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**HUMAN-CENTRIC AI GOVERNANCE IN INDUSTRY 5.0: AI-ENABLED DIVERSITY AND INCLUSION POLICIES AS DRIVERS OF EMPLOYEE ENGAGEMENT AND RETENTION IN MUMBAI SMALL AND MEDIUM ENTERPRISES (SMEs)****Chinmay Khadapkar and Dr. Satvinder Singh Bedi**

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**ABSTRACT**

Industry 5.0 represents a significant shift in how businesses handle technology and their workplaces. Industry 5.0 places human values at the center of technological advancement, in contrast to Industry 4.0, which concentrated primarily on automation in AI, digitization, and its effectiveness. It encourages the moral and responsible application of artificial intelligence (AI) while putting the welfare, inventiveness, and inclusivity of its workforce first. This change promotes cooperation between intelligent systems and human skills in human resource management (HRM) as opposed to relying exclusively on automated procedures. AI applications are being used by Mumbai's small and medium-sized businesses (SMEs) for tasks like hiring, performance management, workforce analytics, and employee engagement. Although these technologies enhance productivity and data-driven decision-making, their efficacy depends on their responsible application. Human-centric AI governance guarantees that systems operate with clarity, reduce bias, and advance equitable organizational practices. AI systems may inadvertently reinforce discrimination or exclude particular groups in the absence of adequate moral oversight. This study investigates how human-centered AI governance can improve diversity and inclusion (D&I) programs in small and medium-sized businesses in Mumbai. It also examines the impact of these inclusive practices on employee retention and engagement. 210 workers from SMEs in the manufacturing and service sectors were given a structured questionnaire with a five-point Likert scale. Employee perceptions of AI governance procedures, inclusive initiatives, engagement levels, and retention intentions were the main goals of the study. The findings show that ethically governed systems build on employees' trust HR processes and increase their perception of workplace fairness. Businesses are better at fostering inclusive environments when they employ transparent and bias-aware AI practices. Furthermore, there is a positive correlation between inclusive AI-supported HR practices and employee engagement, which reduces the likelihood of turnover. The findings imply that employee engagement is a key factor in connecting diversity initiatives with retention. The study highlights the necessity of fusing ethical responsibility with technological innovation. Adopting a human-centered AI governance framework can help SMEs in Mumbai improve their efforts at diversity and inclusion while increasing employee retention and engagement, which will result in long-term organizational growth.

**Keywords:** Human-Centered, Artificial Intelligence Governance; Diversity and Inclusion; Employee Engagement, Employee Retention, Small and Medium Enterprises (SMEs).

**1. INTRODUCTION**

The shift from Industry 4.0 to Industry 5.0 represents more than just a technological upgrade—it reflects a change in mindset. Industry 4.0 was largely centered on automation, digital systems, and efficiency through smart technologies. In contrast, Industry 5.0 brings people back to the center of innovation. It honourable use of technology, sustainability, and meaningful collaboration between humans and intelligent systems. voluntarily replacing human effort, technology is now expected to support human potential. In the field of Human Resource Management (HRM), transition has led to the growing use of tools in recruitment, performance evaluation, workforce planning, and employee engagement initiatives.

At the same time, diversity and inclusion (D&I) have become imported elements long-term for success. Companies that build inclusive workplaces often benefit from diverse viewpoints, stronger creativity, better decision-making, and higher employee commitment. However, as AI becomes more integrated into Human Resource Management practices, it brings both benefits and concerns. On one hand, AI systems can help reduce personal bias and create more consistent decision-making processes. On the other hand, if not designed carefully or monitored, these systems may unintentionally reinforce existing inequalities. Therefore, responsible and transparent AI governance is necessary to ensure that technology supports fairness and inclusion rather than weakening it.

This issue is especially relevant in the Small and Medium Enterprises (SMEs) sector in Mumbai, which plays a significant role in India's economic growth. Although Small and Medium Enterprises (SMEs) contribute greatly to employment and innovation, many struggle with challenges related to engagement and high turnover.

Limited resources and less formal HR systems often make it difficult to manage these concerns effectively. In this context, the present study examines how a human-centered approach to AI governance can strengthen D&I practices and these practices, in turn, influence employee engagement and retention in Mumbai-based Small and Medium Enterprises (SMEs)

## **2. LITERATURE REVIEW**

### **2.1 Industry 5.0 and Human-Centric AI**

Industry 5.0 moves beyond the automation-focused approach of Industry 4.0 by combining technological advancement with human values, social responsibility, and sustainability. While Industry 4.0 concentrated mainly on improving efficiency through digital systems and smart connectivity, Industry 5.0 shifts the focus toward people. It emphasizes that innovation should not only increase productivity but also enhance human well-being, strengthen organizational resilience, and environmental balance.

A element of this new approach is the responsible management of Artificial Intelligence (AI). Rather than viewing AI simply as a tool for automation, Industry 5.0 promotes its ethical and transparent use. This means ensuring that systems function fairly, avoid harmful bias, and contribute positively to society. Responsible governance requires clear policies & structured oversight to guide how technologies is designed, implemented, and monitored within organizations.

In the field of Human Resource Management (HRM), human-centered governance plays a particularly important role. HR processes often involve sensitive data and critical decisions related to hiring, promotions, performance evaluations, and compensation. Therefore, organizations must ensure that AI-driven tools protect data privacy, minimize algorithmic bias, and provide clarity in automated decision-making. Transparency helps employees understand how decisions are made, while accountability ensures that organizations remain responsible for outcomes generated by AI systems.

Overall, human-centric AI governance seeks to balance technological capability with ethical responsibility. By aligning AI applications with fairness, transparency, and respect for human dignity, organizations can leverage innovation while maintaining trust and integrity in their workplace practices. Top of Form

### **2.2 Artificial Intelligence in Human Resource Management**

The use of Artificial Intelligence in Human Resource Management has grown rapidly over the past few years. Many organizations now depend on AI-based tools for activities such as predictive hiring, monitoring employee sentiment, workforce planning, talent forecasting, and performance assessment. These systems can process vast amounts of data in a short time, helping HR professionals make faster and more informed decisions. By identifying patterns and trends that may not be immediately visible to humans, AI has the potential to enhance both efficiency and accuracy in HR functions.

Despite these advantages, researchers emphasize that AI systems are not automatically fair or unbiased. Since AI tools learn from existing data, they may reflect the same prejudices or structural inequalities present in historical records. If organizations implement such systems without careful monitoring or clear guidelines, AI may unintentionally reinforce discrimination rather than reduce it. For example, biased recruitment data could lead to unfair screening outcomes, limiting opportunities for certain groups.

For this reason, the adoption of AI in HR must be supported by strong ethical governance. Organizations need clear policies that ensure transparency in how AI-driven decisions are made. Explainability is important so that employees understand the reasoning behind automated outcomes. Regular fairness audits and bias assessments should also be conducted to evaluate whether the system is operating equitably. In addition, involving employees in discussions about technological changes can build trust and encourage responsible implementation.

Ultimately, transparent and accountable governance frameworks are essential to ensure that AI strengthens fairness and inclusivity in HR practices rather than weakening them.

### **2.3 Diversity and Inclusion in Small and Medium Enterprises (SMEs)**

Diversity and Inclusion (D&I) initiatives aim to create work environments in organization where individuals from varied backgrounds experience equal opportunity, respect, and psychological safety. In the Small and Medium Enterprises (SMEs) context, D&I assumes particular importance due to smaller team sizes, closer managerial relationships, and flexible organizational hierarchies. Leadership practices in Small and Medium Enterprises (SMEs) directly influence workplace culture, which in turn affects employee morale, engagement, and retention.

AI-enabled D&I systems can support inclusive strategies in multiple ways. These systems are capable of identifying potential biases in recruitment processes, measuring diversity indicators across departments, detecting disparities in engagement levels, and customizing learning and development opportunities for diverse employee groups. When implemented responsibly, such tools strengthen inclusive decision-making and enhance transparency in workforce management.

#### **2.4 Employee Engagement and Retention**

Employee engagement reflects the degree of emotional involvement and cognitive alignment employees have with their organization's mission and objectives. Highly engaged employees demonstrate stronger commitment, improved performance, and greater discretionary effort. Engagement is also closely linked to job satisfaction and organizational loyalty.

Retention intention, defined as an employee's willingness to remain within the organization, is shaped by perceptions of fairness practices, opportunities and professional growth, recognition, and inclusive workplace culture. This studies consistently indicate that organizations practicing inclusive HR management experience lower voluntary turnover rates. Thus, engagement often functions as a key mechanism through which inclusive policies influence long-term employee retention.

### **3. RESEARCH GAP**

**Existing research separately examines Artificial Intelligence in Human Resource , diversity and inclusion policies, or employee retention. However:**

1. Limited studies integrate Artificial Intelligence governance with diversity and inclusion outcomes.
2. Few empirical studies focus on Small & Medium Enterprises (SMEs) in emerging economies.
3. The mediating role of employee's engagement between Artificial Intelligence-enabled diversity and inclusion and retention remains underexplored.

This study addresses the gaps within the industry 5.0 framework.

#### **OBJECTIVES**

1. To explore human-centered Artificial Intelligence governance contributes to strengthening diversity and inclusion (D&I) practices within Small and Medium Enterprises (SMEs).
2. To examine the effect of AI-supported diversity and inclusion initiatives on the level of employee's engagement.
3. To assess the relationship between employee's engagement and employees' intention to remain with the organization.
4. To investigate whether employee's engagement acts as a connecting mechanism between inclusive Artificial Intelligence -driven practices and retention intention.

#### **HYPOTHESES**

**Based on the conceptual framework of this study, the following hypotheses are proposed:**

**H1:** Human-centred & AI governance has a positive impact on Artificial Intelligence -supported diversity and inclusion policies.

**H2:** Artificial Intelligence -enabled diversity and inclusion practices positively affect employee engagement.

**H3:** Higher levels of employee's engagement led stronger employee retention intention.

**H4:** Employee engagement serves as a mediating factor in the relationship between Artificial Intelligence -enabled diversity and inclusion policies and employee retention intention.

### **6. RESEARCH METHODOLOGY**

#### **6.1 Research Design**

A quantitative & comparative research design was use.

#### **6.2 Sample**

The sample consisted of 210 employees from 20 SMEs across manufacturing and service sectors in Mumbai.

### 6.3 Data Collection

Data collected using a structured questionnaire with a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

### 6.4 Measures

- AI Governance: Transparency, fairness, bias monitoring
- D&I Policies: Inclusion perception, equitable opportunities
- Employee Engagement: Commitment, enthusiasm, involvement
- Retention Intention: Likelihood to stay, turnover resistance

### 6.5 Data Analysis

Regression and mediation analysis were conducted.

## 7. RESULTS

### The findings indicate:

- AI governance significantly predicts inclusive HR practices ( $\beta = 0.48, p < 0.01$ ).
- D&I policies significantly predict engagement ( $\beta = 0.52, p < 0.01$ ).
- Engagement significantly predicts retention ( $\beta = 0.60, p < 0.01$ ).
- Mediation analyses confirms employee's engagement partially mediates the relationship between D&I and retention.

SMEs with structured AI governance frameworks reported 22% higher engagement scores compared to those without formal governance.

## 8. DISCUSSION

The results support Industry 5.0 principles emphasizing ethical and human-centered technology integration. AI, when governed responsibly, enhances fairness and inclusivity. Inclusive workplaces foster emotional commitment, reducing turnover intention.

The mediation findings indicate that D&I policies do not directly improve retention unless employees feel genuinely engaged. Thus, engagement acts as a psychological bridge between policy and behavior.

For SMEs, implementing AI without governance may risk bias. However, ethical oversight ensures equitable outcomes and strengthens organizational culture.

## 9. MANAGERIAL IMPLICATIONS

1. SMEs should establish AI ethics committees.
2. Conduct regular algorithmic bias audits.
3. Integrate workforce analytics with inclusion dashboards.
4. Provide AI literacy training & development to HR professionals.
5. Align D&I strategies within employee's engagement metrics.

## 10. CONCLUSION

This study shows that human-centric Artificial Intelligence governance plays a critical role in enhancing diversity and inclusion strategies within SMEs. Artificial Intelligence-enabled D&I policies significantly improve employee engagement, which in turn strengthens retention intention.

The research contributes to Industry 5.0 discourse by integrating ethical centric governance with inclusive HR strategies. For Mumbai SMEs, balance technological innovations with human-centric values is not optional. It is essential for sustainable growth in Artificial Intelligence.

## REFERENCES (APA 7TH EDITION)

- Bakker, A. B., & Albrecht, S. (2018). Work engagement: Current trends. *Career Development International*, 23(1), 4–11.
- Binns, R. (2018). Fairness in machine learning: Lessons from political philosophy. *Proceedings of Machine Learning Research*, 81, 1–11.
- Brynjolfsson, E., & McAfee, A. (2017). *Machine, platform, crowd*. W. W. Norton.

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- Chaudhuri, S., Arora, R., & Roy, P. (2022). AI adoption in HRM: Ethical implications. *Journal of Business Ethics, 180*(2), 345–362.
  - Cropanzano, R., & Mitchell, M. (2005). Social exchange theory. *Journal of Management, 31*(6), 874–900.
  - Jaiswal, A., & Arun, C. (2021). Potential of artificial intelligence for HRM. *International Journal of Human Resource Studies, 11*(2), 56–70.
  - Kaur, D., & Randhawa, G. (2023). Diversity management in SMEs. *South Asian Journal of Management, 30*(1), 112–129.
  - Schaufeli, W. B. (2017). Applying engagement theory in organizations. *Organizational Dynamics, 46*(2), 120–132.
  - Stahl, B. C. (2021). Ethical AI governance. *AI & Society, 36*(2), 567–582.