AI scholar Brian Christian, who wrote a book on the topic: "As machine-learning systems grow not just increasingly pervasive but increasingly powerful, we will find ourselves more and more often in the position of the 'sorcerer's apprentice': we conjure a force, autonomous but totally compliant, give it a set of instructions, then scramble like mad to stop it once we realize our instructions are imprecise or incomplete—lest we get, in some clever, horrible way, precisely what we asked for."

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As noted above, the scope of possible performance indicators is broad and hard to observe and measure precisely. Attempts to dig them out from digital traces of human behaviour within and outside organizations run into severe issues of control, privacy, and ethics and still do not guarantee that anything worthwhile will be found. And even if tight associations between a set of observable worker characteristics and behaviours within a company is found, this set is unlikely to be fully usable on the pool of job candidates (Cappelli *et al.*, 2018)

Hypothesis 3:

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Organizations that relies on AI for performance management and career progression in HRM are more likely to experience "alignment problems," where compliant algorithms may generate unintended consequences due to the difficulty of capturing nuanced human values in definitive rules, posing a challenge for ethical and accountable AI practices.

Possible adverse employee reactions to management decisions via data-based algorithms

The outcomes of human resource decisions, such as who gets hired and fired, have such serious consequences for individuals and society that concerns about fairness – both procedural and distributive justice – and ethics are paramount. Elaborate legal frameworks also hold employers accountable for making those decisions in a fair manner. Central to those frameworks is the concern with explain ability, knowing what attributes are driving the decision, something that is typically absent from pattern recognition methods underlying many state-of-the-art algorithms.

Employment decisions are also subject to a range of complex socio-psychological concerns that exist among employees, such as personal worth and status, perceived fairness, and contractual and relational expectations, that affect organizational outcomes as well as individual ones. As a result, being able to explain, justify, and get employees to accept the algorithms being used is crucial. When lacking acceptance, employees are capable of gaming or other adversarial reactions to algorithmic-based decisions that, in turn, affect organizational outcomes. While a human decision-maker can monitor

adversarial behaviour and adjust his or her decisions accordingly, even state-of-the-art algorithms find this to be a challenging problem. Dealing with manipulation of this type is the focus of a machine learning technique known as "adversarial machine learning". (Cappelli *et al.*, 2018)

Hypothesis 4:

A lack of transparency and explainability in data-driven HR algorithms triggers negative employee reactions due to concerns around fairness, accountability, and algorithmic manipulation

2.6 Summary

As referenced in the introduction that although we are marching ahead in the adoption of AI in the tactical HR process there are scope of further studies to identify the challenges faced in the adoption of the AI in the managerial HR processes. As discussed in the literature review there is a lot of work that has happened in the past to understand the use of AI in HRM for Talent acquisition, HR operations and tactical HR processes. We observed that the organisation face challenges in the adoption of AI tool for taking decisions affecting employees in the managerial HR where ethics and decision making is involved leading to fairness in action and removing biases.

Services connected with high emotional or social complexity require emotional authenticity, which typically humans are more adept at displaying. Moreover, tasks that are

highly complex and need high emotional-social skills need to be performed by humans. However, such tasks may be augmented by robots and AI. Therefore, service robots may not be a key source of competitive advantage beyond the short-to-medium term (Wirtz, 2019

These challenges are inherent due to the way AI adopt to function that involves machine learning algorithms. As a well-known research paper on the topic summarized: "The ability to continually learn over time by accommodating new knowledge while retaining previously learned experiences is referred to as continual or lifelong learning. Such a continuous learning task has represented a long-standing challenge for neural networks and, consequently, for the development of artificial intelligence."

CHAPTER III:

METHODOLOGY

3.1 Research Methodologies

Research methodology refers to the systematic process used to collect and analyze data in order to answer research questions or test hypotheses. It encompasses the strategies, tools, and techniques used to gather and interpret information, ensuring that the study's findings are valid, reliable, and applicable to the research problem.

There are various methodologies available for conducting research, each suited to different types of inquiries. These include qualitative methods, which are often exploratory and used to gain an understanding of underlying reasons, opinions, and motivations; quantitative methods, which involve the collection and analysis of numerical data to identify patterns and test hypotheses; and mixed-methods, which combine elements of both qualitative and quantitative approaches to provide a more comprehensive perspective.

3.2 Operationalization of Theoretical Constructs

The process of identifying and quantifying an idea that is not immediately observable so that it can be empirically evaluated or utilised in research is known as "operationalisation" of a theoretical construct. The abstract notions or ideas that are referred to as theoretical constructs include concepts like "intelligence," "motivation," and "customer satisfaction." For this study there are abstract notions that include Employee performance measurement and measurement challenges, Impact of fragmented data, AI alignment problems, Employee reaction to AI transparency and explainability. For a scientific analysis to be conducted, these conceptions must be converted into precise, quantifiable variables.

In the preceding section of this paper, the relevant theories related to the research objectives were discussed and to evaluatye these constructs, survey was designed in order to study the impact and quantify these variables. The survey constituted to assess the perception of the employees and HR professionals of various IT organisations for the

perceptions of the clarity, consistency, and objectivity of current performance metrics within their organization. The survey also covered the evaluation of different HR systems used in any organisations and their impact on the visibility of the consolidated employee data for visibility and to take informed managerial HR decisions. The survey also looked in to the pertinent aspects of the perceived unfairness of the AI driven decision for managerial HR and also the trust of the employees on these decisions and also the how much employees are looking to trust the decisions post transparency and clarity on how the decisions are made

3.3 Expected Outcome:

- Identifying if difficulties in defining and measuring employee performance prevents AI from being successfully implemented in HR.
- Examining that fragmented nature of HR data across specialized vendors working in different swim lanes like performance management, compensation, application tracking negatively impacts organizations ability to leverage the full potential of AI for informed decision-making in global HR management.
- Evaluating that those Organizations that relies on AI for performance management and career progression in HRM are more likely to experience "alignment problems," where compliant algorithms may generate unintended consequences due to the difficulty of capturing nuanced human values in definitive rules, posing a challenge for ethical and accountable AI practices.

- Understanding if lack of transparency and explainability in data-driven HR algorithms triggers negative employee reactions due to concerns around fairness, accountability, and algorithmic manipulation

3.4 Research Design

As per (Isaga, 2012) research design provides the blueprint of the research. It addresses multiple factors like what is the specific questions the research should address, what kind of data would be required or relevant to the research, what and how the data should be collected and analyzed.

Research designs can be classified into two main categories: quantitative and qualitative. Quantitative research designs typically involve the collection and analysis of numerical data, often to test hypotheses and establish causal relationships. Qualitative research designs, on the other hand, focus on understanding phenomena through the exploration of subjective experiences, interactions, and contexts.

I utilised the quantitative methods to conduct the research, as per ("Business Research Methods", n.d.), this approach is often preferred as to analyse the measure the relationship between the variables, such as various challenges which are faced during the implementation of AI in managerial HRM. Listing below some reasons why this approach would be better suited for the research

Measuring Numerical Data : This method allows for the collection and analysis of the numerical data which is well suited for assessing the likelihood, frequency and magnitude of the various challenges. I can use the Likert scales to quantify the degree of difficulties in challenges providing standard measure of comparison

Statistical Analysis : This approach allows to test hypothesis and analyse relationship between variables. By conducting statistical analysis like regression and correlation, I can identify the significant association between challenges, organisational factors and outcomes providing empirical evidence to support my findings

Generalizability: Quantitative research often aims for generalizability, seeking to draw conclusions that are applicable beyond the specific context of the study. By collecting data from a diverse range of organizations and using random sampling techniques, researchers can enhance the external validity of their findings, allowing for broader generalizations about the challenges of AI implementation in HRM across different organizational contexts

Objectivity and Replicability: Quantitative research emphasizes objectivity and replicability, aiming to minimize researcher bias and ensure the reliability of the findings. By using standardized survey instruments and predefined data analysis procedures, researchers can enhance the objectivity of their study, enabling other researchers to replicate the study and verify its results, thereby strengthening the credibility of the research findings.

Scope and Breadth: Quantitative research allows researchers to explore a wide range of variables and examine complex relationships within a single study. By systematically collecting and analyzing data on multiple dimensions of AI implementation challenges in HRM, researchers can provide a comprehensive understanding of the topic, uncovering patterns and trends that may not be apparent through qualitative methods alone.

Overall, the quantitative approach offers several advantages for studying the challenges of implementing AI in HRM, including its ability to measure numerical data, conduct statistical analysis, enhance generalizability, ensure objectivity and replicability, and explore a broad scope of variables. These characteristics make it well-suited for addressing research questions related to the quantitative assessment of AI implementation challenges in HRM.

The following sections will address the specific details around survey development, participants, distribution and collection of data and analysis of the data covering the ethical aspects of the research.

3.5 Population and Sample

The aim for this sample selection is to obtain the views on the challenges of implementation of AI in the managerial HR from the people who are part of the industry and experiencing the technology in the real time.

There are two different approaches mainly Probability and non – probabibilty method to select the respondents and both approaches have there pros and cons. ("Baker, M. (2003) Business and Management Research How to Complete Your Research Project Successfully. Westburn Publishers Ltd., Helens-burgh. - References - Scientific Research Publishing", n.d.). For this study we have used the non-probility approach which is commonly used to where the sample is easy to access like colleagues, friends and family

and another reason to choose this method as this methos is less expensive. There are multiple method to determine the sample size for the study, in this study, mathametical method was used to detrmine the size using the finite population correction with an 85% confidence level, an estimated proportion of 0.5, and a margin of error of 5% which gave the required sample size for this study as 200. The study used the sample size of 145.

3.6 Participant Selection

In order for a sample to be reliable and accurate, it needs to be composed of people who possess the intended information relevant to the research ("Baker, M. (2003) Business and Management Research How to Complete Your Research Project Successfully. Westburn Publishers Ltd., Helens-burgh. - References - Scientific Research Publishing", n.d.)). The participants selected for this study is from the major cities in India where we see the concentrated workforce of the IT sector like Bangalore, Chennai. Mumbai, Pune etc. and who are working in the IT sector excluding the BPO sector.

The participants were identified from various sections of the IT organization of various sizes majorly from enterprise to start-ups depending on the size of the employee base and from various business types like the IT product and IT services, IT consulting organization. The participants reflect the workforce in the IT sector, which includes software services, product development, engineering services, and other IT-related functions but excludes the BPO segment and from different generation to get the holistic view on the new age technology which is the focus of the study.

The experience level from interns to executive level and their role from people managers to individual contributors was also the criteria that was used to sample the population as that way we will be able to determine the factors that can be a deciding factor in the adoption of the technology.

Every aspect of the population representing different demographic was covered during the study.

3.7 Instrumentation

The design of the survey was based on the previous literature review and the understanding of the various challenges that were included in the conceptual framework. The survey questionnaire was divided into four major aspects to provide comprehensive understanding of the current state of the AI integration in HR processes, analyzing current challenges, acceptance levels and potential areas of improvements. The survey questionnaire had following rationale to assess the impact of AI in HR processes, particularly focusing on the challenges, acceptance, and perceptions among employees in various industries and stages of their careers.

Age Group, City, Educational Qualification, and Area of Education: To analyze demographic and educational influences on AI perceptions in HR.

Career Stage, Industry Type and Organization Size: This matric can help us to understand how career stage along with industry type in conjunction with organizational size shapes individual viewpoint about AI in HR.

Familiarity with AI in HR: To measure baseline awareness and knowledge.

Measuring Performance, Difficulties in Using Current Tools and Limitations: For identifying problems with existing tools and measuring confidence.

Lack of data accessibility within HR Systems: To understand how good the current state of data management is supporting the efficiency and decision making for these initiatives.

AI Trust and Comfort: To evaluate trust in AI and the influence of transparency and data privacy on comfort levels.

Bias and Fairness in AI: To understand concerns about bias and fairness in AI-driven decisions.

3.8 Data Collection Procedures

This study has used the online survey method to collect the data. The online survey method is more cost effective eliminating the need to type, print and distribute the survey and the ease of use making it an ideal choice in the modern research methods. Online surveys provide a cost-effective, efficient, and versatile method for data collection. Their ability to reach a wide audience, coupled with the potential for anonymity and advanced data analytics, makes them an ideal choice for modern research needs. These advantages help researchers gather high-quality data quickly and accurately, supporting informed decision-making. (Fan and Yan, 2010), (Wright, 2006)

3.9 Research Design Limitations

Just like any other empirical studies this research has some limitations that are worth highlighting.

The first limitation is that data collected represent only IT sector excluding the BPM sector. As such we don't know if the finding from this sector is applicable to the the

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BPO/ITeS sector and it will be very interesting to see if the result from this study is relatable in other sectors as well or not.

The second limitation is that the participants were selected from the major IT focused urban area but there are other small cities which have IT sectors coming up. While it is true that the descriptive statistics suggest that the result from this study likely represents the Population in IT, doing so could lead to producing bias. Understanding the limitations of implementation of AI in managerial HR in other part of the India would be a potential research direction for future research.

The third limitation of this study lies in the fact that it uses a non-probability sampling method which means that generalization of finding from this research to the other area of AI implementation in managerial HR other than IT industry should be done with extreme care.

Fourth limitation is the field of AI is evolving very rapidly and the study conducted does not consider the impact of the changes in the technology and its effect in the future other than the time it was conducted

The final limitation of this study that the data used in this study is collected from the employees from the IT sector and it is mainly based on their experience in the current organization and since it is multi-generation study, the adoption of the technology by their organization can change the way they perceive the challenges.

Summary

The researcher describes the steps used to address the research problem in this area of the thesis, including the methods and strategies used to locate, pick, process, and evaluate the data relevant to comprehending the current challenge. Giving readers the

tools to evaluate the general validity and dependability of the employed techniques was the aim. In essence, the researcher sought to respond to two main queries: How were the data gathered? How was it examined, too?

CHAPTER IV:

RESULTS

4.1 Participants Characteristics

In this section of the thesis, the researcher will present the details description of the participants as it will form an important aspect of the study and their relationships with the research results

4.1.1 Age group Distribution

As reference in the Table 1 Age Distribution the majority of the participants in the study fell within the age group of 20-29 years, comprising 41.4% of the total sample. This significant representation indicates that a large portion of the respondents were young adults, which could be reflective of presence of the younger workforce of India and their interest in the new age technology like AI and ML which is also the subject of this study. Following this group, the next largest age category was 40-49 years, which accounted for 31% of the participants. This substantial representation of middle-aged

individuals suggests that the participants may be playing the role of the people manager who are involved in people decisions and they have the experience which will help us understand the adoption and effect of the factors of the study . Together, these two age groups represent the majority of the study's participants, offering a diverse perspective from both younger and more experienced age cohorts.

Age group	Sample representation
20 - 29 Years	41%
40 - 49 Years	31%
30 – 39 Years	20%
50 – 59 Years	8%
Grand Total	**100%**

Table 1 Age Distribution

4.1.2 City of work distribution

Most of the sample size for this study is drawn from Bengaluru, a city often referred to as the "Silicon Valley of India." As given in the Table 2 City of work distribution, 60% of the sample participants come from Bengaluru which is not only the leading hub for technology and innovation in India, but it also houses numerous multinational companies, startups, and research institutions. As a result, residents of Bengaluru are likely to have greater exposure to the latest technological advancements compared to other regions in India. This heightened exposure makes them particularly relevant for studies related to technology adoption, digital literacy, or innovation.

Given Bengaluru's significant role in India's tech landscape, the sample can be considered to represent a substantial portion of the country's tech-savvy population. The

city's diverse and educated workforce, combined with its status as a technological epicenter, means that findings derived from this sample may offer insights that are indicative of trends among India's broader technologically advanced communities. Moreover, Bengaluru's population includes individuals from various parts of India, further enhancing the generalizability of the study's results.

In summary, while the focus on Bengaluru might seem geographically limited, it is a strength of this study. The city's unique position within India's technology sector ensures that the sample is not only well-informed but also reflective of the broader trends in the country's digital transformation.)

City of work	Sample representation
Bengaluru	60%
Any other	16%
NCR	10%
Mumbai	8%
Chennai	4%
Pune	2%
Grand Total	**100%**

Table 1 City of work distribution

4.1.3 Highest level of Education completed

As referenced in in Table 3 Education level of the participants Majority of participants are post graduate(53%) indicating that they have advanced knowledge and expertise which is crucial and signifies that their insights can provide the nuanced perspective on the interplay of AI technology and HR management as likely they are the senior people leaders and understand the complexity involved in the AI driven HR decisions,

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A considerable fraction of the sample is graduate-level educated (44%). It is anticipated that these people possess a strong background in general managerial duties and HR procedures. Their participation guarantees that a wide range of real-world experiences and perspectives on the application of AI are included in the study, encompassing both theoretical comprehension and practical application.

Respondents with a PhD or doctorate (3%), while in fewer numbers, offer an analytical and research-focused viewpoint. They will probably provide insightful information about the moral issues, long-term strategic implications, and possible research gaps surrounding AI in HR.

To summarize, this sample represents a knowledgeable and experienced group capable of providing relevant and insightful inputs into the study

Highest level of Education	Sample representation
Post Graduation	53%
Graduation	44%
PhD/Doctorate	3%
Grand Total	100%

Table 3 Education level of the distribution

4.1.4 Area of Education

As indicated in table 4, 64% of the respondents have backgrounds in science, technology, engineering, and mathematics (STEM). This implies that the sample probably has a solid technical background, which is important for comprehending the many details and technical features of artificial intelligence systems. They might be more aware of the advantages and disadvantages of AI in HR due to their education.

24% percent of the respondents have degrees in business management or commerce. This group probably has knowledge of the administrative and practical difficulties associated with integrating AI in HR, including cost control, return on investment, and alignment with corporate objectives.

The humanities, education, and social sciences account for 8% of the sample, suggesting a portion of the population that might offer a more human-centric viewpoint. This group might be more aware of the moral, psychological, and social ramifications of artificial intelligence in HR, including issues of equity, openness, and employee trust.

Just a small portion of responders have diverse backgrounds or work in specialized industries (e.g., MBA with HR and Finance, Legal, or Business Management paired with STEM). A comprehensive understanding of AI in HR that integrates technological, managerial, ethical, and legal viewpoints is made possible by the diversity of educational backgrounds.

In conclusion, a thorough examination of the AI problems in HR requires a consideration of the range of educational backgrounds. This distribution provides a solid framework for examining the complex issues raised by AI in HR.

Area of Education	Sample Representation
STEM	64%
Commerce/Business Management	24%
Humanities, Education or Social Science	8%
Business Management	1%
B-tech mechanical engineering	1%
Bachelor of Science	1%
STEM & Business Management	1%
Legal	1%
MBA Finance and HR	1%
Grand Total	**100%**

Table 4 Area of Education distribution

4.1.5. Current Career Level

As referenced in the below table 5, While the largest portion of the sample (38%) consists of interns, it is important to note that mid and senior management together constitute a significant 48% of the sample. These individuals are people managers, often responsible for critical decision-making processes within their organizations. This representation from various levels of management is particularly valuable in the context of this study, as it provides a well-rounded perspective on the role of AI in people management and decision-making.

Interns, who are generally at the entry-level of their careers, bring fresh perspectives and a strong familiarity with the latest technological trends, given their recent academic experiences and exposure to modern tools. However, it is the mid and senior managers who are often the primary decision-makers when it comes to the implementation and integration of AI in workplace processes, particularly in human resources and people management.

The inclusion of these experienced professionals in the study allows us to gain a deeper understanding of how AI is being utilized in strategic decision-making. Their insights help to shed light on the practical applications of AI in managing teams, optimizing workflows, and enhancing productivity. Moreover, since these managers are likely to have encountered various challenges and opportunities related to AI adoption, their experiences offer a more comprehensive view of the technology's impact in a corporate setting.

Therefore, the combination of insights from both interns and seasoned managers ensures that the study provides a balanced and nuanced understanding of AI's role across

different levels of an organization. This diversity in the sample enriches the findings, offering a fair and representative view of how AI influences people-related decisions in the workplace

Career Level	Sample Representation
Intern	35%
Mid Management (e.g.Manager, Sr. Manager)	28%
Senior Management (e.g.Director, Sr. Director)	20%
Executive Management (e.g VP, Sr. VP, EVP, Board Members)	10%
Early Career/ New College Grad	6%
Grand Total	**100%**

Table 5 Career Level distribution

4.1.6 Current Role

As indicated in the table 6, almost half (49%) of the participants are independent contributors who don't oversee others. This group will probably offer insights into the ways in which AI tools directly affect their work, particularly with regard to regular HR interactions, career advancement, and performance reviews. Their input is essential for comprehending AI systems' fairness and usability from the viewpoint of people who are most impacted by AI-driven HR choices.

Senior people leaders, who make up 24% of the sample, oversee managers and are likely to be involved in strategic AI implementation choices. They can provide

insights into how AI is incorporated at the higher organizational level, such as its impact on leadership roles, general HR strategy, and alignment with business objectives. Their replies are critical for understanding AI's challenges and prospects from a leadership standpoint.

First-line managers, which account for 15% of respondents, play an important role in implementing AI-driven HR processes on the ground. They are frequently the initial point of contact for employees who have questions about performance management or other HR activities influenced by AI. Their opinions can shed light on how AI tools influence managerial responsibilities, employee engagement, and team-level HR practice performance.

HR professionals, who make up 12% of the sample, are actively involved in the design, implementation, and administration of AI solutions in HR. Their views are especially useful in identifying technological and procedural difficulties such as data integration, algorithmic transparency, and ethical compliance. They will also likely have a thorough awareness of how AI affects HR procedures and decision-making processes.

Overall, the sample's diversified representation of roles ensures that the study covers a wide variety of opinions on AI application in HR. This distribution also enables a thorough examination of how AI tools influence many parts of HR management, from high-level decision-making to everyday employee interactions.

Current Role	Sample Representation
Individual Contributor (No one reporting into you)	49%
Senior people leader (manager of managers)	24%
First Line Manager (People Manager)	15%

HR Professional (at all levels/positions	12%
Grand Total	**100%**

Table 6 Current Role distribution

4.1.7 Work Experience

As highlighted in table 7, Individuals with less than 5 years of experience account for most of the sample (41%). This shows that many respondents are in their early careers. These professionals might have a more current view of technology and AI.

The second-largest group (19%) has 15 to 20 years' experience. These people are likely to have extensive experience and are at a career stage where they have good experience with HR processes and may have observed the progress of HR technologies throughout time. Their insights are a valuable addition and could help us understand the transition from conservative HR practices to AI-driven HR practices.

Similarly, individuals with 20 to 25 years of experience are well represented (17%). They may bring their experience in understanding the challenges better and help the study by bringing in their views on the technology driven decisions.

In summary, Early-career professionals might have a more favorable view of AI due to their familiarity with digital tools, while more experienced professionals might highlight challenges related to the integration of AI with existing HR practices. This way the sample will be able to represents the holistic view for the study.

Total Work Experience	Sample Representing
<5 Years	41%
15 to 20	19%
20 to 25	17%
10 to15	12%
> 25	8%

5 to 10	4%
Grand Total	**100.00%**

Table 7 Work experience distribution

4.2 Organization Characteristics of the Participants

4.2.1 Industry Type

The sample distribution represented in the table 8 is based on the industry types of participants in a study The majority (55%) of the samples are from the IT product industry. This implies that the study will heavily focus on the experiences and obstacles encountered by experts in this field. The IT product business is anticipated to be at the forefront of AI adoption, given its technological concentration, and the findings may indicate sophisticated AI integration.

A quarter (24%) of the sample is classified as "other" industries. This diversified category may include sectors not specifically specified, providing a broader perspective on AI implementation issues. However, the exact sectors included in this category are not defined, making it difficult to draw firm conclusions about industry-specific issues.

Professionals from the IT services industry also make up a sizable (13%) proportion of the sample. IT services organizations often focus on delivering technological solutions to other businesses, thus their insights may show obstacles when deploying AI in a client-focused environment where customization and client-specific solutions are critical.

Based on the sample distribution, the study is expected to provide in-depth insights into AI implementation issues in the IT industry, notably in product development and

services. However, it may not adequately capture the issues confronting other industries, particularly those outside the technology sector.

Industry Type	Sample Representation
IT Product	55%
Other	24%
IT services	13%
Manufacturing	6%
IT Consulting	2%
Grand Total	100%

Table 8 Industry distribution

4.2.2 Size of the organization

Refer the table 9 to understand the distribution of the size of the organization in this study and it shows that the majority of the sample (59%) is made up of enterprise-level organizations with over 5,000 employees. This considerable representation indicates that the study will primarily focus on the experiences and issues experienced by very large organizations. Large companies usually have greater resources and established processes for using AI in HR. The insights gained from this group are likely to center on the complexities of AI adoption in a large-scale, highly organized workplace.

A sizable (16%) component of the sample comes from large organizations, which have tremendous resources but may confront different issues than enterprises. Large organizations may have more freedom than enterprises to experiment with AI tools, but they still confront substantial integration issues. Their experiences may offer insights into AI implementation tactics that are less bureaucratic and more adaptable

Small and medium size organization are less represented (24%) overall and this may result in an insufficient grasp of the difficulties confronting these groups, notably in terms of resource restrictions, agility, and novel approaches to AI adoption which is not under the scope of the study.

The sample distribution suggests that the study will offer deep insights into the challenges of AI implementation in large and enterprise-level organizations.

Size of the Organizations	Sample Representation
Enterprise (>5000)	59%
Large (1000- 5000)	16%
Small (<100)	14%
Medium (100 – 1000)	10%
Grand Total	**100%**

Table 9 Organization Size distribution

4.3 Adoption of AI In HR Processes

4.3.1 Familiarity of the AI adoption in HR processes

The sample distribution (refer table 10) based on familiarity with the use of AI in HR processes like as hiring and performance evaluation gives valuable insights for the study on the challenges of implementing AI in management HR. A large proportion of the sample (66%) is familiar with the use of AI in HR operations. This high level of knowledge implies that the insights gleaned from this group will be influenced by direct or indirect interactions using AI tools in HR. Participants are likely to contribute useful insights into both the benefits and drawbacks of AI adoption, such as practical problems, ethical considerations, and the effectiveness of AI technologies. Their experience indicates that they may be better aware of the complexities involved in integrating AI into managerial HR.

A significant minority (34%) of the sample is unfamiliar with the use of AI in HR operations. The presence of this group is critical because it reflects those who may be hesitant or skeptical about AI adoption due to a lack of experience. This group's replies may show challenges to AI adoption, such as a lack of awareness, fear of the unknown, or concerns about the complexity of AI systems. Their perspectives are critical for understanding the problems organizations encounter when educating and training HR professionals about AI tools, as well as how these challenges may be solved to promote greater AI use.

The mix of familiarity and unfamiliarity in the sample allows the study to capture a wide range of opinions. others who are experienced with AI can provide insights into the practical obstacles and potential, whilst others who are unaware can offer perspectives on the barriers to AI adoption as well as the early worries or misconceptions that must be addressed. The sample's knowledge with AI in HR processes provides a balanced perspective, which is useful for a more in-depth analysis of the obstacles of AI deployment in management HR. The high number of respondents who are familiar with AI will provide specific insights into the practical issues of AI usage, whilst the significant portion who are unfamiliar with AI will provide critical perspectives on adoption hurdles and the need for education and training. This variation of familiarity is critical for devising methods to address the problems of AI implementation across varying levels of knowledge and comfort with AI technology.

Are you familiar with the usage of AI in HR processes like hiring, performance etc	Sample representation
Yes	66%
No	34%
Grand Total	100%

Table 10 Familiarity of AI Adoption in HR Processes

4.4 Defining and Measuring Performance

4.4.1 Factors making performance management difficult

The sample distribution (Table 11) based on criteria that make performance management difficult gives many crucial insights for the research on the obstacles of adopting AI in managerial HR:

The majority of respondents (51%) believe that subjectivity poses a significant challenge in performance management. This shows that one of the main challenges in applying AI in HR is the subjective aspect of human judgement, which might be difficult to transfer into objective, data-driven AI models. AI systems may struggle to capture the complex assessments that come from human intuition and experience, leading to potential opposition or skepticism towards AI-driven conclusions.

A sizable proportion of the sample (28%) emphasises the difficulty of measuring performance due to a lack of precise criteria. This highlights a fundamental issue that may impede the efficient application of AI in HR, as AI relies on clear, quantifiable data to function properly. The absence of well-defined measurements may result in erroneous or biassed AI outcomes, making it difficult for organisations to use AI for performance management.

A smaller but still significant amount (11%) of respondents identify the difficulty in defining performance as a hurdle. This hampers the use of AI in HR, as AI systems require well-defined parameters to effectively assess performance. If performance

measures are imprecise or poorly specified, AI systems can produce inconsistent or incorrect results, hence reducing their effectiveness

A minority of respondents (8%) say that performance management is simple, implying that some organisations may already have effective procedures in place. However, this could indicate that these organisations do not see an immediate need for AI in performance management, thus leading to lower adoption rates in situations where traditional approaches are believed to be effective.

A relatively tiny percentage (2%) stated other factors, implying that there may be more, lesser-known hurdles that hinder AI application in HR. These could include organisational culture, staff reluctance to change, or industry-specific challenges.

In conclusion, the findings from this sample emphasise the considerable obstacles connected with the subjective nature of performance management, the difficulty of assessing performance due to ambiguous metrics, and the difficulties in identifying performance indicators. These characteristics indicate that, while AI has the potential to improve performance management, its success will be determined by how effectively it addresses these unique difficulties. To maximise the usefulness of AI tools, organisations wishing to implement them in human resources must prioritise the establishment of precise, objective performance measures and aim to decrease subjectivity in evaluations.

Factors which makes performance management difficult	Sample representation
Subjectivity associated with performance management	51%
Measuring performance (No clear performance metrics)	28%
Defining performance (No clear performance indicators)	11%
It is not difficult	8%

Any other reason?	2%
Grand Total	**100%**

Table 11 Factors making performance management Difficult

4.4.2 How Challenging is the process of defining and measuring performance

As referenced in table 12, the sample distribution depending on how difficult respondents find the process of defining and monitoring employee performance gives various relevant insights for the study of problems in applying AI in management HR.

A sizable proportion of respondents (41%) gave the problem of defining and monitoring employee performance a 4, indicating a high level of difficulty. This shows that nearly half of the sample considers this component of performance management very difficult, which could provide a significant obstacle to successfully deploying AI. AI systems require clear and consistent performance criteria to work efficiently, hence the high perceived difficulty may complicate or impede AI adoption in this sector.

Furthermore, 17% of respondents evaluated the challenge as the highest (5), indicating that a large group finds this work exceedingly difficult. For many organizations, the complexity of defining and assessing performance may lead to skepticism or resistance to AI solutions, especially if AI tools are perceived as inadequately transparent or responsive to nuanced human evaluations.

A sizable proportion of the sample (36%) ranked the difficulty as 3, indicating a considerable level of struggle. This group may be open to AI solutions, but they may also be concerned about potential restrictions. They may need more persuasive evidence of

AI's ability to efficiently handle the complexities of performance management, and they could benefit from AI tools that offer flexible and customizable solutions customized to their specific challenge

A smaller percentage of respondents (5%) found the process simply slightly difficult, implying that these organizations may already have good systems in place. For them, AI may be viewed as an enhancement rather than a requirement, and they may prioritize other areas of AI application above performance management.

A small minority of respondents (1%) claimed that the process was not difficult at all. This shows that for a limited number of organizations, integrating AI into performance management may be simple, or that they do not see a large need for AI in this context.

In summary, according to the response distribution, the majority of organizations consider defining and assessing employee performance to be a moderately to very demanding undertaking. This underlines the possible barriers to applying AI in this sector, since AI systems must overcome these challenges by providing clear, transparent, and dependable ways for performance assessment.

On a scale of 1 to 5, how challenging do you find the process of defining and measuring employee performance within your organization?	Sample Representation
4	41%
3	36%
5	17%
2	5%
1	1%

Grand Total	100%

Table 12 Level of challenge in the process of defining and measuring performance management

4.4.3 Confidence in the current performance tools

The distribution of samples as given in Table 13, which is dependent on the level of confidence in the accuracy of current methods used for measuring performance, provides valuable insights for studying the difficulties in adopting artificial intelligence in managerial human resources.

39% of respondents expressed moderate confidence in the accuracy of current performance measuring tools, suggesting that these tools are relatively dependable but have considerable potential for enhancement. This indicates a possible willingness to consider AI solutions that can improve precision and minimize bias, but also a careful approach due to current concerns.

Approximately one-third (34%) of the sample expresses a moderate level of confidence (rating of 4) regarding the correctness of their performance measurement instruments. These participants may view AI as a valuable enhancement to enhance and optimize performance evaluations, but they may be cautious in adopting AI tools. They are likely to prioritize solutions that can smoothly integrate with and enhance their current systems.

Approximately 19% of participants show a lack of confidence in their current performance measurement methods. This demographic is more likely to use AI solutions to address perceived limitations in precision and dependability. AI can be seen as a critical breakthrough for modernizing and improving their performance management systems.

Only a small fraction (2%) of the sample exhibited extremely poor confidence, suggesting a highly critical perspective towards their existing performance measurement instruments. These participants view AI as a significant chance to construct a more precise and unbiased system from scratch.

Only a tiny percentage (7%) of participants have significant confidence in their present performance measurement tools, suggesting satisfaction with the current methods. These businesses may be hesitant to adopt AI for performance management unless the AI solutions give clear, measurable benefits or unique functions that outperform their current technologies.

The survey results indicate a range of confidence levels in the effectiveness of current performance measuring techniques, with a sizable number of participants indicating a moderate level of confidence. This indicates the capacity of AI to have a significant impact on enhancing the accuracy and dependability of performance management procedures.

How confident are you in the accuracy of current performance measurement tools within your organization?	Sample Representation
3	39%
4	34%
2	19%
5	7%
1	2%
Grand Total	100%

Table 13 Confidence in the current performance management tools

4.5 Impact of the Data fragmentation across the swim lanes

The fragmented nature of HR data across specialized vendors working in different swim lanes such as performance management, compensation, and application tracking has a negative impact on organizations' ability to fully leverage AI for informed decision-making in global HR management. The insights provided in the following subsections will assist us in determining the scope of it.

4.5.1 Use of different tool and systems for employee data

The sample distribution of the use of various systems/tools to track and store employee data in HR operations such as hiring, performance, remuneration, and promotion gives some relevant insights for the study of obstacles in applying AI in management HR.

Majority (46%) admit that they utilize different systems or tools to manage various HR tasks and data. This demonstrates a that HR systems are not synced, and the data management approach is not very refined. The usage of different systems can create silos within the organization making it difficult to integrate and read the data to give effective decisions

Nearly one-third of respondents (29%) do not utilize several systems for HR data management, implying that these organizations may take a more unified or streamlined approach. For some organizations, AI implementation may be easier because the data is already centralized, lowering the complexity of integrating AI tools. However, some organizations may be more resistant to change since they believe their current processes are sufficient.

A significant proportion of respondents (25%) are unsure whether various systems are used for HR data management. This uncertainty could be coming from the fact that the

employees may not be aware about the different HR processes as they are slightly new in the career or are individual contributors who do not have accesses to many systems and tool where they need to make employee decisions.

The sample distribution demonstrates a varied range of system usage for HR data management. With 46% of respondents using various systems and 25% unclear about their use, the difficulties of using AI in management HR are obvious. AI solutions must be built to address data integration challenges and adapt to various organizational configurations.

Do you use different systems/tools to track and maintain employee data related to hiring, performance, compensation, promotion etc?	Sample Representation
Yes	46%
No	29%
Not Sure	25%
Grand Total	100%

Table 14 Use of different systems and tools for employee data

4.5.2 Impact of data stored in different systems

Here with this question, we would try to understand if data stored in various tools and systems makes it hard to take an effective employee decision

Do different HR systems storing data in separate places make it harder to effectively take HR decisions?	Sample Representation
Yes	49%

Maybe	38%
No	13%
Grand Total	**100%**

Table 15 Impact of data stored in different systems

Significant Challenge: A sizable proportion of respondents (49%), say that having several HR systems storing data in distinct locations makes it more difficult to make effective HR choices. This shows that data fragmentation is a major issue for over half of the participants, potentially leading to inefficiencies and difficulty in getting comprehensive personnel information.

Uncertainty: 38% of respondents said 'Maybe', indicating uncertainty or conditional circumstances in which the influence of different systems on HR decision-making could differ. This could imply that, while some respondents are aware of the possible issues, they have not personally experienced them or believe they can be avoided under specific situations.

No Significant Impact: A lower percentage, 13%, agree that having distinct HR systems store data independently does not impede effective HR decision-making. This could indicate that an organization has appropriate integration procedures or processes in place to guarantee that different systems do not have a harmful impact on decision-making.

4.5.3 Access/Visibility of employee data in one place

While we understand that the employee data may be stored in different systems/tools, with this next question we would try to understand if the access/visibility of this data is available at one place for the ease of decision making

Do you have access or visibility to your own /your teams employment related data in one system/tool?	Sample Representation
Yes, it is all available in one place	55%
No, I have to go to multiple tools to access all information	45%
Grand Total	**100%**

Table 16 Access/Visibility of employee data in one place

Unified Access: A modest majority of respondents (55%) reported having access to all employment-related data in one place. This means that these organizations have built integrated systems or technologies that unify disparate HR data, allowing employees to more easily access comprehensive information.

Significant Fragmentation: 45% of respondents said they had to use numerous tools to get all necessary information. This suggests that over half of the respondents suffer obstacles as a result of data fragmentation, which occurs when various types of information are housed in separate systems, potentially leading to inefficiencies and difficulty in maintaining and accessing data.

4.6 Ethical and accountable AI practice

Organizations that depend on AI for performance management and career advancement in HRM are more likely to encounter "alignment problems," in which compliant algorithms may produce unintended consequences due to the difficulty of capturing nuanced human values in definitive rules, posing a challenge to ethical and accountable AI practices.

4.6.1. Trust in the decisions taken by AI

The sample distribution as per the Table 17 of trust in AI for making judgements about performance, promotion, salary, and recruiting provides numerous crucial insights into the obstacles of applying AI in management HR.

The vast majority of respondents (52%) are unsure ("Maybe") if they would trust AI to make choices about their performance, promotion, remuneration, and employment. This high level of doubt shows that, while many people are open to AI, they are not completely convinced of its reliability and fairness. This hesitancy may originate from concerns about AI's openness, explainability, and the possibility of bias or errors.

A sizable proportion of respondents (28%) explicitly said that they would not trust AI to make such vital decisions. This skepticism implies a considerable opposition to AI in HR, most likely due to fears of impersonal decision-making, a lack of human oversight, and concerns about justice and accuracy.

Only 21% of respondents show confidence ("Yes") in AI's ability to make career decisions. This low degree of trust demonstrates the difficulty AI confronts in obtaining acceptability within HR.

The sample distribution shows that, while some participants are open to AI, there is also a lot of doubt and skepticism.

Would you trust the decisions taken by AI for your performance, promotion, compensation and hiring?	Sample represenation
Maybe	52%
No	28%
Yes	21%

Grand Total	100%

Table 17 Trust in AI driven decisions

4.6.2 Comfort with AI monitoring their behavior

The referenced in the Table 18 of the sample distribution of comfort with AI monitoring behavior or making employment-related choices without explicit authorization provides valuable insights into the issues of AI deployment in management HR.

The majority of respondents (37%) are willing to have AI monitor their behavior or make choices if the system is transparent. This implies that, while employees may accept AI engagement in HR operations, they place a high importance on transparency and want to understand how AI operates. Ensuring transparent AI processes, in which staff are informed about what is being watched and how choices are made, is critical to gaining their trust.

A significant 34% of respondents do not want AI to monitor their behavior. This uneasiness emphasizes the opposition to AI's possible intrusion and perceived loss of privacy. To address these issues, clear communication regarding the aim and scope of AI monitoring is required, as well as potentially providing employees with the opportunity to opt out or limit the level of monitoring.

Another 29% of respondents said they would support AI surveillance provided they were aware of what was being monitored. This group values consent and information, thus clear guidelines and regular updates on the AI's monitoring actions may help alleviate concerns. Providing clear information and engaging staff in discussions regarding AI monitoring can assist to earn their conditional trust.

The findings suggest a complex interaction between employees and AI in HR procedures, with openness, privacy, and informed permission being crucial. To overcome the hurdles of AI deployment, organizations should prioritize transparent AI systems, address privacy issues early on, and ensure that staff are informed and engaged in discussions regarding AI monitoring and decision-making processes. By addressing these critical criteria, organizations may foster trust and aid in the successful integration of AI into managerial HR.

Would you feel comfortable with AI monitoring your behaviour or making decisions that affect your employment without your explicit consent?	Sample Representation
I don't mind, there should be transparency in the system	37%
I would not like to get my behaviour monitored	34%
I can, if they let me know what is getting monitored	29%
Grand Total	**100%**

Table 18 Comfort with AI monitoring

4.6.3 Privacy concern in sharing the data

As indicated in Table 19, the sample distribution of concerns about data sharing with AI systems gives crucial insights into the obstacles of AI deployment in managerial HR.

The majority of respondents (34%) stated that they have no concerns if their organization protects the security of their data. This indicates a high level of trust in organizational procedures to secure personal data. It emphasizes the importance of firms maintaining strong data security standards and constantly communicating these steps to their staff in order to preserve confidence.

Close behind, 32% of respondents said they have no concerns as long as they know how and where their data is utilized. This emphasizes the value of transparency in data management techniques. Employees are more likely to contribute their data if they have a clear understanding of its usage. Organizations should prioritize transparent data processes and ensure that staff understand data usage policies.

A significant 19% of respondents are concerned because they don't understand how their data is saved and used. This ambiguity could be attributed to a breakdown in communication or understanding of data policies inside the organization. Addressing this issue necessitates enhancing employee education on data storage and usage, as well as developing open communication channels where employees may ask concerns and receive clear responses regarding their data.

14% of respondents are concerned that their information will be used without their consent. This worry highlights the relevance of permission management in data practices. Organizations should create consent processes that clearly specify how employee data will be used, giving employees the choice to opt in or out of certain data usages.

The findings highlight a range of employee concerns about data sharing with AI systems,

including faith in organizational security and the need for greater openness and consent. To successfully deploy AI in managerial HR, organizations must prioritize strong data protection, open communication, employee education, and consent management. By resolving these issues, businesses can alleviate worries and create a favorable climate for AI integration.

AI system requires access to vast data sets, do you have concerns sharing your data due to privacy infringement and unauthorised use of personal information by the AI systems?	Sample Representation
No, my organisation should ensure the safety of my data	34%
No, As long as I know how and where my data is used	32%
Yes, I don't know how my data is stored and used	19%
Yes, it may get used without my consent	14%
Grand Total	100%

Table 19 Privacy concern in sharing data

4.6.4 Bias Mitigation by AI

We know from previous studies that AI systems have biases based on the input data used to develop the AI models, and because the data is historical and much work is still being done to mitigate these biases, as outlined in the table 20, in the sample study The vast majority (72%) of respondents feel that AI can reduce biases inherited from prior data in order to make fair HR decisions. This demonstrates a significant hope and confidence in AI's ability to handle challenges of fairness and equity in HR operations. It

indicates that many stakeholders are optimistic about AI's capacity to overcome the constraints of human-driven procedures, particularly in terms of decreasing discriminatory practices that may have been unwittingly embedded in previous data.

However, 28% of respondents do not believe AI can reduce these prejudices. This scepticism may originate from concerns about AI's ability to properly grasp and correct complicated, deep-rooted biases in data, or from a general suspicion of AI systems' openness and accountability. These respondents may believe that AI, when trained on possibly biassed data, will perpetuate or even exacerbate current disparities.

The findings indicate a broad optimism about AI's ability to minimise biases in HR decisions, with the majority of respondents believing in its efficacy. However, there is still a sizable proportion of responders who are sceptical. To successfully use AI in human resources, organisations must address these concerns through bias mitigation measures, transparent processes, and ongoing monitoring to guarantee that AI-driven choices are fair and equitable.

Historical data may have inherited bias regarding certain demographic group, so do you believe these biases can be mitigated by AI to take fair HR decisions?	Sample Representation
Yes	72%
No	28%

Table 20 Bias mitigation by AI

4.7 Lack of Transparency in the decisions taken by AI trigger negative employee reaction

HR decisions affect employees in a variety of ways, raising the concerns around fairness of the decisions. Many employees are concerned about the explanation of how these decisions are made and what factors contribute to these decisions that affect employees. AI systems lack this explainability in most circumstances, so the following questions will help us assess if participants are open to these decisions, if more openness can be brought in, and overall confidence will rise.

4.7.1 Comfort with Transparency of the AI decisions

The major concern that has been studied is the lack of transparency in the AI decision, so the sample as referenced in table 21 has given the insight that most respondents (81%) expressed that they would be at ease with AI-driven HR decisions if the organisation guarantees transparency and provides explicit explanations for those decisions. This implies that transparency and accountability are critical components of establishing employee confidence in AI systems. AI's integration into HR processes is more likely to be embraced by employees when they comprehend the decision-making process and have faith in the impartiality and logic that underpin it.

Nevertheless, 19% of respondents continue to experience discomfort with AI-driven decisions, regardless of the provision of transparency and explicit explanations. This group may harbour more profound apprehensions regarding AI's involvement in decision-making, which may be attributable to their scepticism regarding the efficacy of transparency alone in guaranteeing equitable outcomes, their distrust of the technology, or their apprehension regarding potential biases.

The insights suggest that a strong majority of employees are willing to accept AI-driven decisions in HR, and it is possible to substantially increase their comfort with these decisions by providing clear explanations and transparency. Nevertheless, a significant proportion of the population continues to harbour scepticism, underscoring the necessity for organisations to surpass transparency and focus on the cultivation of trust and confidence in AI systems through ongoing education and engagement.

If the organisations ensures transparency and provide explanations for AI-driven decisions, would you be comfortable with the decisions?	Sample Representation
Yes	81%
No	19%
Grand Total	**100%**

Table 21 Comfort with transparency of the AI decisions

4.7.2 Confidence in the future of fair AI Driven HR decisions

The following insights are revealed by the sample distribution regarding the belief that organizations will be able to ensure impartiality and mitigate bias in AI-driven HR decisions in the future as referenced in table 22:

In the future, organizations will be able to guarantee fairness and mitigate bias in AI-

driven HR decisions, according to a substantial majority of respondents (76%).. This is indicative of a profound belief in the capacity of AI technologies to develop and the ability of organizations to establish the requisite safeguards and procedures to mitigate current concerns regarding fairness and bias. This optimism may be influenced by the anticipation of improvements in AI algorithms, improved training data, and more stringent supervision and regulation.

Conversely, 24% of respondents are sceptic about the extent to which organizations will be able to guarantee fairness and mitigate bias in HR decisions influenced by AI. The inherent biases in historical data, the complexity of attaining true fairness in diverse and multicultural work environments, or the limitations of AI technology in addressing nuanced human judgements may be of concern to this group.

There is a generally optimistic outlook regarding the capacity of organizations to guarantee fairness and mitigate bias in AI-driven HR decisions, as a significant majority of respondents expressed confidence in future developments. Nevertheless, a substantial minority of individuals continue to harbor apprehensions, underscoring the necessity for organizations to take a proactive approach to addressing these concerns by incorporating human oversight, transparency, and ongoing development into AI processes.

In your view organisations will be able to ensure fairness and mitigate bias in AI-driven HR decisions in future?	Sample Representation
Yes	76%
No	24%
Grand Total	**100%**

Table 22 Confidence in the future of fair AI driven HR decisions

4.7.3 Overall Confidence in the adoption of AI in the managerial HR

The confidence distribution about the utilisation of AI for managerial HR decisions as shown in the table 23 of the sample offers a variety of insights:

The confidence level of the majority of respondents (42%) was rated as 3 on a scale of 1 to 5. This indicates that, despite some degree of assurance regarding the implementation of AI in HR decisions, there are also apprehensions. It is possible that this moderate confidence is indicative of uncertainty regarding the transparency, fairness, or efficacy of AI systems in managerial HR roles.

A substantial proportion of the sample (34%) evaluated their confidence as 4, suggesting that a significant number of respondents are reasonably confident in the potential of AI to improve managerial HR decisions. The advantages of AI are likely to be perceived by this group in terms of consistency in decision-making, data-driven insights, and efficiency.

The confidence of a smaller group (10%) was evaluated as 5, indicating a strong belief in the capabilities of AI. This group of respondents is likely to be early adopters or those who have observed positive outcomes from AI in HR processes. Alternatively, they may have a greater confidence in the technology's future advancements.

The implementation of AI for managerial HR decisions is met with low confidence by a combined 13% of respondents (7% at level 2 and 6% at level 1). This may be indicative of skepticism or concerns, which may be attributed to the complexity of AI integration, employment security, biases, or a lack of transparency.

Overall, the moderate confidence levels suggest that there are still substantial uncertainties and concerns that require resolution, despite the generally optimistic outlook regarding AI's integration into HR managerial decisions. Organizations should prioritize education, continuous improvement, and transparency to guarantee the successful integration of AI in HR management and to increase confidence.

Overall, how confident are you about adoption of AI for the managerial HR decisions	Sample Representation
3	42%
4	34%
5	10%
2	7%
1	6%
Grand Total	100%

Table 23 Overall Confidence in adoption on AI in managerial HR

4.8 Limiting Factors analysis

The sample's insights into the limiting factors as highlighted in the Table 24, in the implementation of AI in managerial HR disclose several significant challenges:

4.8.1. Challenges in Defining and Measuring Employee Performance (Mean: 3.24)
Insight: The respondents' perception of the most significant challenge is the definition and measurement of employee performance, as evidenced by the factor's highest mean score (3.24). This implies that it is possible that the present performance metrics are not

well-suited for AI integration, and there is a probable requirement for performance indicators that are more precise, objective, and AI-compatible.

4.8 2. The Average Cost of Acquiring and Maintaining HR AI Systems is 3.15.

Insight: The second-highest mean score (3.15) is indicative of apprehensions regarding the financial investment necessary for AI in HR. While AI has the potential to be beneficial, the high costs can be a substantial impediment, particularly for smaller organizations. This suggests that budget constraints may limit its adoption.

4.8.3. Inadequate Employee Trust in AI-Driven Decisions (Mean: 3.10)

Insight: The absence of trust in AI-driven decisions is a significant issue, as evidenced by the mean score of 3.10. This implies that employees may be apprehensive about the potential for biases, a lack of transparency, or a loss of control in AI-driven processes. This challenge could be mitigated by fostering trust through transparency, ethical AI practices, and employee participation in the AI adoption process.

4.8.4. Data Privacy Concerns Regarding HR Data Collection (Mean: 3.04)

Insight: Additionally, data privacy concerns are substantial, as evidenced by a mean score of 3.04. The management of confidential HR data by AI systems has sparked concerns regarding the possibility of unauthorized use or privacy violations. In order to mitigate these concerns, organizations must implement robust data protection protocols and maintain transparent communication regarding data utilization.

4.8.5. Inadequate Technical Experience Within Organizations (Median: 2.99)

Insight: The lowest mean score (2.99) suggests that technical expertise is a challenge, but

it is slightly less of a concern than the other factors. Nevertheless, it continues to serve as an obstacle, particularly for organizations that may not possess the requisite expertise to effectively implement and maintain AI systems. This issue could be resolved by investing in training and recruiting competent personnel.

4.8.6. General Consequences:

Focus on Strategy: In order to effectively integrate AI into HR, organizations should prioritize the resolution of obstacles associated with performance measurement, cost, and trust. It is probable that a combination of improved performance metrics, transparent communication, employee involvement, and financial planning will be necessary to address these issues.

Balanced Approach: Although technical proficiency is somewhat less of a concern, it still necessitates consideration. To ensure the successful integration of AI into HR management, it will be essential to adopt a balanced approach that addresses both technical and non-technical challenges.

In conclusion, the insights indicate that the most significant obstacles to AI implementation in HR are the high costs, trust issues, and difficulties in defining performance. It will be imperative for organizations that intend to effectively integrate AI into their HR processes to address these critical areas.

Limiting Factors / Respondent	Difficulties in defining and measuring employee performance	Lack of employee trust in AI-driven decisions	Data privacy concerns related to HR data collection	Insufficient technical expertise within organizations	High costs associated with acquiring and maintaining HR AI systems
Mean	3.24	3.10	3.04	2.99	3.15

Table 24 Limiting factors

Conclusion

Demographics:

With most of the participants falling between the ages of 20 and 29, the study mostly concentrates on the demographics and educational backgrounds of the subjects. This generation reflects India's younger workforce and their curiosity in new age technologies as artificial intelligence and machine learning. With 31% of the participants falling into the next biggest age range, 40–49 years, this group could be acting as people managers involved in people decisions and with experience to help grasp the acceptance and influence of elements in the research.

Bengaluru, a city sometimes known as the "Silicon Valley of India," draws most of the sample for this study. Given its major influence in India's tech scene, the city is especially pertinent for research on digital literacy, technology adoption, or innovation. The results of the study can provide insights suggestive of trends in the more technologically developed areas of India.

Most of the participants—53%—are post-graduate, meaning they have advanced knowledge and experience, thereby offering a complex view on the interaction of artificial intelligence technology and HR management. With a strong basis in general administrative responsibilities and HR practices, graduate-level educated (44%) guarantee a wide spectrum of real-world experience and viewpoints on the use of artificial intelligence.

Respondents with a PhD or doctorate (3%) present an analytical and research-oriented point of view that sheds light on moral concerns, long-term strategic consequences, and prospective research gaps concerning artificial intelligence in HR. This sample consists of a competent and experienced group ready to offer pertinent and perceptive contributions into the research.

For the responders, STEM (64%), commerce/business management (24%), humanities, education or social science (8%), business management (1%), B-tech mechanical engineering (1%), Bachelor of Science (1%), STEM & Business Management (1%), Legal (1%), MBA Finance and HR (1%), The variety of educational backgrounds helps one to have a thorough awareness of artificial intelligence in HR that combines technological, managerial, ethical, legal, and technical aspects.

The paper mostly addresses how artificial intelligence might influence organizational personnel management and decision-making. The bulk of the sample—38%—is made up of interns; 48% is mid- and senior management. These people managers in their companies handle important decision-making duties. Their observations clarify the useful

applications of artificial intelligence in team management, process optimization, and production increase.

Including early career/new college grads (6%), the report boasts a grand total of 100%. About half of the participants are independent contributors, providing insights on the ways artificial intelligence tools directly impact their work, especially with relation to frequent HR interactions, career development, and performance reviews. Twenty-four percent of the sample are senior people leaders who supervise managers and are probably involved in the strategic AI deployment decisions. Often the first point of contact for employees who have queries regarding performance management or other HR operations impacted by artificial intelligence, first-line managers (15%) are crucial in putting AI-driven HR processes into action on the ground. Twelve percent of the sample are HR experts who actively participate in designing, implementing, and supervising AI solutions for HR.

The diverse representation of roles in the sample guarantees that the research addresses a broad spectrum of viewpoints on artificial intelligence deployment in HR. From top-level decision-making to daily employee interactions, this distribution also allows a comprehensive study of how AI tools affect many aspects of HR administration.

Individuals with fewer than five years of experience (41%), those with 15 to 20 years of experience (19%), and those with 20 to 25 years of experience (17%) make four groups out of their work experience: Because they are comfortable with digital tools, early-care professionals may regard artificial intelligence more favorably; more experienced workers may stress difficulties integrating AI with current HR processes.

Overall, early-care professionals—who are more accustomed with digital tools—may regard artificial intelligence (AI) favorably; more experienced professionals may draw attention to difficulties integrating AI with current HR systems.

Given its technological specialization, the study centers on the experiences and challenges faced by professionals in the IT product sector, considered to be at the forefront of artificial intelligence adoption. With a quarter (24%) of the sample categorized as "other" sectors, AI implementation concerns are seen from a different angle. Since they usually concentrate on providing technological solutions to other companies, professionals from the IT services sector also constitute a considerable (13% proportion) of the sample.

With 59% of the sample consisting of enterprise-level companies with more than 5,000 employees, the study will mostly concentrate on the experiences and problems faced by really big companies. Large corporations typically have more resources and established procedures for applying artificial intelligence in HR; their observations are probably focused on the difficulties of AI acceptance in a large-scale, highly ordered workplace.

Large companies, with great resources but maybe different problems than businesses, account for a considerable (16%) component of the sample. Their backgrounds could provide understanding of less bureaucratic and more flexible methods of implementing artificial intelligence. Small and medium size companies are less represented (24%) overall, which could lead to a lack of knowledge of the challenges these groups face, particularly in terms of resource constraints, adaptability, and new methods of AI

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implementation.

The sample distribution depending on knowledge of the application of artificial intelligence in HR operations such as hiring and performance assessment offers insightful information for the research on the difficulties of using AI in management HR. 66% of the sample is familiar with the use of artificial intelligence in HR operations, hence the insights gained from this group will either direct or indirect interactions using AI tools in HR influence.

The combination of familiarity and novelty in the sample lets the study record a broad spectrum of viewpoints. While some who are ignorant can offer viewpoints on the difficulties to AI adoption and early concerns or misconceptions that need to be addressed, others who are acquainted with artificial intelligence can offer insights into the pragmatic obstacles and promise. Developing strategies to solve the issues of artificial intelligence application across different degrees of knowledge and comfort with AI technology depends on this variance of familiarity.

Performance Management Challenges

According to the study, companies find great difficulty establishing and evaluating employee performance. Performance management is challenging mostly because of subjectivity, absence of exact standards, and difficulty in spotting performance indicators. Most respondents (51%) think that subjectivity presents a key obstacle in using artificial intelligence in HR since AI systems could find it difficult to record complicated assessments from human experience and intuition.

A notable fraction of respondents (28%) stress the difficulties of evaluating performance resulting from a lack of exact criteria, which can hinder the effective use of artificial intelligence in HR. Organizations find it challenging to apply artificial intelligence for performance management since the lack of adequately defined measurements might lead to erroneous or biassed AI results. A lower but still noteworthy 11% find it difficult to define performance as a barrier, thereby impeding the application of artificial intelligence in HR.

Only 8% of respondents believe that performance management is easy, suggesting that some companies could already have good systems in place. This could, however, suggest that these companies do not immediately see a need for artificial intelligence in performance management, which would result in reduced acceptance rates in cases when conventional methods are thought to be successful.

A tiny fraction (2%) said additional considerations, suggesting that there might be more, less well-known obstacles preventing artificial intelligence adoption in HR. These qualities suggest that although artificial intelligence could enhance performance management, how successfully it handles these particular challenges will define its effectiveness. Organizations hoping to apply artificial intelligence technologies in human resources have to give the creation of exact, objective performance measurements top priority in order to maximize the value of these tools and try to lower subjectivity in assessments.

With a notable percentage of participants expressing a modest degree of confidence, the

survey results expose a spectrum of confidence levels in the efficacy of present performance evaluating methods. This shows how capable artificial intelligence is of greatly influencing the dependability and accuracy of performance management practices.

Use of AI in HR Processes:

Organizations' capacity to fully use artificial intelligence for informed decision-making in worldwide HR management suffers from the scattered nature of HR data among specialized vendors including performance management, compensation, and application monitoring. The sample distribution of the use of several tools and systems for employee data in HR operations such hiring, performance, remuneration, and promotion offers insights for the research of hurdles in adopting artificial intelligence in management HR.

Majority (46%) confess that they use separate systems or tools to manage different HR duties and data, therefore indicating that HR systems are not synced and the data management technique is not particularly polished. Different systems might lead to silos inside the company, which makes data reading challenging and integration challenging as well as for making wise judgements. Nearly one-third (29%) do not use different systems for HR data management, implying that some companies might adopt a more homogeneous or simplified strategy.

25% of the respondents are not sure whether different systems are utilized for HR data management, maybe because staff members are not aware of the several HR procedures or have access to many systems and tools.

Using artificial intelligence in management HR clearly presents obstacles, hence AI solutions have to be developed to solve data integration issues and fit different organizational setups.

Data Management:

The study investigates how well data kept in several HR systems influences good employee decision-making. Data fragmentation presents a major obstacle; 49% of respondents say it is more difficult to make judgements when several HR systems keep data in different sites. Uncertainty is another issue; 38% of respondents reply "Maybe," implying that various systems' impact on HR decision-making may vary. A smaller minority, 13%, says that efficient HR decision-making is not hampered by separate HR systems storing data independently.

Another problem is access to employee data; 55% of respondents said they have all employment-related data in one location. Still, 45% said they accessed all required information using several tools. This implies that more than half of the respondents experience data fragmentation, which causes inefficiencies and challenges to access and maintenance of data.

Concerns over AI and Data Privacy:

Organizations depending on artificial intelligence for performance management and

HRM career growth must have ethical and responsible AI practices. With 52% of respondents unsure and 28% not believing AI, trust in AI judgements about performance, promotion, salary, and hiring is poor. Concerns about AI's transparency, explainability, and possible prejudice or mistakes could lead to this mistrust. Only 21% of respondents believe AI can make career decisions, suggesting AI's challenge gaining acceptance inside HR.

In summary, even if some people are sympathetic to artificial intelligence, many have great questions on its dependability and fairness.

Future Outlook and Adoption of AI:

According to the report, 72% of respondents think artificial intelligence may eliminate prejudices carried over from past data in guiding fair HR decisions. This reflects a general hope regarding artificial intelligence's capacity to replace human-driven processes, especially in terms of declining discriminating policies. Nonetheless, 28% of respondents do not think artificial intelligence can eliminate these prejudices, maybe because of widespread mistrust of AI systems' transparency and responsibility or worries about AI's capacity to correctly interpret and rectify intricate, deep-rooted preconceptions in data.

Organisations that want to effectively apply artificial intelligence in human resources have to solve these issues by means of open procedures, bias-reducing strategies, and continuous monitoring to ensure that decisions made by AI-driven means are just and fair. Most respondents (81%) said they would be comfortable with HR decisions driven

by artificial intelligence provided the company offers openness and clear justifications for those choices. Establishing staff trust in artificial intelligence systems depends mostly on openness and responsibility.

Still, 19% of respondents still find uncomfortable with AI-driven judgements independent of clear explanations and openness. This group might have more strong concerns about artificial intelligence's participation in decision-making, which could be related to their mistrust of the technology, their doubts on the effectiveness of openness by itself in ensuring fair results, or their anxiety about possible prejudices.

According to the insights, most employees are ready to embrace AI-driven HR decisions; thus, clear explanations and openness can help to greatly raise their comfort level with these judgements. Nonetheless, a sizable fraction of the population still harbours mistrust, which emphasises the need of companies surpassing openness and concentrating on the building of trust and confidence in artificial intelligence systems via continuous education and interaction.

According to the report, 76% of respondents think that companies would be able to guarantee justice and minimise prejudice in HR choices powered by artificial intelligence going forward. Anticipation of developments in AI algorithms, better training data, and more strict monitoring and control could all help to inspire this hope. 24% of respondents, meanwhile, are dubious about the degree to which companies will be able to ensure justice and reduce bias in HR choices influenced by artificial intelligence.

Overall Confidence in AI Adoption:

The confidence range on the acceptance of artificial intelligence in management HR choices has several interesting angles. With a range of 1 to 5, most respondents—42%—rate their confidence level as 3, indicating some degree of trust on the application of artificial intelligence in HR decisions. Of the sample, 34% of respondents say their confidence is 4, indicating a noteworthy number of respondents are rather confident in the ability of artificial intelligence to enhance management HR decisions.

A smaller fraction (10%) strongly believes in the capacity of artificial intelligence, most likely early adopters or those who have seen good results from AI in HR operations. On management HR choices, however, 13% of respondents have low faith on the application of artificial intelligence.

Though the generally positive view on the integration of artificial intelligence into HR administrative choices, the modest confidence levels point to still significant doubts and issues that need to be resolved. To ensure the effective integration of artificial intelligence in HR management and to boost confidence, companies should give education, ongoing improvement top priority along with openness.

Defining and assessing employee performance, obtaining and sustaining HR AI systems, and building employee confidence in AI-driven decisions are among the several major obstacles AI in managerial HR must overcome. With a mean score of 3.24, the respondents have the best view of these difficulties. With an average cost of purchasing and sustaining AI systems of 3.15, concerns about the financial outlay needed for artificial intelligence in HR abound. With a mean score of 3.10, there is a major problem

with mistrust of AI-driven decisions. With a mean score of 3.04, data privacy issues involving HR data collecting are also rather important. Another issue with a mean score of 2.99 is insufficient technological knowledge inside companies. Organisations should give fixing issues with performance measuring, cost, and trust a priority in order to properly include artificial intelligence into HR. One must use a balanced strategy covering technical as well as non-technical difficulties.

Ultimately, the high expenses, mistrust, and challenges in defining performance constitute the most important roadblocks to artificial intelligence application in HR. Organisations must focus on five important areas if they are to guarantee effective integration of artificial intelligence.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

We will further analyze the data using various methods like correlation, regression, ANOVA,and also the supporting evidences coming from the survey and how participants are responding to various questions based on their experience. These evidences will lead the researcher to establish that the all the

5.2 Discussion of Hypothesis 1:

Difficulties in defining and measuring employee performance prevent AI from being successfully implemented in HR.

To determine whether challenges in defining and measuring employee performance impede AI use in HR, and whether career level influences these challenges.

As refrenced in Table 25 and 26, The Kruskal-Wallis test (H = 3.185, p = 0.527) revealed no significant variations in problems across career levels.

60% of respondents said it was difficult to define and monitor staff performance (ranked 4 or 5). The biggest problem identified was the "subjectivity associated with performance management."Confidence in existing performance measurement approaches is mixed, with many expressing reservations.

Ranks

	Career Level	N	Mean Rank
Challenges in Defining and Measuring Employee Performance	Intern	51	73.22
	Mid Management (e.g. Manager, Sr. Manager)	41	68.88
	Senior Management (e.g. Director, Sr. Director)	29	69.31
	Executive Management (e.g VP, Sr. VP, EVP, Board Members)	15	88.90
	Early Career/ New College Grad	9	75.94
	Total	145	

Table 25 Career level wise mean rank

Test Statistics	Challenges in Defining and Measuring Employee Performance
df	4
Asymp. Sig.	0.527
a. Kruskal Wallis Test	
b. Grouping Variable: Career Level	

Table 26 - The Kruskal-Wallis test

5.3 Discussion of Hypothesis 2:

Fragmented HR data and AI decision-making

Researcher explored whether fragmented HR data affects AI's ability to support informed decision-making in global HR management.

Based on the survey data it shows that 60% of respondents utilize various systems/tools to track HR data, resulting in inefficiencies.

Approximately 70% agree that data fragmentation impedes effective decision-making.

40% of respondents still use multiple programs to access their own data.

5.4 Discussion on the Hypothesis 3:

Alignment problem in AI-Driven HR Decisions

Researcher assessed whether relying on AI-Driven data decisions can lead to alignment problem as AI cannot capture nuanced human values and whether different age groups impacts this understanding due to the familiarity with AI in HR
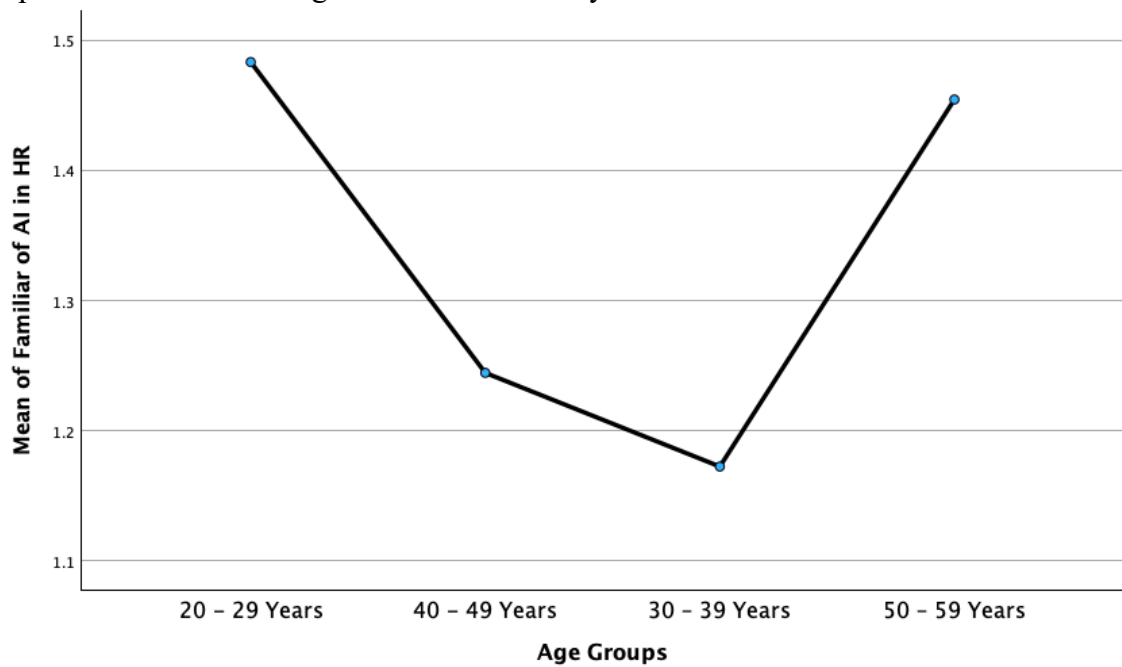

Table 26 Familiarity of AI in HR in accordance to age group

ANOVA

Familiarity of AI in HR

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.599	3	0.866	4.05	0.008

Within Groups	30.16	141	0.214
Total	32.759	144	

Table 27 ANOVA analysis of Familiarity of AI in HR in accordance to age group

ANOVA analysis revealed that younger generations are more open and familiar with AI technology in HR (F = 4.05, p = 0.008).

Comfort with AI Monitoring Without Consent: Younger generations are more concerned about AI monitoring, indicating understanding of privacy concerns (F = 1.07, p = 0.362, non-significant).

Survey insights revelaed that 40% of respondents support AI judgements, while 30% are sceptical or distrustful. While the majority of respondents would be fine with AI choices if they were transparent and explained, but 20% are sceptical andf 50% are concerned about bias in past data and AI's ability to reduce it.

5.5 Discussion on Hypothesis 4:

Lack of transparency and explainability in data-driven HR algorithms triggers negative employee reactions due to concerns around fairness, accountability, and algorithmic manipulation

Researcher investigated whether a lack of openness in AI algorithms leads to bad employee reactions and if this reaction has any relation to the organization size.

Based on the result showcased in Table 28, it was observed that Organisational size has no effect on trust in AI judgements (p > 0.05), showing that trust-building initiatives are critical for organisations of all sizes.

Survey results pointed out that 50 percent of respondents are concerned about privacy issues and unauthorized data use while 40% of people are concerned with AI monitoring or making choices without their explicit agreement. Despite their optimism about justice and reduced bias in the future, 40% are skeptical.

Correlations

			Organisation Size	Trust in AI Decisions
Spearman's rho	Organisation Size	Correlation Coefficient	1.000	.017
		Sig. (2–tailed)	.	.843
		N	145	145
	Trust in AI Decisions	Correlation Coefficient	.017	1.000
		Sig. (2–tailed)	.843	.
		N	145	145

Table 28 Correlation Analysis of organization size and Trust in AI decisions

The survey report highlighted hurdles in implementing AI in HR, such as defining performance, fragmented data systems, alignment issues with AI-driven choices, and concerns about transparency and privacy. These findings highlight the need for improved performance indicators, data integration, clear AI processes, and strong privacy controls in order to foster confidence and enable the effective use of AI in HR management.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

The research emphasised that although many organisations in India's IT product and IT services sector are implementing AI in their HR operations, there are several challenges that need to be addressed in order to enhance the efficiency of AI systems and promote acceptance of AI-driven decisions among employees.

6.1.1 Challenges in managing performance -

Performance metrics play a central role in many managerial HR decisions, such as promotions, trainings, re-skilling, and lateral movements. However, the survey indicates that participants lack confidence in how performance is defined and measured. Additionally, the performance management tools currently used do not inspire confidence among employees.

6.1.2 - Utilisation of Multiple systems

Gaining comprehensive access to employee data, including education, experience, past performance, salary growth, and a holistic understanding of the employee lifecycle, can significantly improve decision-making. Research indicates that a significant number of participants are forced to rely on multiple systems to track HR data, which hampers their decision-making process due to the lack of a complete overview of the employee lifecycle. This also applies to employees who have access to their personal data. While some have access to centralised data exclusively for themselves, many have to use

various systems to retrieve their own historical data.

6.1.3 monitoring by artificial intelligence (AI) systems and the associated considerations of privacy.

AI technology operates by continuously receiving feedback and enhancing its performance through the acquisition of knowledge from the data inputs supplied by the system. At this stage, it is necessary to develop an AI system that comprehensively incorporates the subtleties of employee behaviors and patterns. This will enable the system to effectively monitor and make informed decisions based on nuanced values. The poll revealed that a significant number of participants expressed discomfort with AI monitoring their conduct without their explicit authorisation, indicating a lack of acceptance towards surveillance technologies. Another aspect that the study emphasised was the considerable apprehension around employee data privacy. The participants expressed great anxiety about the storage and utilisation of data, underscoring the significance of data privacy.

6.1.4 - Historical data bias and methods to mitigate bias

Although the worries mentioned earlier are there, there is a sense of optimism regarding the future of AI. Many participants believe that AI has the potential to mitigate bias in historical data, thus enabling fair HR decisions. There was a sense of hope that AI could assist in reducing these biases and ensuring fairness, while there are still some doubts and skepticism.

6.1.5 - Ensuring transparency and fostering trust in judgements made by AI systems

Many participants have expressed apprehension regarding AI-driven decisions, with only a few expressing confidence in such decisions. However, a crucial aspect that emerged is the necessity for transparency and justification in these decisions. The research suggests that if the system and organisations prioritise openness and provide clear explanations for AI judgements, stakeholders will be more inclined to trust and support the development of a fair AI system for managing HR.

Overall, the data confirms that difficulties in defining and assessing employee performance, fragmented HR data, concerns about AI aligning with human values, and a lack of transparency and explainability are significant obstacles to effectively implementing AI in HR. However, there is potential for AI to have a positive impact on managerial HR if we tackle the challenges related to trust, privacy, data integration, and the complexities of performance management.

6.2 Implications

This study has highlighted several challenges in the implementation of successful AI system for the managerial HR decisions and these challenges have several implications for organizations and also the employees. In the section below we will discuss both the organization challenges and employee concerns

6.2.1. Organisational Challenges:

While organizations are implementing AI in various processes for HR, organizations must address the difficulties that employees have expressed in defining and measuring performance leading to a need for objective performance management leaving out the ambiguity associated with the process. There is also a need to simplify and consolidate employee data in one system as usage of multiple systems are resulting in inefficiencies and fragmented decision making

6.2.2. Employee Concerns:

With AI implementations are progressing, this study highlights that employees have certain concerns and organizations must address those for successful adaptation of the AI driven decision to improve efficiency and build trust in the decisions, Employees have shown little trust in AI-driven decisions, emphasizing the importance of transparency and detailed explanations of how these decisions are made.
The study also highlights the Concerns regarding data privacy and AI monitoring without consent and that underscore the need for strong data protection policies and transparency in data utilization.

6.3 Recommendations for Future Research

While this study has helped further understands the challenges and employee concerns about the implementation of AI for managerial HR, it has certain limitation that

serves as the opportunity for further research. The first limitation is study was targeted majorly for the IT sectors excluding the BPO/ITeS in India , so the future researchers can examine these results and study other sectors like BPO/ITeS, Manufacturing, BFSI, public sector etc. and compare the results of this study. The second limitation is the participant were selected from the urban area of India majorly targeting Bengaluru but future researchers should segregate these findings in relations to the population in the other areas of India which could be very different as the landscape and their views on the technology could be very different so these results shouldn't be generalized.

The third limitation is that field of AI is the constantly evolving and the results reflects the current status of the adoption and challenges, and it may continue to evolve, and the challenges as seen currently can be very different in the future, so researchers to bear this in mind and continue to expand the research basis the future state and evolving challenges.

The sample collected is from the employees who may have based their response on the experience of the current organization so future researchers could focus on single organization or single set of experience to derive the understanding of the challenges based on the collective experience from across experience levels in a same org or multiple orgs with the same sample.

6.4 Conclusion

The aim of the study was to understand the various challenges which are at play for implementation of AI in managerial HR, the research model was developed by

looking at the existing state and survey questionnaire was developed to further study the nuances of the existing challenges. The outcome of the study suggest that the integration of AI into managerial HR processes is received with a complicated interplay of acceptance, concern, and expectations. While there is awareness of AI's ability to expedite procedures and improve decision-making, considerable hurdles and concerns remain.

Employees express cautious optimism towards AI. On the one side, there is a need for AI to remove biases from historical data and improve the fairness of HR choices. On the other hand, there are serious concerns about data privacy, and AI's ability to make decisions which are fair and well received.

The key challenges pointed out are: Difficulties regarding defining and measuring employee performance and HR data being dispersed across many different platforms. Trust issues involving AI decision-making and data privacy.

To successfully integrate AI into HR, organizations must overcome these obstacles by building AI solutions that are transparent, equitable, and employee centric. Building confidence, protecting data privacy, and offering explicit explanations for AI judgements will be critical to broad acceptance and implementation.

In essence, while AI has promise for managerial HR, its effective deployment is dependent on addressing employee concerns and establishing a solid foundation of trust and openness.

APPENDIX A

SURVEY COVER LETTER

Hello There! I am Gunjan Khare, a senior Human Resource professional and a doctoral research scholar with Swiss School of Business and Management, Geneva, Switzerland.

I am seeking your support to participate in my research study titled 'Challenges of implementation of AI in managerial HR'. This survey is designed to further understand the challenges faced by the organisations in adopting AI for taking people related decisions with respect to performance, compensation, hiring and other managerial aspects.

Your participation in the study is pivotal for advancement of my research. Rest assured, the survey is anonymous and will take approximately 10 mins of your time.

All data collected will be used exclusively for the research purpose only ensuring strict confidentiality and anonymity. Your participation is completely voluntary, and you have the option to withdraw anytime during the survey. Please note the responses represent you in personal capacity and not your organisation.I appreciate your participation, thank you for your time and inputs

APPENDIX B

SURVEY QUESTIONS

Q1 – Choose your age group?

- 20 - 29 Years
- 30 – 39
- 40 - 49
- 50 – 59
- 60 and above

Q2 – Which city you work in?

- Bengaluru
- Chennai
- Mumbai
- Pune
- NCR
- Any other

Q3 – Your highest educational qualification

- Graduate
- Post Graduate
- PhD/Doctorate
- Others

Q4 – Your area of education

- Engineering
- Humanities
- Commerce/Business Management
- Other

Q5 – Which stage of career you are in?

- Intern
- Early Career/ New College Grad
- Mid Management
- Senior Management
- Executive Management

Q6 – Type Of industry you are working in

- IT Product
- IT services
- Other

Q7 – Size of the organization

- Small (<100)
- Medium (100 – 1000)
- Large (1000- 5000)
- Enterprise (>5000)

Q8 – What is your current role in the organization

- Individual Contributor
- First Line Manager
- Senior people leader (manager of managers)
- HR Professional (at all levels/positions)

Q9 – Your total work Experience

- Less than or 5

- 5 to 10

- 10 to15

- 15-20

- 20-25

- >25

Q10 Are you familiar with the usage of AI in HR processes like hiring, performance management, compensation planning, promotions and other people decision?

- Yes/No

Q11 On a scale of 1 to 5, how challenging do you find the process of defining and measuring employee performance within your organization?

Q12 How confident are you in the accuracy of current performance measurement tools within your organization?

Q13 What are the factors which makes performance management difficult

- Defining performance (No clear performance indicators)

- Measuring performance (no clear performance metrics)

- Subjectivity associated with performance management.

- Any other (input)

Q14 Do you use different system to track and maintain employee data related to hiring, performance, compensation, promotion etc?

- Yes/No

Q15 Do you have access to your own /your teams employment related data in one

tool?

- Yes/No

Q16 Do different HR systems storing data in separate places make it harder to effectively take HR decisions?

- (Yes/No)

Q14 Rank the following factors that limit the successful implementation of AI in HRprocesses, with 1 being the most significant limitation and 5 being the least significant:

- Difficulties in defining and measuring employee performance

- Lack of employee trust in AI-driven decisions
- Data privacy concerns related to HR data collection
- Insufficient technical expertise within organizations
- High costs associated with acquiring and maintaining HR AI systems

Q15 Would you trust the decisions taken by AI for your performance, promotion, compensation and hiring?

- Yes/No

Q16 If the organisations ensures transparency and provide explanations for AI-driven decisions, would you be comfortable with the decisions?

- Yes/No

Q17.Historical data may have inherited bias regarding certain demographic group so do you believe these biases can be mitigated to take fair HR decisions?

- Yes/No

Q18 In your view organisations will be able to ensure fairness and mitigate bias in

AI-driven HR decisions in future?

- Yes/No

Q19 AI system requires access to vast data sets, do you have concerns sharing your data due to privacy infringement and unauthorized use of personal information by the AI systems?

- Yes, I don't know how my data is stored and used

- No, my organisation should ensure the safety of my data

- No, As long as I know how and where my data is used

- Yes, it may get used without my consent

Q20 Would you feel uncomfortable with AI monitoring your behavior or making decisions that affect your employment without your explicit consent?

- I would not like to get my behaviour monitored

- I don't mind, there should be transparency in the system

- I can, if they let me know what is getting monitored

REFERENCES

Adorno, O.D.A. (2021), "Business process changes on the implementation of artificial intelligence", 20 May, doi: 10.11606/d.12.2020.tde-08042021-011316.

Agrawal, A., Gans, J.S. and Goldfarb, A. (2019), "Exploring the impact of artificial Intelligence: Prediction versus judgment", *Information Economics and Policy*, Vol. 47, pp. 1–6, doi: 10.1016/j.infoecopol.2019.05.001.

Azadeh, A. and Zarrin, M. (2016), "An intelligent framework for productivity assessment and analysis of human resource from resilience engineering, motivational factors, HSE and ergonomics perspectives", *Safety Science*, Vol. 89, pp. 55–71, doi: 10.1016/j.ssci.2016.06.001.

"Baker, M. (2003) Business and Management Research How to Complete Your Research Project Successfully. Westburn Publishers Ltd., Helens-burgh. - References - Scientific Research Publishing". (n.d.). , available at: https://www.scirp.org/reference/referencespapers?referenceid=1707372.

Basu, S., Majumdar, B., Mukherjee, K., Munjal, S. and Palaksha, C. (2023), "Artificial Intelligence–HRM Interactions and Outcomes: A Systematic Review and Causal Configurational Explanation", *Human Resource Management Review*, Vol. 33 No. 1, p. 100893, doi: 10.1016/j.hrmr.2022.100893.

Bersin, J. (2019), "The Case for Hiring Older Workers", *Harvard Business Review*, 26 September, available at: https://hbr.org/2019/09/the-case-for-hiring-older-workers. Böhmer, N. and Schinnenburg, H. (2023a), "Critical exploration of AI-driven HRM to build up organizational capabilities", *Employee Relations*, Vol. 45 No. 5, pp. 1057–1082, doi: 10.1108/er-04-2022-0202.

Böhmer, N. and Schinnenburg, H. (2023b), "Critical exploration of AI-driven HRM to build up organizational capabilities", *Employee Relations*, Vol. 45 No. 5, pp. 1057–1082, doi: 10.1108/er-04-2022-0202.

Budhwar, P., Malik, A., De Silva, M.T.T. and Thevisuthan, P. (2022a), "Artificial intelligence – challenges and opportunities for international HRM: a review and research agenda", *The International Journal of Human Resource Management*, Vol. 33 No. 6, pp. 1065–1097, doi: 10.1080/09585192.2022.2035161.

Budhwar, P., Malik, A., De Silva, M.T.T. and Thevisuthan, P. (2022b), "Artificial intelligence – challenges and opportunities for international HRM: a review and research agenda", *The International Journal of Human Resource Management*, Vol. 33 No. 6, pp. 1065–1097, doi: 10.1080/09585192.2022.2035161.

"Business Research Methods". (n.d.). *Google Books*, available at: https://books.google.co.in/books/about/Business_Research_Methods.html?id=l7u6BwA AQBAJ&redir_esc=y.

Cappelli, P., Tambe, P. and Yakubovich, V. (2018a), "Artificial Intelligence in Human Resources Management: Challenges and a Path Forward", *SSRN Electronic Journal*, doi: 10.2139/ssrn.3263878.

Cappelli, P., Tambe, P. and Yakubovich, V. (2018b), "Artificial Intelligence in Human Resources Management: Challenges and a Path Forward", *SSRN Electronic Journal*, doi: 10.2139/ssrn.3263878.

Cappelli, P., Tambe, P. and Yakubovich, V. (2018c), "Artificial Intelligence in Human Resources Management: Challenges and a Path Forward", *SSRN Electronic Journal*, doi: 10.2139/ssrn.3263878.

Castellacci, F. and Viñas-Bardolet, C. (2019a), "Internet use and job satisfaction", *Computers in Human Behavior*, Vol. 90, pp. 141–152, doi: 10.1016/j.chb.2018.09.001.

Castellacci, F. and Viñas-Bardolet, C. (2019b), "Internet use and job satisfaction", *Computers in Human Behavior*, Vol. 90, pp. 141–152, doi: 10.1016/j.chb.2018.09.001.

Connelly, C.E., Fieseler, C., Černe, M., Giessner, S.R. and Wong, S.I. (2021), "Working in the digitized economy: HRM theory & practice", *Human Resource Management Review*, Vol. 31 No. 1, p. 100762, doi: 10.1016/j.hrmr.2020.100762.

De Kervenoael, R., Hasan, R., Schwob, A. and Goh, E. (2020), "Leveraging human-robot interaction in hospitality services: Incorporating the role of perceived value, empathy, and information sharing into visitors' intentions to use social robots", *Tourism Management*, Vol. 78, p. 104042, doi: 10.1016/j.tourman.2019.104042.

Di Vaio, A., Palladino, R., Hassan, R. and Escobar, O. (2020), "Artificial intelligence and business models in the sustainable development goals perspective: A systematic literature review", *Journal of Business Research*, Vol. 121, pp. 283–314, doi: 10.1016/j.jbusres.2020.08.019.

Dobbe, R., Gilbert, T.K. and Mintz, Y. (2021), "Hard choices in artificial intelligence", *Artificial Intelligence*, Vol. 300, p. 103555, doi: 10.1016/j.artint.2021.103555.

Duggan, J., Sherman, U., Carbery, R. and McDonnell, A. (2019), "Algorithmic management and app-work in the gig economy: A research agenda for employment relations and HRM", *Human Resource Management Journal*, Vol. 30 No. 1, pp. 114–132, doi: 10.1111/1748-8583.12258.

Evans, L. and Kitchin, R. (2018), "A smart place to work? Big data systems, labour, control and modern retail stores", *New Technology, Work and Employment*, John Wiley & Sons Ltd, Vol. 33 No. 1, pp. 45–45.

Fan, W. and Yan, Z. (2010), "Factors affecting response rates of the web survey: A systematic review", *Computers in Human Behavior*, Vol. 26 No. 2, pp. 132–139, doi: 10.1016/j.chb.2009.10.015.

Giering, O., Fedorets, A., Adriaans, J. and Kirchner, S. (2024), "Artificial intelligence in Germany: employees often unaware they are working with AI-based systems", *DIW Weekly Report*, Vol. 48.

Goldfarb, A. and Tucker, C. (2017), *Digital Economics*, doi: 10.3386/w23684.
"Google Scholar". (n.d.). , available at: https://scholar.google.com/scholar_lookup?title=The%20wealth%20of%20knowledge%3A%20Intellectual%20capital%20and%20the%20twenty-first%20century%20organization&author=T.A.%20Stewart&publication_year=2007.

Hmoud, B. and Várallyai, L. (2022), "Artificial Intelligence In Talent Acquisition, Do we Trust It?", *Journal of Agricultural Informatics*, Vol. 12 No. 1, doi: 10.17700/jai.2021.12.1.594.

Huang, M.-H., Rust, R. and Maksimovic, V. (2019), "The Feeling Economy: Managing in the Next Generation of Artificial Intelligence (AI)", *California Management Review*, Vol. 61 No. 4, pp. 43–65, doi: 10.1177/0008125619863436.

"Human Resource Management". (n.d.). *Google Books*, available at: https://books.google.co.in/books?hl=en&lr=&id=gOfeDwAAQBAJ&oi=fnd&pg=PA88&dq=Budhwar+%26+Malik,+2020&ots=XYlTDq5Sil&sig=UGTR7WzOEAJMshzhb5uWlWKjdX4#v=onepage&q=Budhwar%20%26%20Malik%2C%202020&f=false.

"I, Human". (n.d.). *Google Books*, available at: https://books.google.co.in/books?hl=en&lr=&id=f4w4EAAAQBAJ&oi=fnd&pg=PT10&dq=Bersin+%26+Chamorro-Premuzic,2019&ots=njYtVj6Mcg&sig=jyQ7f2mlZOFu59vGFupPrzPUDH4#v=onepage&q&f=false.

Isaga, N. (2012), *Entrepreneurship and the Growth of SMEs in the Furniture Industry in Tanzania*.

Kaplan, A. and Haenlein, M. (2020), "Rulers of the world, unite! The challenges and opportunities of artificial intelligence", *Business Horizons*, Vol. 63 No. 1, pp. 37–50, doi: 10.1016/j.bushor.2019.09.003.

Li, R., Du, Y.-F., Tang, H.-J., Boadu, F. and Xue, M. (2019), "MNEs' Subsidiary HRM Practices and Firm Innovative Performance: A Tacit Knowledge Approach", *Sustainability*, Vol. 11 No. 5, p. 1388, doi: 10.3390/su11051388.

"Markoff, J. (2016). Machines of Loving Grace The Quest for Common Grounds between Humans and Robots. Harper Collins. - References - Scientific Research Publishing". (n.d.). , available at: https://www.scirp.org/reference/referencespapers?referenceid=3174322.

McColl, R. and Michelotti, M. (2019), "Sorry, could you repeat the question? Exploring video-interview recruitment practice in HRM", *Human Resource Management Journal*, Vol. 29 No. 4, pp. 637–656, doi: 10.1111/1748-8583.12249.

Meijerink, J., Boons, M., Keegan, A. and Marler, J. (2018), "Special issue of the International Journal of Human Resource Management: Digitization and the transformation of human resource management", *The International Journal of Human Resource Management*, pp. 1–5, doi: 10.1080/09585192.2018.1503845.

Merendino, A., Dibb, S., Meadows, M., Quinn, L., Wilson, D., Simkin, L. and Canhoto, A. (2018), "Big data, big decisions: The impact of big data on board level decision-making", *Journal of Business Research*, Vol. 93, pp. 67–78, doi: 10.1016/j.jbusres.2018.08.029.

Nura, A.A. and Osman, N.H. (2013), "Gauging the Effect of Performance Management and Technology Based Human Resource Management on Employee Retention: The Perspective of Academics in Higher Educational Institutions in Sokoto State Nigeria", *Asian Social Science*, Vol. 9 No. 15, doi: 10.5539/ass.v9n15p295.

Opatha, H.H.D.N.P. (2021), "Towards a Generic Model of Human Resource Management", *International Business Research*, Vol. 14 No. 7, p. 58, doi: 10.5539/ibr.v14n7p58.

Pan, Y. and Froese, F.J. (2023), "An interdisciplinary review of AI and HRM: Challenges and future directions", *Human Resource Management Review*, Vol. 33 No. 1, p. 100924, doi: 10.1016/j.hrmr.2022.100924.

Pearl and Mackenzie. (n.d.). *The Book of Why: The New Science of Cause and Effect*.

Pejic-Bach, M., Bertoncel, T., Meško, M. and Krstić, Ž. (2020), "Text mining of industry 4.0 job advertisements", *International Journal of Information Management*, Vol. 50, pp. 416–431, doi: 10.1016/j.ijinfomgt.2019.07.014.

Prikshat, V., Malik, A. and Budhwar, P. (2023), "AI-augmented HRM: Antecedents, assimilation and multilevel consequences", *Human Resource Management Review*, Vol. 33 No. 1, p. 100860, doi: 10.1016/j.hrmr.2021.100860.

Rodgers, W., Murray, J.M., Stefanidis, A., Degbey, W.Y. and Tarba, S.Y. (2023), "An artificial intelligence algorithmic approach to ethical decision-making in human resource management processes", *Human Resource Management Review*, Vol. 33 No. 1, p. 100925, doi: 10.1016/j.hrmr.2022.100925.

Sitzmann, T. and Weinhardt, J. (2014), "'Training Engagement Theory: A Multilevel, Temporal Perspective on the Effectiveness of Training'", *Academy of Management Proceedings*, Vol. 2014 No. 1, p. 11086, doi: 10.5465/ambpp.2014.11086abstract.

Stewart, T.A. (2007), *The Wealth of Knowledge*, Crown Currency.
Torres, E.N. and Mejia, C. (2017), "Asynchronous video interviews in the hospitality industry: Considerations for virtual employee selection", *International Journal of Hospitality Management*, Vol. 61, pp. 4–13, doi: 10.1016/j.ijhm.2016.10.012.

Van Esch, P., Black, J.S. and Ferolie, J. (2019), "Marketing AI recruitment: The next phase in job application and selection", *Computers in Human Behavior*, Vol. 90, pp. 215–222, doi: 10.1016/j.chb.2018.09.009.

Vassilopoulou, J., Kyriakidou, O., ÖZbilgin, M.F. and Groutsis, D. (2022), "Scientism as illusio in HR algorithms: Towards a framework for algorithmic hygiene for bias proofing", *Human Resource Management Journal*, Vol. 34 No. 2, pp. 311–325, doi: 10.1111/1748-8583.12430.

Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A. and Trichina, E. (2021a), "Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review", *The International Journal of Human Resource Management*, Vol. 33 No. 6, pp. 1237–1266, doi: 10.1080/09585192.2020.1871398.

Vrontis, D., Christofi, M., Pereira, V., Tarba, S., Makrides, A. and Trichina, E. (2021b), "Artificial intelligence, robotics, advanced technologies and human resource management: a systematic review", *The International Journal of Human Resource Management*, Vol. 33 No. 6, pp. 1237–1266, doi: 10.1080/09585192.2020.1871398.

Wirtz, B.W. (2019), *Digital Business Models*, *Progress in IS*, doi: 10.1007/978-3-030-13005-3.

Wright, K.B. (2006), "Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services", *Journal of Computer-Mediated Communication*, Vol. 10 No. 3, p. 00, doi: 10.1111/j.1083-6101.2005.tb00259.x.

Yazdanparast, R., Hamid, M., Azadeh, M.A. and Keramati, A. (2018), "An Intelligent Algorithm for Optimization of Resource Allocation Problem by Considering Human Error in an Emergency Department", *Journal of Industrial and Systems Engineering.*, Vol. 11 No. 1, pp. 287–309.

Yeung, K. (2020), "Recommendation of the Council on Artificial Intelligence (OECD)", International Legal Materials, Vol. 59 No. 1, pp