Exploring the Impact of Artificial Intelligence on Organisational Adaptability and Employee Engagement

Data-Driven HR Role and Responsibilities

Abstract

With the surge in AI-led data-driven HR processes in the post-COVID-19, the core debates have ignited in the context of HR's participation in managing organisational adaptability and generating employee engagement for the overall growth of the company. It is with this objective that this research concentrates on delving into the current shifting of the HR management landscape from traditional HR management to AI-driven management. For this purpose, along with secondary data, the research will develop the theoretical investigations led by Job Characteristics Theory (JCT) and Organisational Support Theory (OST). However, this study will also include data from primary sources. These sources are designated through the interview sessions with 50 participants having experience with AI-led data-driven HR processes.

Eventually, the research will gain a detailed understanding of the challenges and opportunities related to the roles and responsibilities of HR professionals in implementing AI-led Data-Driven HR Processes, especially for managing organisational adaptability and employee engagement.

1. Introduction

It has been marked that the participation of AI in HR practices has increased after the COVID-19 pandemic, and its impact in bestowing influence over the organisational ability to adapt to change and determine the levels of employee engagement has fuelled extensive debates (Agarwal et al., 2022; Anitha and Afza, 2023; Mittal et al., 2023). As identified by Anitha and Afza (2023) there is a drastic shift from the traditional provisions of managing human resources (HR) to the digitally developed artificial intelligence (AI) based HR functionalities. The proceedings comprise task automation, particularly in the domains of recruitment, determining payroll, and reviewing the performance of the employees (Yigitcanlar et al., 2020).

1.1 Research Problem

The research problem identified is about the way HR professionals should behave while considering the usage of AI-led Data-Driven HR Processes, on organisational adaptability and employee engagement.

1.2 Research Aim and Objectives

This research aims to know the roles and responsibilities to be implied by HR professionals while using AI-led Data-Driven HR Processes, on organisational adaptability and employee engagement.

1.2.1 Research Objectives

- To examine the implementation of AI in HR practices towards organisational adaptability.
- To investigate the effects of AI-driven HR processes on employee engagement.

- To explore the roles and responsibilities of HR professionals in considering AI-led Data-Driven HR Processes.

- To identify challenges and opportunities associated with integrating AI into HR practices.
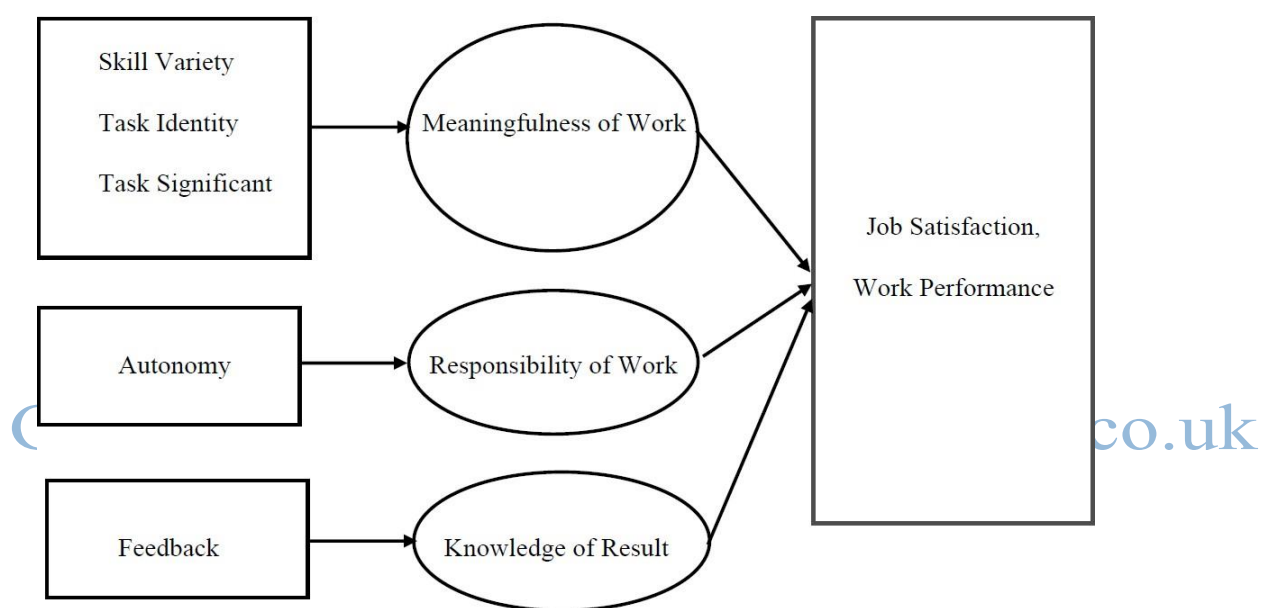
1.3 Research Rationale

The rationale of this research lies in understanding the digital transformation opted by the data-driven HR and thereby evaluating the agility of the organisation in concern of employee satisfaction and performance.

2. Literature Review

The Digital Revolution, especially after the pandemic has empowered organizations efficiently enough to embrace advanced modes of technologies, especially for enhancing the performance of the company (Wijayati et al., 2022). For many scholars, the AI-generated data-driven HR approach is the most effective way to offer a greater amount of growth and sustainability to the company (Soltani et al., 2020; Wang, 2021; Yildiz and Esmer, 2022; Rajeshwari et al., 2023). However, there are also debates on the humanitarian roles and responsibilities of HR professionals, which are found effective in logically implementing emerging technologies to attain a competitive positioning for employee performance and engagement in the company. Further, there are concerns related to employee engagement and the overall adaptability of the organization. To gain insight into the humanitarian roles and responsibilities of the HR professionals for the employees and the organisation, this research will investigate two theories, which are Job Characteristics Theory (JCT) and Organisational Support Theory (OST).

It was Hackman and Oldham who developed JCT in the year 1976 and identified the need to understand the connection between the characteristics of a job with its design and outcomes of interests, like employee performance (Maneemahanond and Niyomsin, 2024). Hackman and Oldham (1976) identified five characteristic features for understanding the relevance of a job and these features were skill variety, task identity, task significance, autonomy, and feedback (see Figure 1).

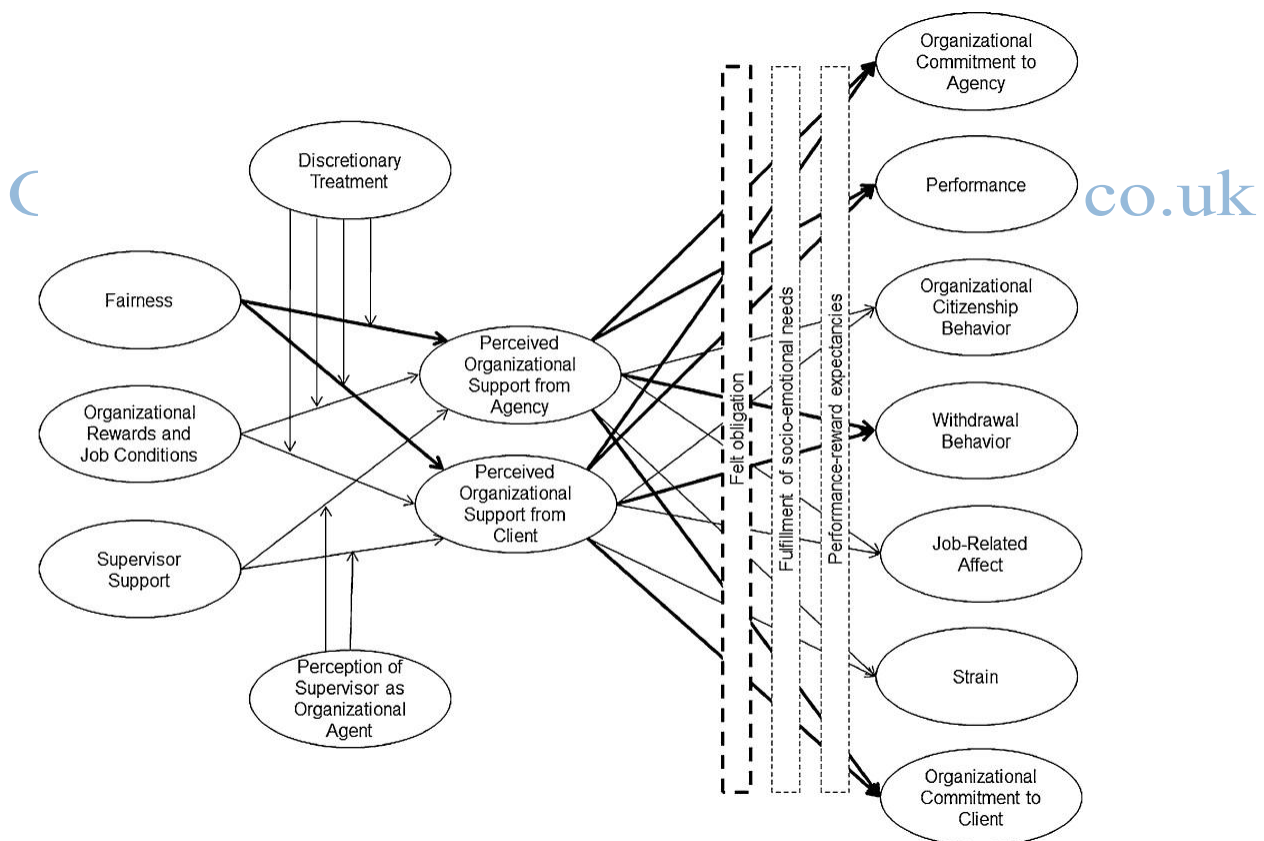**Figure 1 Five Features of Job Characteristics Theory**

Source: Adapted from Hackman and Oldham (1976)

For these scholars, through the detection of these five elements, the employees get influenced at their personal and professional levels (Hackman & Oldham, 1976). Further, research has established that as employees face stress at the workplace and instances of high demands for their jobs, they become inclined to seek economic and moral support from their respective organisations (Krishnan & Mary, 2012). It is at this point that the role of HR becomes important to understand the position of the employee. However, at this point, the employee's performance results attained through AI-led data-driven HR become a matter of investigation.

Further, at the organisational frontier, this research would consider Organisational Support Theory (OST). Established by Eisenberger et al. (1986) and further enhanced by Rhoades & Eisenberger (2002), this theory holds that employees maintain the general perception of the way the management of their organisation values their hard work and contributions. In this context, Baran et al. (2012) illustrated that the POS outcomes for OST comprise commitment, performance, citizenship, withdrawal, affect, and strain. As per OST, Baran et al. (2012) noted that POS generates three processes, which are reciprocity norm driving employee reciprocation, POS fulfilling socio-emotional needs, and determining organisational reward readiness (see Figure 2).

Figure 2 Sources of POS under Organisational Support Theory (OST)

Source: Baran et al. (2012, p. 12)

Moreover, Kurtessis et al. (2015) noted that to adapt to the organisational set-up and expectations, the employees must feel that they are cared for by the organisation and that the management is concerned about their well-being.

Through the implication of this theory, this research remains bound to understand the role and responsibilities of AI-led data-driven HR in connecting the sentiments of the employees to the need for adapting the organisational environment.

2.1 Research Gaps

With the evolving frontiers of AI-led data-driven HR, it becomes important for this research to understand the intersection of AI with the dynamics of the workplace, and provide insights into the kind of challenges that HR is liable to face. Some of the intriguing research questions attained from the literature review are stated in the next section.

2.2 Research Questions

- How does the adoption of AI-led data-driven HR processes impact organisational adaptability?

- What are the effects of AI-led data-driven HR processes on employee engagement?

- How do AI-led data-driven HR processes contribute to leveraging organisational adaptability and employee engagement?

- What are the challenges and opportunities of AI-led data-driven HR processes?

3. Research Methodology

In consideration of the identified research question, this research will explore the impact of AI-led data-driven HR processes over the acts of organisational adaptability in the context of employee engagement through qualitative methodology.

3.1 Research Design

This research will adopt a constructivist paradigm to acknowledge individual realisations and the personal construct of reality based on perspectives and experiences (Nugroho, 2017). Through this methodology, this research will investigate the humanitarian grounds for developing organisational adaptability and employee engagement after the usage of AI-led data-driven HR processes (Saunders et al., 2019). Since qualitative research offers the pathway to collect information related to human behaviour and emotions, it stands appropriate to answer the research questions.

3.2 Data Collection

The researcher will follow purposeful sampling for this research and will approach 50 participants having experience with AI-led data-driven HR processes. These 50 participants will comprise organisational leaders, HR managers, and employees from different levels and departments within the organisation.

Semi-structured open-ended interview questions will be asked of the selected sample (see Appendix 1 Interview Questions). Interviews will be either face-to-face or through online sessions, at the convenience of the interviewees. All the responses will be audio-recorded after gaining signed Information Sheet & Consent Form (see Appendix 2 **Information Sheet & Consent Form**) from the participants to voluntary participation in their responses.

3.3 Data Analysis Method

This research will consider the Thematic Analysis based on interview transcripts (Braun & Clarke, 2006, 2021) (see Figure 3 Six Phases of Thematic Analysis by Braun & Clarke (2006, 2021)).

Figure 3 Six Phases of Thematic Analysis by Braun & Clarke (2006, 2021)

Phase	Description
Phase 1: Familiarization with the Data	Immersion in the data through multiple readings to gain a deep understanding of the content. Initial notes and observations may be made during this phase.
Phase 2: Generating Initial Codes	Systematically identifying and coding interesting features, patterns, or themes within the data. Codes are labels or tags applied to segments of data.
Phase 3: Searching for Themes	Collating codes into potential themes by examining how different codes relate to each other and the overall dataset. Themes capture patterns of meaning across the data.
Phase 4: Reviewing Themes	Refining and defining themes by reviewing their coherence, relevance, and distinctiveness. Themes are reviewed in relation to the coded extracts and entire dataset.
Phase 5: Defining and Naming Themes	Producing clear definitions and names for each theme to accurately capture its essence. Themes should be internally consistent and distinctive from one another.
Phase 6: Producing the Report	Writing up the analysis by selecting compelling extracts from the data to illustrate each theme. The report should provide a coherent narrative supported by evidence.

By following the phases as marked in Figure 3, the researcher will accumulate appropriate themes to answer the research questions and meet research gaps.

3.4 Justification for Qualitative Methodology

Qualitative research is the most appropriate way to gain insight into the complex phenomena of human behaviours and emotions (Merriam and Grenier, 2019). To understand the roles and responsibilities implied by HR professionals, this research aims to investigate the way AI-led data-driven HR processes have an impact on the status of organisational adaptability and employee engagement. Further, the qualitative research method is ideal for analysing the interconnectedness between the AI-led data-driven HR processes, which is significant to understanding the roles and responsibilities implied by HR professionals.

3.5 Ethical Considerations

The research remains highly committed to adhering to the Code of Conduct as determined by the University Guidelines. In consideration of the involvement of human participants, this

research will be initiated only after attaining signed Informed Sheet & Consent Form from the sampled participants. It is hereby, the researcher ensures to maintain absolute confidentiality and anonymity of all the participants (Bryman et al., 2022).

3.6 Timeline/Gantt Chart

See Appendix 3 Proposed Timeline (Gantt chart), for details.

4. Expected Outcomes

4.1 Theoretical Contributions

Through JCT and OST, this research will offer scopes for understanding the role and responsibilities of HR professionals in the era of AI-led data-driven HR processes and will derive humanitarian ways to mitigate challenges and identify the opportunities that will be attained by the researcher.

4.2 Practical Applications

On practical grounds, this research will pave the way for practical guidelines for HR professionals will offer grounds for optimising HR practices and will leverage AI technologies most effectively.

4.3 Policy Implications

The findings of this research are targeted to offer genuine declarations to develop the regulatory frameworks or organisational governing approaches so that the policy implications can manage algorithmic bias, data privacy, and employee rights under the scopes of AI-driven management processes.

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Appendices

Appendix 1 Interview Questions

1. How do organizations perceive the adoption of AI-led data-driven HR processes in terms of enhancing organisational adaptability?
2. What are the specific AI technologies being implemented in HR processes, and how do they impact organisational adaptability?
3. Can you describe your experience with the implementation of AI-led data-driven HR processes in our organization?
4. What specific challenges have you encountered during the integration of AI-led data-driven HR processes into your daily workflow?
5. How do you perceive the impact of AI-led data-driven HR processes on organisational adaptability within our company?
6. Have you noticed any changes in employee engagement since the implementation of AI-led data-driven HR processes? If so, what are they?
7. In your opinion, what are the main opportunities that AI-led data-driven HR processes present for enhancing organisational adaptability and employee engagement?
8. How do you think AI-led data-driven HR processes can be leveraged to improve communication and collaboration within teams?
9. Have you experienced any resistance or scepticism from employees regarding the adoption of AI-led data-driven HR processes? If yes, what are the main concerns?
10. Can you identify any unintended consequences or challenges that have arisen from the implementation of AI-led data-driven HR processes?
11. How do you think the organization can overcome any barriers or challenges associated with the integration of AI-led data-driven HR processes?
12. In your view, what steps can be taken to ensure that AI-led data-driven HR processes are effectively contributing to organisational adaptability and employee engagement?

Appendix 2 Information Sheet & Consent Form

Title: *Exploring the Impact of Artificial Intelligence on Organisational Adaptability and Employee Engagement: Data-Driven HR Role and Responsibilities*

Researcher: [Your Name]

Introduction
Thank you for considering participation in this research study. The purpose of this study is to explore the challenges and opportunities associated with the implementation of AI-led data-driven HR processes in organisational settings. Your insights and experiences are invaluable to understanding the impact of these processes on organisational adaptability and employee engagement.

Purpose of the Study
This study aims to investigate how the adoption of AI-led data-driven HR processes influences organisational adaptability and employee engagement. By participating in an interview, you will have the opportunity to share your perspectives, experiences, and insights on this topic.

Interview Procedure
If you agree to participate, you will be invited to participate in a semi-structured interview with the researcher. The interview will last approximately 30 minutes and will be audio-recorded for accuracy. You will be asked open-ended questions related to your experiences with AI-led data-driven HR processes and their impact on organisational dynamics and employee engagement.

Confidentiality
All information provided during the interview will be treated with strict confidentiality. Your identity will remain anonymous in any reports or publications resulting from this study. Audio recordings will be securely stored and only accessible to the researcher.

Voluntary Participation
Participation in this study is voluntary, and you may choose to withdraw at any time without consequence. Your decision to participate or decline will not affect your relationship with the organization or any future opportunities within the organization.

Contact Information
If you have any questions or concerns about the study, please feel free to contact the researcher at [Your Contact Information]. You may also contact the research ethics committee at [Committee Contact Information] if you have concerns about your rights as a participant.

By participating in this study, you acknowledge that you have read and understood the information provided in this sheet. If you agree to participate, please sign the consent form below.

Consent Form

I have read the Information Sheet provided above, and I understand the purpose, procedures, and potential risks and benefits of participating in the study. I agree to participate voluntarily and understand that I may withdraw at any time without consequence. I understand that my participation involves participating in a semi-structured interview and that audio recordings will be made for accuracy.

Participant's Name: _____

Participant's Signature: _____

Date: _____

Researcher's Name: _____

Researcher's Signature: _____

Date: _____

Please ensure that both the Information Sheet and Consent Form are provided to participants before conducting the interviews. Participants should have the opportunity to ask questions and clarify any concerns before providing their consent.

Appendix 3 Proposed Timeline (Gantt chart)

Activities	2023 M1	2023 M2	2023 M3	2023 M4	2023 M5	2023 M6	2023 M7	2023 M8	2024 M9	2024 M10	2024 M11	2024 M12
Submitting the Research Proposal	X	X	X	X								
Introduction Chapter/Secondary Research				X	X	X						
Secondary data collection/Drafting of Literature Review						X	X					
Selection of Primary Research Methods and Tools							X	X				
Interviews/Analysis of qualitative data/illustration of findings								X	X	X		
Submitting the Final research work											X	X