

The Role of Data Analytics and AI in Transforming Employee Engagement and Retention Strategies

PROPOSAL

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1. Introduction

1.1 Research background

The advancements in data analytics and artificial intelligence (AI) have been transforming various areas of business management, including the human resource management functions (Fink & Macey, 2021). These technological advancements reportedly offer insightful, data-driven approaches to understanding and improving the workplace environment, thus, helping foster a more committed and satisfied workforce (Ekhsan et al., 2023). Data analytics-based solutions also provide businesses with the tools to uncover patterns and insights related to employee behaviour and satisfaction through its capability to process vast amounts of information. It enables businesses to tailor their engagement strategies effectively, addressing individual and collective needs within the workforce (Agarwal & Pandita, 2022). By analysing trends and feedback, companies can create more responsive and adaptive environments that promote employee well-being and job satisfaction. Artificial intelligence further augments this transformation by introducing automation and predictive analytics for better employee engagement (Fink & Macey, 2021). An industry study has recently found that 65% of employees feel more engaged in their work when their employers utilise data to personalise engagement strategies. Yet, on the other hand, a survey indicated that 45% of employees express reservations about their personal data being used for workplace analytics, citing privacy as a major concern (Fink & Macey, 2021). Another similar report highlighted that 60% of organisations face significant challenges in deploying data analytics and AI due to a lack of skilled personnel (Agarwal & Pandita, 2022). Hence, it raises question as to what actual role these technologies play in transforming HR functions in an organization. This research has been planned to uncover the role of these technologies in improving employee engagement and retention, and the feasibility, challenges, and practicality of adopting these technologies within HR functions.

1.2 Research aim, objectives, and questions

The research aim is to investigate the role of data analytics and AI in transforming HR strategies to improve employee engagement and retention.

Research objectives:

- To evaluate the impact of data analytics on employee engagement in a company.

- To analyse the effectiveness of AI-driven tools in predicting and improving employee retention in a company.
- To investigate employee perceptions towards the use of data analytics and AI in engagement and retention strategies.
- To recommend best practices for companies to optimize the use of data analytics for HR purposes.

Research questions to be answered in this study are:

- How do data analytics influence the development and effectiveness of employee engagement strategies in an organisation?
- What are the predictive capabilities of AI in identifying potential employee turnover, and how can these insights be used to improve retention strategies?
- What are employee attitudes towards the collection and use of their data for improving engagement and retention, and how do these attitudes impact the success of such initiatives?
- What best practices can be suggested in this context?

1.3 Research gap and rationale

The integration of data analytics and AI in enhancing employee engagement and retention has been gaining traction in recent years. However, the issue is that the existing literature mainly emphasizes on the benefits, often overlooking the associated challenges and employee perspectives. Critical issues such as privacy concerns, skill gaps, bias in AI, technological dependence, and implementation costs are not sufficiently addressed in the current studies (Fink & Macey, 2021). Moreover, there is a notable gap in understanding employees' attitudes towards the use of their data for engagement and retention purposes. This can be a major barrier to adopting this technology in an organisation since employees usually resist changes of such nature due to concerns over the impact it would have on their job performance, job security and the roles and responsibilities. Yet, the existing literature does not provide many insights into the practicality and feasibility of adopting AI and data analytics against these challenges.

Therefore, this study has been planned to fill these gaps by critically evaluating both the positive impacts and the challenges of leveraging data analytics and AI in employee engagement and

retention strategies. It seeks to provide a balanced view offering comprehensive insights that can guide organizations in implementing these technologies more effectively and ethically. This research will contribute to the body of knowledge by presenting a critical analysis of the interplay between technology and employee engagement within the current business landscape.

2. Literature review

Employee engagement refers to the level of an employee's commitment, passion, and enthusiasm towards their job and the organization they work for (Naz & Muhammad, 2022). Employee retention, on the other hand, pertains to an organization's ability to keep its employees from leaving their jobs (Naz & Muhammad, 2022). Recent studies in literature shed light on the transformative potentials of these technologies that they hold for human resource (HR) practices in understanding and optimizing the workplace environment to foster a committed and satisfied workforce.

Data analytics offers a significant capacity for interpreting large volumes of employee-related data, providing actionable insights into engagement and retention (Ekhsan et al., 2023). A study by Fink & Macey (2021) explained how data-driven approaches facilitate an understanding of employee behavior, enabling organizations to tailor their engagement strategies with a high degree of personalization and responsiveness. They stated that analytics-driven interventions are linked to notable enhancements in job satisfaction and organizational commitment. Furthermore, the emergence of AI in HR practices is evidence of a new approach in predicting and influencing employee retention. Bakhru & Sharma (2019) explore the efficacy of AI tools in forecasting potential employee turnover, highlighting their role in preemptively identifying and addressing factors contributing to disengagement and attrition. These AI systems, through predictive modeling and machine learning, can offer prescriptive measures, thus allowing organizations to take proactive steps in improving retention (Jaiwant & Vazirani, 2023).

However, the integration of these technologies is not without challenges. Privacy concerns and ethical considerations emerge as common themes in the discourse surrounding the deployment of data analytics and AI within HR (Agarwal & Pandita, 2022). As noted by Jansen and Van Lier (2021), employees often express apprehensions regarding the use of their personal data, concerning about the intrusive surveillance and potential misuse. Such concerns, if unaddressed, can undermine trust and hinder the effectiveness of data-driven HR initiatives. Moreover, the

digital transformation in HR necessitates a re-evaluation of skill sets required within organizations (Setiawan & Hastuti, 2022). Studies revealed a substantial skill gap, particularly in data literacy and analytical competencies among HR professionals, which could embrace the adoption and optimization of data analytics and AI in employee engagement and retention strategies (Pal et al., 2022).

Given the debates in literature over the potential benefits and challenges with the adoption of these technologies, the question remains how effective they can be in achieving employee engagement and retention. This is an issue that hasn't gained much focus in literature, which is why this research intends to concentrate on this issue by comprising an analysis of the findings of peer reviewed articles and case studies.

3. Research methodology

3.1 Research philosophy

The research will be guided by interpretivism research philosophy. Interpretivism philosophy focuses on subjective interpretations of data to find answers to the given research questions (Dodiya et al., 2015). Adopting the interpretivism research philosophy has been deemed suitable for this study, as it would enable a deep understanding of the subjective interpretations on the adoption of data analytics and AI in engagement and retention across industries, as presented in various recent articles. Interpretivism will help explore the contextual insights, which are key to understanding the complexities of technology adoption in workplaces (Goddard & Melville, 2011).

3.2 Research approach

The research approach to be followed here is inductive approach. It will involve developing insights and theories from observed patterns and phenomena to present data-driven understandings in a relatively novel field (Goddard & Melville, 2011). It has been deemed suitable for this study since the researcher intends to present collective insights and new interpretations of the various aspects of data analytics and AI adoption in HR functions to improve employee engagement and retention (Dodiya et al., 2015).

3.3 Type of investigation

The research is going to be based on secondary qualitative investigation. Using secondary qualitative data collection and analyses method, the researcher will be able to synthesize existing knowledge and identify patterns across a range of studies (Goddard & Melville, 2011). This approach will allow for a critical analysis of the evidence on the impact of data analytics and AI on employee engagement and retention. It will help identify prevailing themes and gaps in the current literature, thereby offering an in-depth understanding of the field without the need for primary data collection.

3.4 Data collection

The data collection method selected for this study is systematic review. Systematic review is a structured approach to reviewing the existing articles on this topic (Goddard & Melville, 2011). This data collection method will enable a comprehensive synthesis of prior research, providing a holistic understanding of the field, identifying prevailing trends, gaps, and establishing a context for the current investigation. It will also help translate academic insights into actionable strategies, enabling businesses to make informed decisions about integrating data analytics and AI into their HR practices (Dodiya et al., 2015).

Search strategy:

Keywords to be used in the search are: “Data Analytics”, “Employee Engagement”, “AI”, “Employee Retention Strategies”, “Employee Perceptions”, “Workplace Technology”, “Predictive Analytics in HR”, “AI Bias in Employee Management”, “Data-Driven Employee Retention”, “Employee Engagement Metrics and Analytics”

The databases to be used for the search are the following:

JSTOR, ScienceDirect, and Nelson

Once identifying the articles from the keyword search, the researcher will then apply the following inclusion and exclusion criteria to select suitable articles for the study.

Inclusion criteria	Exclusion criteria
Studies focusing on the use of data analytics and AI in employee engagement and retention.	Studies not specifically addressing data analytics or AI in the context of employee engagement and retention.
Research highlighting employee perspectives on data analytics and AI in the workplace.	Articles focusing solely on theoretical aspects without empirical data.
Articles published in the last five years to ensure relevance and currency.	Non-peer-reviewed sources, such as blogs or non-academic publications, to maintain research integrity.
Studies published in peer-reviewed journals to ensure research quality and credibility.	Studies not conducted in organizational contexts, ensuring applicability to business environments.
Research conducted in organizational settings, providing practical insights into real-world applications.	

3.5 Data analysis

The data collected from the review will be analysed using thematic analysis and a subsequent qualitative synthesis method. Thematic analysis will act as a flexible and robust tool for identifying, analysing and reporting patterns within the findings gathered from the selected articles (Dodiya et al., 2015). By systematically reviewing the literature, key themes related to the use of data analytics and AI in employee engagement and retention will be analysed. The qualitative synthesis will then be carried out to integrate the findings across various studies to construct a comprehensive narrative and understanding of the topic (Goddard & Melville, 2011). This approach will offer a coherent interpretation of the collective evidence, enhancing the depth and breadth of the study's conclusions.

3.6 Research limitation

This study will focus on secondary qualitative research, which inherently relies on previously published data, limiting how current, unreported trends or novel primary insights on data analytics and AI can be gained. The selected timeframe and peer-reviewed criteria might exclude relevant recent studies not yet published in academic journals. Furthermore, the thematic analysis can be quite subjective and influenced by the researcher's interpretations, which may introduce bias. Also, the generalizability of the study might be constrained, as findings are derived from existing studies that may not encompass diverse industries or geographical locations.

3.7 Ethical considerations

Since the researcher will not be collecting data from human participants, but from the already published sources, therefore, there wouldn't be a need to fill out ethics approval forms or acquiring third party permissions. The researcher will however, comply with all relevant academic guidelines and regulations concerning the use of secondary data, referencing and citations in conducting this study.

3.8 Gantt chart

Research activities/ Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Introduction														
Literature review														
Methodology and Data collection														
Data analysis														
Findings and discussions														
Conclusion														
Draft completion														
Edit														
Final draft														

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