



Beyond the Numbers: Reimagining Human Performance Evaluation in the Age of Industry 5.0

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Abstract

Objective: This study aims to critically reimagine human performance evaluation in the emerging context of Industry 5.0, which emphasizes human-centricity, sustainability, and societal value over mere productivity metrics. Traditional evaluation systems—rooted in Industry 3.0 and 4.0—have prioritized efficiency, control, and standardized outputs. **Theoretical framework:** However, such frameworks often neglect employee well-being, creativity, and holistic growth. Drawing upon Human-Centered Design Theory and Socio-Technical Systems Theory, this research proposes a paradigm shift toward a more inclusive and developmental model of appraisal. **Literature review:** A comprehensive literature review reveals major limitations in conventional performance appraisal systems, including inherent bias, infrequent feedback, rigid ranking mechanisms, and a narrow focus on quantitative metrics. These shortcomings clash with the core values of Industry 5.0, where technology is meant to serve—not replace—human potential. The review further highlights emerging best practices that integrate empathy, personalization, and AI-enhanced feedback loops. **Methods:** This research adopts a qualitative methodology, including semi-structured interviews with HR professionals, organizational psychologists, and digital transformation leaders across diverse industries. Content analysis is applied to uncover themes and insights related to current challenges and future possibilities in performance evaluation. **Results:** Findings suggest that performance systems aligned with Industry 5.0 should prioritize continuous feedback, psychological safety, and individualized development pathways. Additionally, AI and data analytics are found to be powerful enablers for real-time insights, yet their implementation requires careful ethical consideration and transparency. The shift also demands a redefinition of HR competencies to balance technological fluency with emotional intelligence. **Implications:** The study's implications are significant for organizational design, talent management, and leadership development. By moving from a "control and correct" approach to an "empower and grow" model, organizations can cultivate more agile, innovative, and resilient workforces. **Novelty:** The novelty of this research lies in its integration of human-centered theory with digital capabilities to offer a practical and future-ready framework for performance evaluation.

Keywords: performance evaluation, industry 5.0, human-centered design, artificial intelligence, continuous feedback.

INTRODUCTION

The landscape of work is undergoing an unprecedented transformation, driven by rapid technological advancements and evolving societal values. While Industry 4.0 revolutionized

manufacturing through automation, data exchange, and cyber-physical systems, the emerging concept of Industry 5.0 takes a significant leap forward, advocating for a human-centric approach that complements technological prowess with human ingenuity, creativity, and well-being [1]. This shift emphasizes collaboration between humans and machines, focusing on societal benefits, sustainability, and resilient production. Consequently, the traditional methods of human performance evaluation, which largely emerged from the industrial era's emphasis on efficiency and standardization, are becoming increasingly obsolete [2]. These conventional approaches, often characterized by annual reviews, subjective ratings, and a retrospective focus, fall short in capturing the multifaceted contributions of individuals in dynamic, complex, and collaborative work environments [3].

The limitations of traditional performance appraisals are well-documented. They often suffer from inherent biases, lack of continuous feedback, a tendency to focus on past failures rather than future development, and a disconnect from organizational strategic goals [4]. In the context of Industry 5.0, where adaptability, critical thinking, problem-solving, and emotional intelligence are highly valued alongside technical skills, a rigid, numerical evaluation fails to capture the true essence of human contribution. There is a pressing need for a performance evaluation framework that not only assesses individual output but also nurtures personal growth, fosters collaboration, promotes well-being, and aligns with the broader ethical and social responsibilities of the organization [5].

This article aims to critically analyze the shortcomings of existing performance evaluation systems and propose a reimagined framework that is better suited for the demands of Industry 5.0. It explores how advanced technologies, particularly Artificial Intelligence (AI) and data analytics, can be leveraged to create more equitable, continuous, and developmental assessment processes [6]. Furthermore, it emphasizes the importance of a cultural shift within organizations – moving from a punitive "control and measure" mentality to an empowering "empower and grow" philosophy. By examining the challenges and opportunities, this paper seeks to provide a comprehensive guide for organizations committed to modernizing their HR practices and building a workforce that thrives in the human-machine symbiotic environment of Industry 5.0 [7].

The emergence of Industry 5.0 marks a critical shift in how organizations perceive and engage with technology, human capital, and value creation. While Industry 4.0 focused on automation, digitization, and machine-centric efficiency, Industry 5.0 calls for a renewed emphasis on human-centricity, sustainability, collaboration, and ethical innovation [8]. In this evolving industrial landscape, where human-machine collaboration and the integration of artificial intelligence (AI) are becoming the norm, the evaluation of human performance must also evolve. The traditional performance appraisal systems, shaped largely during earlier industrial revolutions, are increasingly misaligned with the values and demands of the modern workforce [9].

A significant research gap exists in understanding how performance evaluation frameworks can be redesigned to reflect the principles of Industry 5.0. Existing literature has predominantly focused on metrics-driven and hierarchical models that often reduce employees to mere productivity numbers [10]. These systems typically rely on rigid annual reviews, standardized KPIs, and subjective managerial assessments, leading to issues such as bias, stress, lack of motivation, and disengagement. Furthermore, the human aspect—emotional intelligence, creativity, adaptability, and well-being—remains underrepresented in traditional performance metrics. As organizations now face greater pressure to promote innovation, inclusivity, and resilience, a reevaluation of performance systems becomes imperative [11].

Recent studies have begun to explore agile performance management, continuous feedback mechanisms, and the use of AI in HR analytics. However, very few have holistically connected these innovations to the broader ideological and structural shift represented by Industry 5.0. There is also limited exploration into how organizations can

embed ethical considerations, emotional well-being, and personalized development pathways into performance evaluations, especially with the aid of emerging technologies. This represents a clear gap where theory, technology, and human values intersect but remain under-integrated in practical implementation [12].

This study argues that human performance evaluation should no longer be a retrospective and numerical exercise, but a dynamic, developmental, and inclusive process. It is not merely about assessing outputs but empowering growth, recognizing diverse talents, and aligning individual potential with organizational purpose. In line with Industry 5.0, the future of performance evaluation must foster human dignity, innovation, and real-time adaptability.

The novelty of this research lies in its integrated framework that combines human-centered design, socio-technical systems thinking, and ethical AI application. Unlike prior studies that treat performance evaluation either as a technical problem or a managerial tool, this study situates it within a broader societal and organizational transformation [13]. It proposes a shift from “control and compliance” to “empowerment and co-creation,” leveraging technology not as a surveillance mechanism, but as a supportive instrument for employee growth and well-being. This approach not only redefines the purpose of performance evaluation but also sets a new direction for human resource management in the post-digital era. In conclusion, as we transition toward Industry 5.0, reimagining how we evaluate human contributions is not optional—it is essential. Performance evaluation must evolve from being a backward-looking report card into a forward-looking strategy for individual and organizational development. This research contributes to both theory and practice by proposing a fresh, interdisciplinary lens to redesign performance evaluation for the human-centric future.

LITERATURE REVIEW

The discourse surrounding performance evaluation has evolved significantly over the past decades. Early models, deeply rooted in the principles of scientific management, focused on quantifying individual output and adherence to predefined tasks [14]. This led to the widespread adoption of methods like management by objectives (MBO) and graphic rating scales. While these methods offered a semblance of objectivity, their limitations became apparent, particularly in knowledge-intensive and service-oriented economies. Issues such as rater bias, halo effect, leniency/strictness errors, and a general lack of perceived fairness often undermined their effectiveness [15]. Moreover, annual reviews, a cornerstone of traditional systems, have been criticized for their infrequency, leading to a lack of timely feedback and missed opportunities for course correction and development [16].

The rise of Industry 4.0 introduced new complexities. The digitization of work, reliance on data, and interconnected systems highlighted the need for more agile and data-driven HR practices. Concepts like HR analytics began to gain traction, promising to provide insights into workforce performance, engagement, and retention [17]. However, even with these advancements, many organizations continued to struggle with the subjective nature of performance appraisals and their limited impact on employee development and organizational innovation. The focus remained heavily on "what" was achieved rather than "how" it was achieved, often neglecting critical soft skills and collaborative contributions [18].

Industry 5.0, as articulated by the European Commission, shifts the focus from technology per se to the value technology can bring to society and human well-being. It emphasizes human-centricity, sustainability, and resilience [19]. This paradigm necessitates a fundamental rethinking of how human performance is understood and evaluated. It moves beyond mere productivity metrics to encompass dimensions such as creativity, critical thinking, adaptability, problem-solving, and the ability to collaborate effectively with intelligent machines [20]. Furthermore, Industry 5.0 places a strong emphasis on employee

well-being, mental health, and the creation of meaningful work, implying that performance evaluation must also consider these human-centric factors [21].

Recent literature highlights the potential of Artificial Intelligence (AI) and data analytics in overcoming some of the traditional appraisal flaws. AI-powered tools can analyze vast datasets to identify performance patterns, predict future potential, and provide objective, real-time feedback [22]. For instance, natural language processing (NLP) can analyze communications for sentiment analysis, offering insights into team dynamics and employee engagement. Machine learning algorithms can identify skill gaps and recommend personalized learning pathways [23]. However, the integration of AI also presents ethical dilemmas, particularly concerning data privacy, algorithmic bias, and the potential for a "surveillance culture" if not implemented thoughtfully and transparently [24]. Therefore, while technology offers powerful tools, its application in performance evaluation must be guided by human-centric principles of fairness, transparency, and development.

Proposed Framework for Performance Evaluation in Industry 5.0

The proposed framework for performance evaluation in the age of Industry 5.0 moves beyond traditional metrics to embrace a holistic, continuous, and human-centric approach. It integrates technological capabilities with a strong emphasis on human potential and organizational values. This framework is built upon several key pillars:

1. **Continuous Feedback and Real-time Coaching:** Moving away from infrequent annual reviews, this framework advocates for ongoing, real-time feedback loops. This involves:
 - a). **Regular Check-ins:** Frequent, informal conversations between managers and employees focusing on progress, challenges, and developmental needs.,
 - b). **Peer Feedback Systems:** Tools that allow colleagues to provide constructive feedback to each other, fostering a culture of mutual support and accountability.,
 - c). **AI-Powered Feedback Platforms:** Utilization of AI tools that can analyze project progress, communication patterns, and task completion to provide objective, timely insights and prompts for discussion. This can include sentiment analysis of communication to gauge team morale or identify areas for leadership intervention [25].
2. **Holistic Skill Assessment and Development:** Beyond task-specific performance, the framework emphasizes the evaluation and nurturing of 21st-century skills crucial for Industry 5.0:
 - a). **Cognitive Skills:** Critical thinking, problem-solving, innovation, and adaptability.,
 - b). **Socio-emotional Skills:** Collaboration, communication, empathy, emotional intelligence, and resilience.,
 - c). **Digital Fluency:** Proficiency in leveraging digital tools and adapting to new technologies.,
 - d). **Personalized Development Pathways:** AI and data analytics can identify individual skill gaps and recommend tailored learning resources, courses, and projects, ensuring continuous growth aligned with both individual aspirations and organizational needs [26].
3. **Focus on Well-being and Engagement:** Recognizing the central role of human well-being in Industry 5.0, the framework incorporates indicators of employee engagement and mental health:
 - a). **Well-being Surveys and Check-ins:** Regular, confidential surveys to gauge stress levels, work-life balance, and overall satisfaction.,
 - b). **Predictive Analytics for Burnout:** AI tools can analyze work patterns (e.g., overtime hours, project load, communication frequency) to identify early signs of burnout and prompt proactive interventions [27].,
 - c). **Recognition and Appreciation:** Systems that promote timely and meaningful recognition of efforts and achievements, fostering a positive work environment.
4. **Data-Driven and Bias-Reduced Evaluation:** Leveraging advanced analytics to mitigate human bias and provide a more objective view of performance:
 - a). **Performance Data Aggregation:** Consolidating data from various sources – project management tools, communication platforms, learning management systems – to create a comprehensive view of performance.,
 - b). **Algorithmic Bias Mitigation:** Implementing strict guidelines

and auditing processes to ensure AI algorithms used in evaluation are fair, transparent, and free from inherent biases related to gender, ethnicity, or other demographic factors [28]. Regular auditing of algorithms is crucial to prevent the perpetuation of existing human biases., c). 360-Degree Feedback Enhanced by AI: While 360-degree feedback is not new, AI can process and synthesize feedback from multiple sources more efficiently, identifying key themes and providing actionable insights, while ensuring anonymity and psychological safety.

5. Agile and Adaptive Goal Setting: In a dynamic environment, static annual goals are ineffective. The framework promotes: a). OKR (Objectives and Key Results) Methodology: A system that encourages setting ambitious, measurable goals and tracks key results, allowing for flexibility and adaptation as priorities shift., b). Alignment with Strategic Objectives: Ensuring individual and team goals are linked to broader organizational strategies and the principles of Industry 5.0 (e.g., sustainability goals, human-centric innovation).

METHODOLOGY

This study adopts a qualitative research methodology to explore and conceptualize a human-centric, technologically supported performance evaluation framework aligned with the principles of Industry 5.0. The methodology was chosen due to its effectiveness in capturing complex, contextual, and evolving human experiences, which are essential in understanding the limitations of current performance appraisal systems and envisioning alternative models grounded in human well-being, adaptability, and ethical use of technology [29].

Research Design

The research employed a descriptive and exploratory design, allowing for a deep investigation into current performance evaluation practices, perceived challenges, and forward-thinking strategies. By utilizing a combination of semi-structured interviews and document analysis, the study aimed to generate rich qualitative data and theoretical insights. This design is particularly suitable for uncovering nuanced perspectives that are often overlooked in quantitative assessments [30].

Theoretical Framework

The research is underpinned by Human-Centered Design Theory and Socio-Technical Systems Theory. These frameworks guide the study in balancing human needs with technological advancements and organizational goals. Human-Centered Design prioritizes empathy, collaboration, and creativity, while Socio-Technical Systems Theory emphasizes the interplay between people, technology, and processes within organizations. These theories support the reimagining of performance evaluation as an integrated, human-oriented, and adaptive process [31].

Data Collection

Primary data was collected through semi-structured interviews with 18 professionals, including HR practitioners, organizational psychologists, digital transformation consultants, and senior managers from diverse industries. Participants were selected using purposive sampling to ensure their direct involvement in performance management and understanding of digital transformation in human resource functions [32].

Interview questions focused on:

Current performance evaluation practices and tools

Perceived limitations and challenges

Perspectives on Industry 5.0 principles (human-centricity, sustainability, well-being)

Potential of AI and data analytics in supporting fair and real-time evaluations

Organizational readiness for cultural change and digital adoption

Each interview lasted between 45 and 60 minutes and was conducted via video conferencing tools. All sessions were recorded with participant consent and transcribed for analysis.

Data Analysis

A thematic content analysis approach was used to analyze the interview transcripts. The process involved multiple coding cycles:

Open coding to identify recurring concepts and language

Axial coding to explore relationships among categories such as well-being, feedback, innovation, and bias

Selective coding to refine themes aligned with Industry 5.0 principles

NVivo software was used to assist in organizing and coding the data. Triangulation was achieved through the use of multiple data sources and member checks to validate the interpretations [33].

Ethical Considerations

Ethical approval was obtained before commencing the study. Informed consent was secured from all participants, and data confidentiality was maintained throughout. Identifiable information was anonymized in transcripts and findings. Participants were briefed on their right to withdraw at any point without consequence [34].

Limitations

The qualitative nature and purposive sampling of this study limit the generalizability of the findings. However, the depth and richness of the data provide valuable insights into evolving trends and design considerations for future performance evaluation systems [35].

This methodology ensures a grounded, theory-informed, and practitioner-relevant exploration of how organizations can evolve performance evaluation practices in alignment with the transformative ideals of Industry 5.0.

Table 1. Research Methodology

Component	Description
Research Design	Qualitative Research
Approach	Exploratory and Interpretative
Method	Semi-structured Interviews
Participants	HR professionals, organizational psychologists, and digital transformation leaders across diverse industries
Sampling Technique	Purposive Sampling
Data Collection Tool	Interview Guide (open-ended questions to explore experiences and insights)
Data Analysis	Thematic Content Analysis
Analysis Focus	Identifying patterns, challenges, and opportunities in human performance evaluation systems in the context of Industry 5.0
Ethical	Informed consent, confidentiality assurance, and ethical use of data

Considerations	analytics and AI insights
Technological Support	Use of qualitative analysis software and AI-based tools (where applicable) to assist in data organization and interpretation
Validation Strategy	Triangulation through expert consultation and cross-case comparison
Outcome	Development of a reimagined human performance evaluation framework aligned with the human-centric principles of Industry 5.0

RESULTS AND DISCUSSION

Implementing a performance evaluation framework aligned with Industry 5.0 yields several significant benefits, transforming HR from an administrative function to a strategic partner.

Enhanced Employee Engagement and Retention

The shift to continuous, developmental feedback fosters a culture of growth and support, making employees feel valued and heard. Personalized development pathways directly address career aspirations, leading to higher engagement and reduced turnover. When employees perceive fairness and transparency in evaluation, their trust in the organization increases, strengthening their commitment and loyalty [36]. AI's ability to identify early signs of disengagement or burnout allows for proactive interventions, which can significantly improve employee well-being and, consequently, retention.

Improved Accuracy and Fairness of Evaluations

By leveraging data analytics and AI, the framework reduces subjectivity and human bias inherent in traditional systems. Data-driven insights provide a more comprehensive and objective picture of performance, allowing for fairer decisions regarding promotions, compensation, and development opportunities. The focus on observable behaviors and data points, rather than subjective opinions, enhances the credibility of the evaluation process [37]. However, continuous monitoring of algorithms for unintended biases remains critical.

Agility and Adaptability of the Workforce

The emphasis on continuous learning, reskilling, and upskilling, guided by AI-driven insights, ensures that the workforce remains agile and adaptable to rapidly changing technological and market demands. Organizations can proactively identify future skill needs and invest in the development of their employees, creating a resilient talent pool capable of navigating uncertainties and embracing innovation [38]. This also supports the Industry 5.0 principle of resilience, as the workforce is better equipped to adapt to disruptions.

Fostering Innovation and Collaboration

By promoting a culture of psychological safety, open feedback, and holistic skill development, the framework encourages experimentation and risk-taking. Employees are more likely to innovate when they feel their efforts are recognized and their failures are viewed as learning opportunities. AI tools can also facilitate better collaboration by identifying communication patterns and suggesting optimal team compositions based on project requirements and individual strengths [39]. The focus on human-machine collaboration in Industry 5.0 is directly supported by systems that value how humans work alongside intelligent technologies.

Challenges and Mitigation Strategies

Despite the substantial benefits, implementing such a transformative framework presents several challenges:

1. **Data Privacy and Security:** The collection and analysis of extensive employee data raises significant privacy concerns. Robust data governance policies, transparent communication with employees about data usage, and adherence to regulations like GDPR are essential [40].
2. **Algorithmic Bias:** AI systems can inadvertently perpetuate existing human biases if the training data is biased. Regular auditing, diverse data sets, and human oversight are crucial to mitigate this risk.
3. **Employee Resistance to Change:** Employees may view AI-powered evaluation as intrusive or leading to job displacement. Comprehensive communication, involving employees in the design process, and highlighting the developmental aspects of the new system are key to gaining buy-in [41].
4. **Managerial Skill Gap:** Managers need to be trained not only in using new technologies but also in their new role as coaches and facilitators, rather than just evaluators.
5. **Integration Complexity:** Integrating various AI tools and data sources into a cohesive HR ecosystem requires significant IT infrastructure investment and expertise.

Table 2. Summary of Results and Challenges in Industry 5.0-Aligned Performance Evaluation Framework

No.	Aspect	Key Insights / Benefits	Details / Highlights
1	Enhanced Employee Engagement and Retention	Continuous and developmental feedback strengthens employee support and growth culture.	Employees feel valued and heard. Personalized development pathways match career goals. Fairness and transparency increase trust and reduce turnover. AI detects early signs of burnout.
2	Improved Accuracy and Fairness	Data-driven evaluations reduce subjectivity and bias.	AI and analytics offer objective performance views. Focus shifts to behaviors and measurable data. Supports equitable decisions on promotions and compensation. Algorithms require continuous bias monitoring.
3	Agility and Workforce Adaptability	AI-guided reskilling ensures readiness for market and tech shifts.	Supports continuous learning and innovation. Builds resilient talent pools. Aligns with Industry 5.0's emphasis on resilience and adaptability.
4	Fostering Innovation and Collaboration	Encourages experimentation and team synergy through psychological safety.	Feedback-rich environments stimulate innovation. AI aids in team formation based on strengths and communication patterns. Supports human-machine collaboration models.
5	Challenges and Mitigation Strategies	Several organizational and ethical challenges exist.	Data Privacy & Security: Requires robust governance and employee communication. Algorithmic Bias: Needs diverse datasets and continuous audits.

			<p>Employee Resistance: Must involve employees and focus on development.</p> <p>Managerial Skill Gaps: Training required for coaching and tech fluency.</p> <p>Integration Complexity: Demands significant IT investment and alignment.</p>
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Analysis

The research presents a critical response to the inadequacies of traditional human performance evaluation methods in the face of accelerating technological transformation and human-centric organizational needs characteristic of Industry 5.0. At its core, the study highlights a vital misalignment between outdated performance metrics—rooted in control, standardization, and retrospective measurement—and the emerging demands for personalization, adaptability, and ethical evaluation frameworks.

The study’s qualitative findings reveal a strong consensus among practitioners and experts that current performance systems are limited by subjectivity, lack of timely feedback, and failure to incorporate dimensions such as well-being, collaboration, and innovation. These limitations are further exacerbated in complex work environments where human-machine collaboration is central. Through the application of Human-Centered Design Theory and Socio-Technical Systems Theory, the analysis emphasizes the need to redesign performance evaluation to be developmental rather than judgmental, continuous rather than periodic, and inclusive rather than hierarchical.

Key insights suggest that advanced technologies—particularly artificial intelligence and data analytics—have significant potential to improve evaluation accuracy, fairness, and personalization. AI-driven tools can provide real-time feedback, detect early signs of burnout, and recommend tailored learning pathways. However, the study also underscores the ethical risks associated with these technologies, including algorithmic bias and data privacy violations. Thus, successful implementation must be governed by transparency, equity, and employee consent [42].

The proposed framework addresses the multidimensional nature of human contribution in Industry 5.0, advocating for systems that recognize both cognitive and emotional intelligence, promote psychological safety, and support meaningful development. Emphasis is placed on tools like continuous feedback loops, 360-degree feedback systems enhanced by AI, and agile goal-setting models such as OKRs. These approaches are shown to strengthen employee engagement, reduce attrition, and support innovation through trust and empowerment.

Nonetheless, the study candidly acknowledges implementation challenges. These include resistance to change, managerial skill gaps in coaching and technology usage, and integration complexity within existing HR infrastructures. The research calls for a cultural transformation within organizations—from a “control and correct” mindset to an “empower and grow” ethos—highlighting that systemic change is as critical as technological upgrade. In conclusion, this analysis affirms that reimagining human performance evaluation is a strategic imperative in the age of Industry 5.0. The research contributes a novel, interdisciplinary framework that aligns digital tools with human values, offering a roadmap for organizations to foster adaptive, innovative, and ethically grounded workplaces. The study’s originality lies in its integration of ethical AI, human-centeredness, and organizational development into a unified vision for the future of performance management.

CONCLUSION

The transition to Industry 5.0 demands a fundamental rethinking of how organizations evaluate and develop their human capital. The traditional, numbers-driven performance appraisal systems, rooted in an outdated industrial paradigm, are ill-equipped to address the complexities of a human-centric, sustainable, and resilient future of work. This article has proposed a reimagined framework for performance evaluation that prioritizes continuous feedback, holistic skill development, employee well-being, and data-driven insights, while mitigating biases. By embracing technologies like AI and data analytics, organizations can move beyond subjective annual reviews to create more equitable, transparent, and developmental assessment processes. This shift not only enhances the accuracy and fairness of evaluations but also significantly boosts employee engagement, fosters innovation, and ensures the workforce remains agile and adaptable. The emphasis on psychological safety, continuous learning, and human-machine collaboration positions organizations to thrive in the complex landscape of Industry 5.0. While the implementation of such a transformative framework presents challenges related to data privacy, algorithmic bias, and cultural resistance, these can be effectively addressed through robust governance, transparent communication, and targeted training. Ultimately, reimagining human performance evaluation is not merely about adopting new tools; it is about cultivating a new mindset – one that empowers employees, nurtures their growth, and recognizes their multifaceted contributions as the driving force behind sustainable organizational success in the age of Industry 5.0. Future research could delve deeper into empirical case studies demonstrating the long term impact of Industry 5.0 aligned performance evaluation systems on organizational performance and employee satisfaction.

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Author Contribution

The author solely conceived, designed, and executed this research. All stages, including data collection, analysis, and manuscript preparation, were independently carried out by the author. Full responsibility for the content, interpretation, and conclusions of this study lies with the author, who affirms the originality and integrity of the entire work.

Conflicts of Interest

The author declares no conflict of interest.

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