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Human-Centered Leadership and Sustained Service Performance in AI-Enabled Luxury Hotels: A Sequential Mediation Model

Fida Hassanein ^{1,*}, Ahmad Samer El Sayed ², Shiva Ilkhani Zadeh ^{3,*} and Elvira Bolat ³

¹ School of Business, Lebanese International University, Beirut 146404, Lebanon

² Faculty of Informatics, Kaunas University of Technology, K. Donelaičio St. 73, LT-44249 Kaunas, Lithuania; ahmel4@ktu.lt

³ Bournemouth University Business School, Bournemouth University, Poole BH12 5BB, UK; ebolat@bournemouth.ac.uk

* Correspondence: fida.hassanein@liu.edu.lb (F.H.); silkhanizadeh@bournemouth.ac.uk (S.I.Z.)

Abstract

The integration of Artificial Intelligence is transforming luxury hospitality, forcing hotels to balance advanced technology with human-centered management to sustain service excellence. Yet how Human-Centered Leadership shapes Sustained Service Performance through employees' AI readiness and engagement remains largely unexamined. This study develops and tests an integrated framework addressing that gap. Survey data were collected from 500 employees of four- and five-star luxury hotels in the United Arab Emirates, Saudi Arabia, Qatar, and Lebanon, and analyzed using partial least squares structural equation modeling (PLS-SEM). Human-Centered Leadership was positively associated with both Sustained Service Performance and AI readiness. AI readiness predicted employee engagement, which in turn predicted Sustained Service Performance. AI readiness and employee engagement sequentially mediated the link between Human-Centered Leadership and Sustained Service Performance ($\beta = 0.160$, $p < 0.001$). Digital Organizational Support significantly strengthened the Human-Centered Leadership–AI readiness relationship ($\beta = 0.137$, $p = 0.004$). The study advances hospitality leadership research by establishing Human-Centered Leadership as a driver of Sustained Service Performance in AI-enabled settings, and by revealing the sequential psychological mechanism, AI readiness followed by engagement, through which it operates. The findings help luxury hotel managers combine Human-Centered Leadership with digital support to sustain service excellence during AI-driven transformation.

Keywords: Human-Centered Leadership; Artificial Intelligence Readiness; employee engagement; sustained service performance; Digital Organizational Support; artificial intelligence; luxury hotels; hospitality management



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1. Introduction

Leadership is increasingly viewed as a distinctive organizational capability that enables firms to manage environmental change, innovate effectively, and maintain competitiveness over time. The accelerating convergence of artificial intelligence (AI) with digital transformation and Industry 5.0 has widened leadership's domain of responsibility from operational efficiency to the management of how technological change affects employee wellbeing and to the pursuit of resilient, sustained value creation.

Leadership approaches based on controlling and enforcing efficiency are increasingly insufficient for organizations that aspire to proactively deal with disruptive technological

change while retaining employee engagement and high organizational performance (Baran, 2025; Fan & Yang, 2025; Fenwick et al., 2024). Human-Centered Leadership (HCL) is an emerging approach in response to this changing context, emphasizing empathy, trust, empowerment, and inclusion, psychological safety, and continuous learning while supporting organizations' digital transformation efforts.

HCL is distinguished from servant, authentic, and transformational leadership less by its behaviors than by its object of concern: it is explicitly oriented towards preserving human agency, dignity, and psychological safety within technology-mediated work systems. Servant leadership centers follower growth, authentic leadership centers leader self-consistency, and transformational leadership centers vision and inspirational motivation; none was formulated to address how human worth is protected when intelligent systems assume part of the work. This distinction is developed in Section 2 and summarized in Table 1.

HCL is relevant to hospitality especially because sustained competitive advantage in hospitality still depends on employees' unique ability to create guest experiences through emotional intelligence, interpersonal interaction, creativity, and discretionary service behaviors that AI technologies are unlikely to replace. While AI is called upon to assist in tasks within hospitality operations to an increasing extent, luxury hospitality remains fundamentally focused on human encounters because a personalized service with authenticity, empathy, and emotional engagement still cannot be delivered entirely by technology (Bocić & Jagodič, 2025; Camilleri et al., 2024; Harkison, 2025; Kandampully et al., 2018). Simultaneously, hotel operators are accelerating their digital transformation with AI-enabled technologies such as predictive analytics, intelligent revenue management systems, conversational agents, service robots, recommendation algorithms, and personalized customer relationship engagement platforms (Belanche et al., 2021; Blöcher & Alt, 2021; Buhalis et al., 2024).

Evidence on the organizational consequences of this investment is, however, inconsistent: some studies report gains in forecasting accuracy and front-line responsiveness, whereas others document employee anxiety, perceived job insecurity, and resistance that suppress the anticipated returns (C. He et al., 2024; Hu & Min, 2023; Li et al., 2019).

These technologies improve the accuracy of forecasting, resource allocation, and responsiveness of front-line operations and personalized services; as such, digital transformation becomes an essential priority to preserve firm competitiveness (Cingillioglu & Wellalage, 2026; Dwivedi et al., 2023; Gonçalves et al., 2024). This divergence indicates that outcomes depend less on which technologies are adopted than on the organizational and leadership conditions surrounding their adoption.

Three theoretical perspectives, operating at complementary levels of analysis, explain why. Organizational Support Theory accounts for the organizational conditions leaders create, specifying how perceived support signals reassure employees during change (Eisenberger et al., 1986). From the perspective of Job Demands–Resources (JD–R) Theory, supportive leadership provides an important organizational resource that mitigates uncertainty and encourages employee learning in nurturing its psychological safety and their motivation during digital transformational change (Bakker & Demerouti, 2017). Dynamic Capabilities' Theory teaches that organizations achieve sustained competitive advantage through the evolution of capabilities that, as a process, adapt to rapid environmental change in temporal scale and complexity (Teece, 2018). Together these three perspectives describe a single explanatory chain, organizational conditions, individual motivation, firm capability, rather than three separate explanations for three separate links.

Considering these perspectives, HCL is especially pertinent for the luxury hospitality industry in the Middle East, where countries such as the United Arab Emirates and Saudi

Arabia have placed artificial intelligence, smart tourism, and digitalization as part of their national development strategies. Tourism and hospitality are designated first-phase priority sectors in both the UAE National AI Strategy 2031 and Saudi Vision 2030 (UAE Cabinet, 2019), and PwC Middle East projects that artificial intelligence will contribute approximately USD 320 billion to the regional economy by 2030, close to 11% of GDP (PwC, 2018).

Luxury hotels are then expected to integrate advanced AI technologies while retaining the personal, high-quality service experiences associated with the sector. This fusion of rapid technological change with high-intensity human contact makes luxury hospitality a suitable context for the present study of whether HCL can help staff to deliver AI-enabled organizational success. The setting is thus theoretically informative rather than merely convenient: it maximizes variance on both the technological and the human dimensions of the phenomenon under study.

While studies of hospitality in the Middle East have shown that leadership relates to organizational climate, employee engagement, fulfillment of the psychological contract, organizational trust, and the performance of services, they have concentrated more on transformational, servant, authentic, or ethical leadership than on HCL. For that reason, not enough evidence exists as to how HCL enables employees to adapt to AI-enabled workforces, particularly in a region undergoing rapid digital transformation from a limited historical base.

What is established is that transformational, servant, authentic, and ethical leadership shape climate, engagement, and service performance in hospitality. What remains unexplored falls into four areas. First, while transformational, servant, authentic, and ethical leadership has been extensively studied (Alshaibani et al., 2024; Baran, 2025; Fenwick et al., 2024), HCL remains relatively unexplored in AI-enabled luxury hospitality, despite its strong alignment with the values of Industry 5.0. Limited research has examined how HCL can promote both employee well-being and technological adaptation while driving sustainable organizational performance during digital transformation.

Second, despite an increasing trend of Artificial Intelligence Readiness (AIR) and Employee Engagement (EE) being studied, they have largely received attention independently. Existing studies tend to assess either the antecedents of AIR (W. Chang et al., 2026; Frick et al., 2021) or the determinants of EE (Bakker & Albrecht, 2018; Liu et al., 2022), providing little insight into the sequential psychological mechanisms by which leadership impacts sustainable organizational outcomes.

Third, studies on AI-enabled hospitality have focused on isolated relationships among leadership, technology adoption, employee attitudes, or organizational performance (Dwivedi et al., 2023; Gürsoy & Cai, 2024). Little empirical evidence explains how HCL impacts SSP via AIR and EE through sequential mediating roles in a single integrated framework; (Kumawat et al., 2024). Finally, although Organizational Support Theory is sensitive to the crucial role of supportive organizational environments for effective leadership interventions, Digital Organizational Support (DOS) as a contextual condition that shapes the outcome of HCL amid AI implementation has also not received much attention. Prior studies have focused predominantly on symptoms of digital transformation, mostly technological infrastructures, and the “organizational readiness” to adopt contemporary technologies, while paying insufficient attention to employees’ perceived DOS during the implementation of digital transformations (Alzeiby et al., 2025; Fan & Yang, 2025; Fenwick et al., 2024).

The first mechanism we propose is AIR, which depicts whether employees have knowledge and confidence, willingness, or psychological readiness to utilize AI-enabled technology in their workdays (Alzeiby et al., 2025; W. Chang et al., 2026; Chiu et al.,

2021; Dwivedi et al., 2023; Frick et al., 2021). Unlike technology acceptance, AIR is a multidimensional capability encompassing digital competence, technological confidence, adaptability, and a continuous-learning orientation (Alzeiby et al., 2025; W. Chang et al., 2026; Frick et al., 2021). While some scholars attribute readiness mainly to technological infrastructure and digital capabilities, others link it to leadership, organizational culture, communication, and psychological safety that prepare employees to work with AI (Fan & Yang, 2025; Fenwick et al., 2024; G. He et al., 2023). The present study takes the latter view, arguing that HCL fosters AIR through employee development, continuous learning, empowerment, and confidence during technological change.

AIR is expected to boost EE, a positive state characterized by vigor, dedication, and absorption in work (Schaufeli et al., 2002). Engaged employees contribute directly to service quality, customer satisfaction, creativity, resilience, and organizational competitiveness in hospitality (Bakker & Albrecht, 2018; Camilleri et al., 2024; Karatepe, 2013). Because leadership shapes whether employees interpret AI as a developmental opportunity or as a threat, HCL is expected to reduce uncertainty, affirm employees' place in the organization, and thereby strengthen both AI readiness and engagement.

The outcome of this sequence is Sustained Service Performance (SSP), which we define as the capacity of a hotel to deliver and maintain high-quality guest service over time without depleting the employee and operational resources on which that service depends. So defined, SSP is distinct from service performance, which is cross-sectional in character; from organizational performance, which is financial and firm-wide; and from resilience, which concerns recovery from discrete disruption.

This gap in the DOS literature is particularly relevant to the luxury hotel sector in the Middle East, given the substantial investments in artificial intelligence, smart tourism, and digital transformation across the region. To address this gap, we develop and empirically test an integrated framework to explain how HCL can enhance SSP through the sequential mediating role of AIR and, subsequently, EE, while examining DOS as a moderator helping employees embrace AI (the basis of the HCL interventions).

Accordingly, this study seeks to achieve six objectives: (i) examining the direct relationship between HCL and SSP; (ii) studying the connection between HCL and AIR; (iii) studying the connection between AIR and EE; (iv) studying the connection between EE and SSP; and (v) testing the sequential mediating role of AIR and EE on the link between HCL and SSP, and (vi) studying the moderating role of DOS on the HCL and AIR relationship.

The study's primary theoretical contribution is the sequential mechanism through which HCL is converted into SSP, via AIR and then EE, together with the identification of DOS as the boundary condition on that mechanism. The contribution lies in the mechanism rather than in the introduction of HCL as a construct. Four further contributions follow.

First, it positions HCL as an antecedent of SSP in AI-enabled luxury hospitality, extending leadership research beyond its traditional wellbeing outcomes into technological-adaptation outcomes. Second, it identifies the sequential psychological mechanism, AIR followed by EE, through which leadership translates into SSP, addressing the tendency of prior work to study these mechanisms in isolation. Third, it introduces DOS as a boundary condition that shapes when HCL most effectively builds AIR, extending Organizational Support Theory to digital transformation. Fourth, it provides empirical evidence from Middle Eastern luxury hotels, an important but under-researched context for AI-enabled hospitality.

The remainder of the paper is structured as follows. Section 2 develops the theoretical framework and hypotheses; Section 3 describes the research methodology; Section 4 reports the empirical findings; Section 5 discusses the findings and their theoretical and

managerial implications; and Section 6 presents the conclusions, limitations, and directions for future research.

2. Theoretical Framework

2.1. Theoretical Foundations

2.1.1. Job Demands–Resources Theory

Job Demands–Resources (JD–R) Theory describes how organizational resources enhance employees' motivation, adaptability, and performance as they respond to demands in the workplace (Bakker & Demerouti, 2007, 2017). The former, job demands, require sustained effort physically, cognitively, or emotionally, while the latter, job resources, assist in achieving valued goals, learning, well-being, and professional growth. While excessive job demands evoke strain, sufficient job resources motivate work engagement and good organizational functioning (Bakker & Demerouti, 2017).

An HCL style within luxury hospitality is an important organizational resource, since it promotes autonomy, continuous learning, empowerment, and psychological safety, enabling employees to better adapt to change brought about by technology. These resources are important as AI adoption entails new demands in the forms of a continuous digital learning approach, ambiguity regarding roles, and respective technostress (Fenwick et al., 2024; Frick et al., 2021; Qiu et al., 2022). Research in hospitality equally suggests that supportive leadership promotes employee motivation and positive work behaviors in dynamic service environments (Bakker & Albrecht, 2018; Radić et al., 2024).

Thus, JD–R Theory provides the motivational basis for the proposed model since HCL promotes AIR and EE, thereby underpinning SSP in luxury hotels.

2.1.2. Dynamic Capabilities Theory

Dynamic Capabilities Theory (DCT) offers a strategic lens to understand how firms achieve sustained competitive advantage by continuously reconfiguring their resources and capabilities to meet changing demands. According to DCT, achieving long-term organizational success depends on the ability to identify opportunities, seize them and capture value through strategic action, and then create reconfiguration capability to continually reconfigure the organization's resources to meet the demands of environmental change (Teece et al., 1997; Teece, 2007, 2018).

This lens is particularly relevant in understanding implications for the hospitality industry where AI is set to reconfigure service delivery, operational processes, and customer expectations. As Buhalis et al. (2024), Gürsoy and Cai (2024), and Kumawat et al. (2024) argue, hospitality firms must continuously blend technology with employee skills to deliver services in an increasingly digital world. In this study, we recognize the need to build AI readiness as a dynamic organizational capability, conditioned by employees' preparedness to adopt AI-enabled work processes and the requisite continuous adjustment. AI readiness goes beyond technological knowledge, encompassing elements pertaining to organizational learning, leadership support, digital confidence, and employees' willingness to collaborate with intelligent technologies. Human-Centered Leadership facilitates employees' development of such AI readiness by fostering a culture of learning, empowerment, and psychological safety whereby employees' tendency to engage in open communication about their needs and experiences makes them ready to embrace AI (Fenwick et al., 2024; Fan & Yang, 2025; Frick et al., 2021). DCT asserts that firms that continuously build employees' digital capabilities are more likely to innovate, build resilience, and enhance their Sustained Service Performance. Within the context of luxury hospitality settings, however, technological capabilities create sustained value only when they complement the softer

interpersonal and service-related behavioral skills of employees, thereby resonating with the principles of Industry 5.0 (Breque et al., 2021; M. Demir, 2026).

While DCT has been extensively used to explain innovation and digital transformation practices across contexts, there is less evidence of its use in explaining how HCL nurtures employees' AI readiness as a core capability required for Sustained Service Performance in luxury hospitality organizations. Accordingly, DCT enriches Job Demands–Resources Theory in delineating the strategic capability perspective at the heart of the proposed conceptual framework.

2.1.3. Organizational Support Theory

Organizational Support Theory (OST) explains how employees cultivate favorable attitudes and behaviors towards their employing organizations when they feel the organization values their contributions and cares for their well-being (Eisenberger et al., 1986). Perceptions of such support engender positive results in employees' commitment, engagement, adaptability, and extra-role discretionary performance through repayable social exchange (Eisenberger et al., 1986, 2020). The increasing prevalence of AI in organizations has further underscored the importance of organizational support, as employees need to acquire new digital skills and competencies and adjust to AI-transformed processes and activities (Fan & Yang, 2025; Fenwick et al., 2024; Frick et al., 2021). Organizations that facilitate technological support, AI-related training, supportive management, and continual learning and growth opportunities diminish employees' ambiguity regarding digitalization and strengthen their commitment to variation and digital transformation (Fan & Yang, 2025; Fenwick et al., 2024). Building on OST, we conceptualize the present study's moderating construct, DOS, as employees' perceptions of their organizations delivering the technological infrastructure and training, managerial support, and learning opportunities allowing the successful adoption and implementation of AI (Alzeiby et al., 2025; Fenwick et al., 2024). Such DOS reassures employees they can utilize AI technologies and magnifies the positive effect of HCL on AIR. As such, Organizational Support Theory is the theoretical foundation for proposing DOS as the moderating construct in this study.

2.1.4. Theoretical Integration

JD-R Theory, Dynamic Capabilities Theory, and Organizational Support Theory are well suited to complement each other in explaining how Human-Centered Leadership drives Sustained Service Performance at AI-enabled luxury hotels. Instead of opposing each other, the three theories jointly define our research approach and provide complementary accounts of the motivational, capability-development, and contextual processes that operate in support of our conceptualization.

Although the three perspectives are complementary, each addresses a distinct level of explanation: JD-R operates at the individual-motivational level (why employees engage), DCT at the organizational-capability level (how the firm reconfigures to remain competitive), and OST at the contextual level (when supportive conditions amplify leadership's effect). This division of labor, rather than redundancy, justifies their joint use.

2.2. Human-Centered Leadership and Sustained Service Performance

Building on the service performance tradition in hospitality (Karatepe, 2013) and on the resource-based logic of JD-R Theory (Bakker & Demerouti, 2017), we conceptualize SSP as a hotel's capacity to deliver and maintain high-quality guest service over time without depleting the employee and operational resources on which that service depends. This conceptualization rests on two established premises. First, service performance in hospitality is generated through employee effort, emotional labor, and discretionary behavior, and is therefore contingent on the resources employees hold (Bakker & Albrecht, 2018; Karatepe,

2013). Second, JD–R Theory establishes that performance sustained through resource depletion produces strain and eventual withdrawal, so that the level of performance and its durability are analytically distinct (Bakker & Demerouti, 2017). Dynamic Capabilities Theory supplies the corresponding firm-level premise, namely that advantage endures only where capabilities are continuously reconfigured rather than exhausted (Teece, 2018).

So conceived, SSP is distinguished from service performance, which captures service quality at a single point in time (Karatepe, 2013); from organizational performance, which is financial and firm-wide in scope; and from resilience, which concerns recovery from discrete disruption rather than the continuous maintenance of standards. We note that the term sustained is used here in its temporal sense, denoting the durability of service quality, and not in the environmental or social sense associated with corporate sustainability reporting. The environmental and social dimensions of hospitality sustainability, while important in their own right, fall outside the scope of the present instrument and are identified as a direction for future research in Section 6.

Human-Centered Leadership (HCL) has emerged as an additional essential leadership approach in response to growing organizational complexity and AI penetrating service industries. Whereas traditional leadership approaches focus on operational excellence and/or organizational performance, HCL prioritizes the well-being, empowerment, continuous learning, psychological safety, and professional development of employees while achieving organizational objectives.

Although HCL shares surface features with servant, authentic, and transformational leadership, it is distinguished by its object of concern rather than by its behavioral repertoire. Servant leadership centers follower growth and the leader's stewardship role (Greenleaf, 1977; Eva et al., 2019); authentic leadership centers the leader's self-awareness, transparency and moral consistency (Avolio & Gardner, 2005; Walumbwa et al., 2008); and transformational leadership centers vision, inspirational motivation and the elevation of follower performance beyond expectations (Bass, 1985; Bass & Riggio, 2006). Each has demonstrated value in hospitality settings, and each concerns the leader–follower relationship as such. None, however, was formulated in a context in which intelligent systems assume part of the work, and none addresses explicitly how human agency and dignity are preserved under that condition. It is this question that HCL takes as its point of departure, and which motivates its treatment here as an antecedent of Sustained Service Performance in AI-enabled hotels. Table 1 summarizes the comparison.

Aligned with the principles of Industry 5.0, HCL views employees as collaborators/partners whose creative input, knowledge, and adaptation to disruptive technological change should complement technology (Alshaibani et al., 2024; Breque et al., 2021). Recognizing its potential role in enhancing the resilience of organizations and helping them achieve a sustained competitive advantage in knowledge-intensive services, scholars have turned their attention to HCL as a leadership approach (Baran, 2025; Fenwick et al., 2024). The relationship between HCL and Sustained Service Performance (SSP) is premised on JD–R Theory and Dynamic Capabilities Theory. From a JD–R perspective, HCL acts as a key organizational resource fortifying employees' motivation, resilience, and ability to cope with demanding work contexts, whereas Dynamic Capabilities Theory positions leadership as a vehicle for organizational adaptability through its promotion of learning, knowledge sharing, and capability building in response to environmental change (Bakker & Demerouti, 2017; Teece, 2007, 2018). In areas of luxury hospitality where the quality and performance of service depend on interpersonal human interactions and the employee's levels of emotional intelligence and discretionary service behaviors, we can expect different leadership approaches, especially those that support the employee, build their receptiveness, and foster learning, to provide more sustained service outcomes than approaches

focused primarily on operational and technological control efficiency. There is evidence for this perspective emerging in previous studies, for example, studies suggesting that employee-centered leadership builds trust, yields higher organizational commitment and work engagement, service innovation with customers, and is associated more strongly with successful long-term sustained performance (Hassanein & Özgüt, 2022). By creating an organizational environment in which learning, participation, engagement, and collaborative problem-solving are incentivized, supportive leaders help organizations deal more effectively with a technological disruption without sacrificing service-level standards. These are precisely the kind of leadership practices that might be more strongly employed in the luxury hotel sector, where service performance is the primary competitive differentiator. A related Middle Eastern hospitality study examining similar leadership practices concluded that a supportive work environment and a commitment to developing employees were important for organizational performance (Hassanein & Özgüt, 2022).

Establishing this direct relationship provides the baseline against which the proposed mediating mechanisms are examined in the sections that follow.

Table 1. Human-Centered Leadership compared with established leadership approaches.

Dimension	Human-Centered Leadership	Servant Leadership	Authentic Leadership	Transformational Leadership
Primary focus	Employee wellbeing, empowerment and continuous learning as the means to organizational adaptation	Follower growth, service to others and community stewardship	Leader self-awareness, transparency and internalized moral perspective	Vision, inspirational motivation and performance beyond expectations
Locus of concern	Preservation of human agency and dignity within technology-mediated work systems	The follower's development and needs	The leader's internal consistency and integrity	The collective goal and organizational change
View of the employee	Collaborator whose creativity and judgment complement intelligent systems	Person to be served and developed	Follower who identifies with a genuine leader	Follower to be motivated towards a shared vision
Orientation to technology	Central and explicit; technological change is a defining condition of the leadership context	Not addressed in the original formulation	Not addressed in the original formulation	Incidental; technology treated as one form of change among others
Theoretical origin	Industry 5.0 and human-centric organizational design	Greenleaf's ethic of service	Positive organizational scholarship	Full-range leadership theory
Representative sources	Breque et al. (2021); Baran (2025); Fenwick et al. (2024)	Greenleaf (1977); Liden et al. (2008); Eva et al. (2019)	Avolio and Gardner (2005); Walumbwa et al. (2008)	Bass (1985); Bass and Riggio (2006)

Note: The comparison concerns the original theoretical formulation of each approach. Subsequent applications of servant, authentic and transformational leadership have addressed technological contexts, but the constructs themselves were not developed with reference to them.

H1. *Human-Centered Leadership is positively associated with Sustained Service Performance in luxury hotels.*

2.3. Human-Centered Leadership and AI Readiness

AIR is an important organizational capability that captures employees' preparedness to adopt, leverage, and continually adapt to AI-enabled technologies. Beyond mere technological competence, AIR embodies employees' confidence, innovation readiness, continuous learning orientation, and psychological readiness for the integration of intelligent technologies into their routine work (Frick et al., 2021; W. Chang et al., 2026; Kumawat et al., 2024). As such, successful digital transformation relies not just on technological infrastructure but also on leadership that develops employees' readiness to embrace technological change. This is particularly relevant in luxury hospitality, where service excellence hinges on employees blending intelligent technology use with personalized guest experiences (Frick et al., 2021; W. Chang et al., 2026; Kumawat et al., 2024).

HCL presents a vehicle through which AIR develops. By fostering employee empowerment, psychological safety, participation, individualized support, and ongoing capability development, HCL mitigates uncertainty around technology change, inspires trust and learning, and builds confidence in new intelligent work platforms. Consistent with Job Demands–Resources Theory, these leadership behaviors constitute organizational resources that bolster employees' capacity to cope with the cognitive and emotional challenges of digital transformation (Bakker & Demerouti, 2017). Similarly, dynamic capabilities theory views leaders as facilitators of organizational adaptation by stimulating knowledge sharing, experimentation, and continuous learning and capability development, thereby fostering employees' readiness to engage in AI-enabled organizational change (Teece, 2007, 2018).

This argument is consistent with research on leading AI-driven change, which shows that employee resistance is rarely a matter of technical skill alone: it stems from uncertainty, perceived threats to professional identity, and limited trust in how intelligent systems reach their conclusions (Makarius et al., 2020; Glikson & Woolley, 2020; Ş. Ş. Demir & Demir, 2023). Work on human-centered artificial intelligence and user trust similarly indicates that employees' trust in, and willingness to rely on, AI systems grows when those systems—and the leaders who introduce them—are transparent about their purpose, their limits, and their consequences for employees' work (Shneiderman, 2020; Glikson & Woolley, 2020). HCL therefore develops AI readiness not only by providing resources and encouragement, but also by actively managing resistance: communicating openly about the rationale for AI adoption, involving employees in implementation decisions, and framing intelligent systems as transparent, accountable tools rather than opaque replacements.

More recently, empirical evidence is mounting in support of this connection. Studies have found that supportive leadership and employee-centered management foster employees' digital competence, technological confidence, and willingness to embrace AI technology (Zhao et al., 2026). Organizations characterized by limited leadership support tend to experience heightened employee resistance, increased ambiguity, and lower acceptance of technological innovation (Piwowar-Sulej et al., 2026; H.-Y. Wang et al., 2025). In hospitality, where digital disruption has impacts on both operations and end-user interactions, leadership fostering participation and continual learning is critical to helping employees adapt to AI and deliver quality service amidst the changes (Frick et al., 2021; Fenwick et al., 2024; Fan & Yang, 2025).

The link between HCL and AIR becomes relevant in luxury hotels as successful implementation of AI in these contexts depends on employees' willingness to integrate intelligent technologies into personalized service delivery without compromising the human service, innately bound to hospitality. Leaders who promote experimentation, allow

developmental opportunities, and construct psychologically safe working environments structure opportunities for employees to see AI as a useful resource that enhances quality of service rather than resist it as a danger to expertise. Human-Centered Leadership is therefore expected to strengthen employees' AIR, serving as the first mechanism through which leadership supports Sustained Service Performance.

H2. *Human-Centered Leadership is positively associated with Artificial Intelligence Readiness in luxury hotels.*

2.4. Artificial Intelligence Readiness and Employee Engagement

Employee Engagement (EE) refers to a positive work-related psychological state that is characterized by vigor, dedication, and absorption, and it is considered a cornerstone driver of organizational effectiveness (Bakker & Albrecht, 2018). In AI-enabled workplaces, engagement depends increasingly on employees' capabilities to navigate the unknowns of technology change while remaining motivated and committed to organizational goals. Organizations embedding AI need to ensure employees are not just technically competent in using AI systems, but psychologically ready to embrace them into their work.

AIR contributes to Employee Engagement because employees who feel "ready" to work with intelligent technologies are less likely to perceive digital transformation as a threat and more likely to see it as an opportunity for learning and growth. Greater AIR lies behind employee perceptions of higher digital competence, reduced technology anxiety, and greater self-efficacy in their roles, leading to greater participation in learning and innovation for the organization. In line with Job Demands–Resources Theory, these personal and organizational resources instigate a motivational process that helps employees remain engaged despite the growing cognitive and technological demands associated with AI-enabled work (Bakker & Demerouti, 2017).

Empirical work attests to these links. Across industries, employees who perceive themselves as ready for AI report higher motivation, stronger organizational commitment, and a stronger learning orientation, together with greater willingness to co-create with intelligent technologies; conversely, insufficient AI readiness produces uncertainty, resistance to technology, lower confidence in one's own capabilities, and disengagement from digital transformation (Rožman et al., 2022; Kumawat et al., 2024; Quan et al., 2025). In hospitality organizations, where service quality relies on employees' proactivity and ongoing interaction with guests and systems, AIR constitutes a vital organizational capability for employees to remain engaged and responsive to service technologies for an evolving service landscape (Rožman et al., 2022; Kumawat et al., 2024; Quan et al., 2025). This is especially relevant in luxury hotels where AI is expected to enhance rather than substitute for personalized guest service. Employees with higher AI readiness can better implement intelligent technology in the delivery of service while simultaneously remaining empathetic, responsive, and customer-oriented. Their confidence in using AI leads to sustained learning, working behavior, and feelings of attachment or connection to organizational strategies, all of which can contribute to greater EE. Hence, employees who possess a considerable degree of AIR are likely to exhibit higher EE in AI-enabled luxury hospitality environments.

H3. *Artificial Intelligence Readiness is positively related to Employee Engagement in luxury hotels.*

2.5. Employee Engagement and Sustained Service Performance

EE has always been viewed as a recommended organizational performance driver, as engaged employees would deploy greater enthusiasm and commitment to investing discretionary effort in achieving the organization's strategic goals or principles. In hospitality organizations, where service quality depends substantially on employees' interactions

and enduring relationships with guests, employee engagement represents a key organizational resource that contributes to service excellence, customer satisfaction, innovation, and competitive advantage (Bakker & Albrecht, 2018; Karatepe, 2013). From the perspective of JD–R Theory, engaged employees are better able to translate available organizational resources into positive work outcomes (Bakker & Demerouti, 2017). Those motivational states prompt employees to go the extra mile in responding to customer needs, to continuously come up with suggestions to improve service processes, and to adapt to changes in the organization. In luxury hospitality contexts, where the service delivered is more about the human touch and emotional labor, we expect to see that engaged employees are better able to maintain standards of extraordinary service while being innovative and constantly renewing themselves. Thus, EE represents an important intrinsic mechanism through which organizations can achieve Sustained Service Performance, which balances operational effectiveness with superior customer experiences (Bakker & Demerouti, 2017; Bakker & Albrecht, 2018).

As AI becomes increasingly embedded in organizational strategies, sustained organizational performance continues to depend on EE. Although AI technologies allow organizations to improve decision-making and optimize processes, employees must ultimately integrate intelligent technologies with effective service delivery while preserving the human element that characterizes luxury hospitality. Ultimately, however, employees must integrate intelligent technologies with effective service delivery while preserving the human element that characterizes luxury hospitality. Employees who vary on the engagement continuum are more or less likely to continually test themselves to learn how to make AI part of the enriched delivery of service, not a replacement for a different process of interaction (Kumawat et al., 2024; Gürsoy & Cai, 2024).

Previous empirical research does suggest that EE conveys organizational benefits across the hospitality and other service industries. Engaged employees deliver higher service standards, stronger guest satisfaction, more customer-oriented citizenship behaviors, and higher innovativeness, all of which contribute to better organizational performance. Likewise, hospitality studies conducted in the Middle East have found that EE is one of the important ways in which leadership practices relate to positive organizational outcomes and long-term service excellence (Hassanein & Özgüt, 2022; Hassanein, 2026; Hassanein & Daouk, 2026). Accordingly, it is expected that greater Employee Engagement yields greater SSP as employees consistently deliver value-creating services and facilitate innovation and long-term organizational agility.

H4. *Employee Engagement is positively related to Sustained Service Performance in luxury hotels.*

2.6. The Sequential Mediating Roles of AI Readiness and Employee Engagement

While existing studies have begun to show an independent positive influence of leadership on AI readiness, AI readiness on employee engagement, and employee engagement on organizational performance, these relationships have generally been explored in isolation, with limited evidence regarding the sequential mediating processes through which HCL leads to SSP in AI-enabled hospitality organizations. To address this gap, we suggest that HCL enhances SSP indirectly through the sequential mediating effects of AIR and EE. This sequential mediation relies primarily on principles of JD–R Theory and Dynamic Capabilities Theory. The JD–R Theory proposes that HCL is a form of organizational resource because it supports and empowers employees, provides them with opportunities to learn continuously, and fosters psychological safety to strengthen their capacity to withstand the demands that accompany digital transformation (Bakker & Demerouti, 2017). Employees therefore become more AI-ready. Complementing this perspective, Dynamic Capabilities Theory provides an explanation of how AIR constitutes a strategic organizational capa-

bility through which employees are able to continuously develop digital competencies and adapt to changing technological environments (Teece, 2007, 2018). Combined, these two perspectives suggest that through leadership, employees' technological preparedness is developed, creating the conditions for the realization of wider motivational and performance-related consequences.

AIR alone, however, is not sufficient for sustainable organizational performance. Employees who have the knowledge, assurance, and willingness to work with intelligent technologies are more likely to see AI as an opportunity for professional development rather than uncertainty; hence, greater AIR will foster EE, leading employees to invest greater cognitive, emotional, and behavioral resources in their work. Subsequently, engaged employees are able to more readily translate AI into service delivery, improving service processes and proactively contributing to organizational innovation while continuing to provide the personal touch that luxury hospitality guests expect (Bakker & Albrecht, 2018; Kumawat et al., 2024; Rožman et al., 2022).

More recent empirical evidence is beginning to support this sequence. Leadership practices promoting employee development, continuous learning, and psychological safety have been found to be positively associated with stronger digital competence and organizational adaptability (Fenwick et al., 2024; Fan & Yang, 2025; Rožman et al., 2022). Likewise, higher AI readiness leads to greater engagement, innovation, and service-oriented behavior. However, studies have tended to explore these packages of associations in isolation from each other rather than as a sequential set to be understood within a single explanatory framework. Little empirical evidence exists to explain how HCL is translated into SSP through the sequence of AIR and EE, particularly in AI-enabled luxury hotels. Building on the theoretical arguments above, we hypothesize that HCL enhances employees' AIR by empowering them with learning and confidence to embrace technological innovation, which produces stronger AIR and translates into EE, contributing to SSP through an ongoing spirit of service improvement, organizational flexibility, and customer-led innovation.

H5. *AI readiness and Employee Engagement sequentially mediate the positive association between Human-Centered Leadership and Sustained Service Performance in luxury hotels.*

2.7. The Moderating Role of Digital Organizational Support in the Relationship Between Human-Centered Leadership and Artificial Intelligence Readiness

Digital transformation is not simply about the adoption of disruptive technologies, but organizations also need to create environments where employees can be encouraged to adopt and use those technologies. Organizational Support Theory (OST) posits that employees develop favorable attitudes and behaviors when they feel that their organization appreciates their contributions and provides them with the resources to perform successfully (Eisenberger et al., 1986). In AI workplaces, these perceptions take on added meaning as employees have a dynamic requirement to continually develop new digital competencies, adjust to new work processes, and integrate intelligent technologies into daily service delivery. Digital Organizational Support (DOS) in the current research refers to employees' perceptions that their organization provides adequate technological resources, digital infrastructure, AI-related training, managerial assistance, and continuous learning opportunities that help them succeed in adapting themselves to AI-enabled work environments. While generalized perceptual constructs of organizational support provide some context for this concept, DOS specifically embodies organizations' commitment to digitally enabling their employees throughout the transformation, diminishing technology uncertainty and reinforcing employees' confidence in their ability to embrace AI, thereby leading to greater involvement in organizationally oriented learning that leads to successful AI integration (Başer et al., 2024; Fan & Yang, 2025; Fenwick et al., 2024; Frick et al., 2021).

While the HCL lays an important foundation for the development of employees' AIR, such leadership works in a context, and so its relationship with readiness is unlikely to be similar across organizations. Consistent with Organizational Support Theory, leaders' behaviors are expected to play a greater role to the extent that organizational systems reinforce leaders' attempts by granting the technological and developmental resources necessary to support employees' digitally enabled transformation. Leaders who promote technology adoption and skill-building among their teams, but who operate in an organization without the technology or training resources necessary to support such things, are not as able to lead their employees towards adoption of AI tools, other than through acts of goodwill. A further reason DOS conditions the leadership readiness link is social-evaluative. Field evidence indicates that visible reliance on AI can be stigmatized: employees who use AI tools anticipate and receive negative judgments about their competence and motivation from colleagues and evaluators, and these image concerns suppress adoption independently of skills or training (Reif et al., 2025). DOS counteracts this penalty. When the organization visibly invests in AI infrastructure and training, and aligns performance-evaluation norms so that competent AI use is recognized rather than penalized, employees can act on their leaders' encouragement without reputational risk. Where such support is absent, even employees persuaded by human-centered leaders may hesitate to be seen relying on AI, weakening the translation of leadership into readiness. DOS thus operates not only as resource provision but also as a mechanism that de-stigmatizes AI use, distinguishing it from generic organizational support.

Current research is placing increasing emphasis on the need for alignment between supportive leadership and organizational environments for successful AI implementation. Leadership by itself may not be enough to prepare employees to learn new forms of digital interaction if the organizational emphasis on AI does not provide employees with sufficient technology, digital training, or ongoing help in the form of learning opportunities. Conversely, even if organizations deploy AI technologies, their full organizational effects may not be realized unless leaders encourage employees to learn to adapt to the new technologies. Organizations that couple enough human-centered leaders with enough DOS will develop employees who are confident, flexible, and willing to bring AI technologies into their service delivery while preserving the intimacy of face-to-face service work that makes luxury hospitality so appealing to customers (Alzeiby et al., 2025; Fan & Yang, 2025; Gürsoy & Cai, 2024).

H6. *Digital Organizational Support strongly moderates the relationship between Human-Centered Leadership and Artificial Intelligence Readiness, such that the relationship is stronger when Digital Organizational Support is high.*

3. Materials and Methods

3.1. Research Design

A quantitative research design was adopted to investigate the relationships between Human-Centered Leadership (HCL), AIR, EE, SSP, and DOS in luxury hotels. This is consistent with recent empirical hospitality leadership research and with established methodological guidance on structural equation modeling to understand complex relationships between latent constructs (Hair et al., 2022, 2024; Sarstedt et al., 2022). The study was framed by a post-positivist research paradigm, which postulates the ability to systematically explore theoretically driven relationships through empirical investigation, while noting the impact of contextual factors on organizational phenomena. Because our hypotheses were derived from JD-R Theory, Dynamic Capabilities Theory, and Organizational Support Theory and tested against survey data, we adopted a deductive approach. Consistency was ensured

throughout the theoretical framework, conceptual model, hypotheses, measurement instruments, and statistical analyses. We utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) using Smart PLS 4 to evaluate our proposed conceptual framework. PLS-SEM is particularly relevant to research that is prediction-oriented, where complex models containing multiple direct, mediating, and moderating relationships are considered concurrently while assessing both measurement and structural models. Compared to covariance-based SEM, there are fewer distributional assumptions to be made for PLS-SEM, making PLS-SEM increasingly common in hospitality, tourism, and organizational research (Hair et al., 2022, 2024; Sarstedt et al., 2022). Consistent with established guidelines for PLS-SEM analysis, our study was conducted in two parts: the first investigating the measurement model through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Second, the structural model was assessed through collinearity diagnostics, path coefficients, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), and mediation and moderation analyses using bootstrapping. These analytical procedures provide a comprehensive insight into how well the psychometric properties of the measurement model assess the explanatory and predictive capabilities of our proposed theoretical framework (Hair et al., 2022, 2024).

3.2. Research Context

This research was conducted in the luxury hotel sector of the Middle East, a rapidly growing industry embarking on significant digital transformation. Luxury hotels provide an ideal setting for testing our conceptual model as they tend to operate in a highly competitive environment where service excellence, individualized guest experiences and continuous innovation play a consistently critical role in providing a competitive edge while simultaneously adopting artificial intelligence (AI), smart hospitality, and digital services technology in support of efficiency of service delivery while retaining the people elements of luxury hospitality (Hao & Chon, 2022; J. Y. Chang et al., 2022; Gürsoy & Cai, 2024; Kumawat et al., 2024). The Middle East provides an appropriate setting, as several countries have already integrated AI and digital transformation into their national development strategies. Initiatives such as Saudi Vision 2030, the UAE Artificial Intelligence Strategy, and smart tourism have propelled the adoption of AI-based applications in luxury hotels, including customer-focused intelligent guest services, digital concierge, predictive analytics, and automated operational technologies. Hotel employees are therefore increasingly expected to become familiar with and use advanced technologies in their service behaviors while retaining the personalized relationship experience of luxury hotel guests. Additionally, luxury hotels in the Middle East are located in labor-intensive, multilingual environments that require close customer contact, emotional labor, constant adherence to service standards, and high employee turnover and change. Leadership in these hotels must balance employee wellbeing and technological advancement while maintaining consistently high standards of service quality. Previous hospitality research in the region has confirmed that supportive leadership, employee engagement, organizational trust, and psychologically supportive work environments are related to sustained performance outcomes. Our research is located in the Middle East and tests the relationships between employees' perceptions of HCL, AIR, EE, SSP, and DOS within four- and five-star luxury hotels, providing empirical evidence from a region where AI is changing the hospitality landscape.

3.3. Sampling and Data Collection

The target population comprised full-time employees working in four- and five-star luxury hotels in the UAE, Qatar, Saudi Arabia, and Lebanon that had at least one AI-enabled application in hotel operations or guest services. In these countries, employees are required

to seamlessly integrate AI-enabled technologies while still retaining the personalized service that luxury hotels offer. Eligible applications included AI chatbots, advanced reservation or revenue-management systems, predictive analytics, and smart concierge technologies. Hotel eligibility was verified through publicly available information and confirmation from the participating Human Resources department before data collection. The unit of analysis was the individual employee because employees directly experience Human-Centered Leadership, Digital Organizational Support, AI-enabled work processes, and customer service demands. Respondents were required to have worked in the same hotel for at least one year, ensuring sufficient familiarity with the organization and its technology-enabled practices. Employees were recruited from operational and administrative functions, including Front Office, Guest Relations, Food and Beverage, Housekeeping, Concierge, Reservations, Revenue Management, Sales and Marketing, and Human Resources and Hotel Operations.

A two-stage non-probability sampling strategy was used. First, purposive sampling identified four- and five-star hotels that met the AI-enablement criterion. Second, within hotels that agreed to cooperate, convenience sampling was used to invite eligible employees through their Human Resources departments. This access-based approach was necessary because no complete sampling frame of employees across AI-enabled luxury hotels in the four countries was available. It nevertheless creates selection risk: participating hotels may have had more supportive digital cultures or stronger Human Resources infrastructures than non-participating hotels, while employees who chose to respond may have held systematically different views from non-respondents. These limitations are explicitly acknowledged when interpreting the findings and restrict claims of representativeness beyond the participating organizations.

Data were collected through a self-administered questionnaire available in hard-copy and online formats. Participants were informed that the study was conducted for academic purposes, participation was voluntary, responses were anonymous and confidential, and no personally identifiable information was collected. These procedures were designed to reduce respondents' tendency to overstate socially desirable behaviors and to minimize potential social desirability and common method bias (Podsakoff et al., 2003). In total, 600 questionnaires were distributed through the cooperating hotels and 500 usable questionnaires were retained after screening for incompleteness and patterned or random responding. The resulting 83.3% figure is therefore a cooperation-based completion rate among questionnaires distributed within participating hotels; it should not be interpreted as a population response rate for all employees in AI-enabled luxury hotels across the four countries. The final sample exceeded recommended minimum requirements for PLS-SEM and provided adequate statistical power to examine the proposed direct, sequential mediation, and moderation relationships (Hair et al., 2022, 2024).

4. Results

Once the demographics were captured, the collected data were subjected to Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis. Per the recommendations of Hair et al. (2022, 2024), the results are presented in two stages, where the measurement model is evaluated through indicator reliability, internal consistency reliability, convergent validity and discriminant validity, and then by examining the structural model through hypothesis testing, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), sequential mediation and moderation analysis.

4.1. Respondent Profile

Of the total 600 questionnaires distributed through the cooperating four- and five-star hotels in the United Arab Emirates, Saudi Arabia, Qatar, and Lebanon, 500 usable responses were retained after data screening. This represents an 83.3% completion rate for questionnaires distributed within participating hotels, rather than a population response rate for the wider target population.

Table 2 shows the demographic profile of respondents. Most employees were males (58.8%) compared to females (41.2%), with the age group of 25–34 years (48.6%) being the largest, followed by 35–44 years (24.6%), 18–24 years (18.0%), and 45 years and above (8.8%). Most respondents had a Bachelor's degree (59.0%), followed by Diploma (23.6%), Master's degree (12.8%), and Other (4.6%). Most of the respondents were employed in a proportionately broad range of hotel departments, with a large volume of respondents employed in the Food and Beverage Department (17.6%), equally with respondents in Front Office and Housekeeping (13.4%), in that order of most to least. In comparison, most respondents were Frontline Employees (58.0%), with many others as Supervisors (24.4%), Assistant Managers (11.6%), and Managers (6.0%). Most respondents had work experience of 1–5 years (58.0%), followed by respondents with 6–10 years' experience (29.8%) and those with more than 10 years' experience (12.2%). Individuals worked in five-star hotels (55.8%) compared to four-star hotels (44.2%). Respondents were well represented across the four countries, with the largest proportion working in the United Arab Emirates (30.4%), followed by Saudi Arabia (27.4%), Lebanon (21.4%) and Qatar (20.8%). Overall, the sample included employees from a diverse range of departments, job roles, hotel categories, and the four participating countries, providing broad coverage of the participating organizations.

Table 2. Demographic profile of respondents (N = 500).

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	294	58.8
	Female	206	41.2
Age	18–24 years	90	18
	25–34 years	243	48.6
	35–44 years	123	24.6
	45 years and above	44	8.8
Education	Diploma	118	23.6
	Bachelor's degree	295	59
	Master's degree	64	12.8
	Other	23	4.6
Department	Front Office	67	13.4
	Guest Relations	53	10.6
	Food & Beverage	88	17.6
	Housekeeping	67	13.4
	Concierge	30	6
	Sales & Marketing	49	9.8
	Human Resources	31	6.2
	Reservations	38	7.6
	Revenue Management	39	7.8
	Operations	38	7.6

Table 2. *Cont.*

Characteristic	Category	Frequency	Percentage (%)
Job Position	Frontline Employee	290	58
	Supervisor	122	24.4
	Assistant Manager	58	11.6
	Manager	30	6
Experience	1–5 years	290	58
	6–10 years	149	29.8
	More than 10 years	61	12.2
Hotel Category	Four-star	221	44.2
	Five-star	279	55.8
Country	United Arab Emirates	152	30.4
	Saudi Arabia	137	27.4
	Lebanon	107	21.4
	Qatar	104	20.8

4.2. Measurement Model Assessment

We assessed the measurement model for indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. All the standardized outer loadings exceeded the recommended value of 0.70 and ranged from 0.859 to 0.910 (Table 3), indicating adequate indicator reliability.

Table 3. Indicator reliability.

Construct	Items	Loading Range	Decision
Human-Centered Leadership	HCL1–HCL6	0.871–0.887	Retained
Artificial Intelligence Readiness	AIR1–AIR6	0.874–0.888	Retained
Employee Engagement	EE1–EE9	0.882–0.904	Retained
Sustained Service Performance	SSP1–SSP6	0.900–0.910	Retained
Digital Organizational Support	DOS1–DOS6	0.859–0.886	Retained

Internal consistency reliability was tested using Cronbach's alpha along with composite reliability. As shown in Table 4, Cronbach's alpha values ranged from 0.937 to 0.969, and composite reliability values ranged from 0.950 to 0.973, which is above the recommended guideline of 0.70. Although Cronbach's alpha and composite reliability values exceeded 0.95 for some constructs, suggesting a high degree of internal consistency, high reliability estimates alone do not necessarily indicate problematic item redundancy. The retained items were adapted from previously validated scales and were intended to capture complementary facets of each construct while preserving the theoretical content validity of the measurement model. Furthermore, satisfactory discriminant validity, supported by both the Fornell–Larcker criterion and HTMT analysis, indicates that the constructs remained conceptually distinct despite their high internal consistency. Convergent validity was assessed based on the average variance extracted (AVE), which all exceeded 0.50 (ranging from 0.761 to 0.821), confirming satisfactory convergent validity.

To further examine the possibility of item redundancy, average inter-item correlations were calculated for each construct. The values ranged from 0.713 to 0.785 (Table 5), indicating very strong internal consistency across the constructs. Although these values suggest that some items capture closely related aspects of the underlying constructs, all items were retained because they were adapted from previously validated scales, demonstrated satisfactory psychometric properties, and contributed to the theoretical content validity of

the measurement model. Accordingly, the retained measurement model was considered theoretically and psychometrically appropriate for the purposes of the present study.

Table 4. Reliability and convergent validity.

Construct	Cronbach's Alpha	Composite Reliability	AVE
Human-Centered Leadership	0.941	0.953	0.772
Artificial Intelligence Readiness	0.943	0.955	0.779
Employee Engagement	0.969	0.973	0.801
Sustained Service Performance	0.956	0.965	0.821
Digital Organizational Support	0.937	0.950	0.761

Table 5. Average Inter-Item Correlations of the Measurement Constructs.

Construct	Number of Items	Average Inter-Item Correlation (AIC)
HCL	6	0.726
AIR	6	0.735
EE	9	0.776
SSP	6	0.785
DOS	6	0.713

Discriminant validity was assessed, once again, using the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT). As shown in Table 6, the square root of the AVE for each construct was greater than its correlations with other constructs, which indicated that discriminant validity was satisfactory.

Table 6. Fornell–Larcker criterion.

Construct	HCL	AIR	EE	SSP	DOS
HCL	0.879				
AIR	0.483	0.883			
EE	0.379	0.608	0.895		
SSP	0.430	0.466	0.573	0.906	
DOS	0.293	0.349	0.243	0.160	0.872

As shown in Table 7, The HTMT values were also below the conservative threshold of 0.85, ranging from 0.169 to 0.636, further confirming discriminant validity.

Table 7. HTMT ratio.

Construct Pair	HTMT
HCL–AIR	0.513
HCL–EE	0.397
HCL–SSP	0.453
HCL–DOS	0.312
AIR–EE	0.636
AIR–SSP	0.491
AIR–DOS	0.372
EE–SSP	0.595
EE–DOS	0.255
SSP–DOS	0.169

Overall, the measurement model achieved acceptable reliabilities, convergent validity, and discriminant validity. As such, constructs were accepted for assessing the structural model.

4.3. Structural Model Assessment

Being satisfied with our measurement model reliabilities and validity, we turned our attention to the structural model as assessed by examining collinearity, the extent to which the hypothesized model relations were supported, coefficients of determination (R^2), effect size f^2 , predictive relevance (Q^2), the sequential mediation effect, and the moderating effect of the Digital Organizational Support variable.

4.3.1. Collinearity Assessment

The method used to assess collinearity before evaluating our model hypotheses was based on outer loadings. As can be seen from the values in the following table (Table 8), all of the inner VIF values produced in this study were from 1.24 to 2.41, which are well below the common cutoff of 3.30 (Kock, 2015) and the more stringent 5.00 (Hair et al., 2022).

Table 8. Collinearity assessment (Inner VIF values).

Relationship	VIF
HCL → AIR	1.24
HCL → SSP	1.67
AIR → EE	1.78
EE → SSP	2.41
DOS × HCL → AIR	1.95

The bootstrapping method with five thousand bootstrap samples was used to evaluate the structural relationships. All of the direct links in Table 9 have a statistically significant positive direction and provide support for the hypothesized relationships.

Table 9. Structural model results and hypothesis testing.

Hypothesis	Relationship	β	t-Value	p-Value	95% BCa Confidence Interval	Decision
H1	HCL → SSP	0.241	4.36	<0.001	[0.132, 0.339]	Supported
H2	HCL → AIR	0.524	12.48	<0.001	[0.436, 0.608]	Supported
H3	AIR → EE	0.618	15.27	<0.001	[0.533, 0.684]	Supported
H4	EE → SSP	0.487	10.81	<0.001	[0.392, 0.566]	Supported
H6	DOS × HCL → AIR	0.137	2.91	0.004	[0.048, 0.221]	Supported

Note: BCa = bias-corrected and accelerated bootstrap confidence interval based on 5000 bootstrap subsamples. Confidence intervals excluding zero indicate statistically significant effects.

The significance of the structural relationships was assessed using bootstrapping with 5000 bootstrap samples. As shown in Table 9, all hypothesized structural relationships were positive and statistically significant. Furthermore, none of the bootstrapped bias-corrected and accelerated (BCa) 95% confidence intervals included zero, providing additional evidence for the robustness of the estimated path coefficients. The strongest direct effect was found between HCL and AIR ($\beta = 0.524$), suggesting that supportive leadership plays an important role in employees' readiness to use and adopt AI-enabled technologies. Furthermore, AIR exhibited a strong positive relationship with EE ($\beta = 0.618$), and EE contributed significantly to SSP ($\beta = 0.487$). An interesting finding was that HCL exhibited a positive and significant direct relationship with SSP ($\beta = 0.241$), indicating that leadership contributes to sustained service outcomes both directly and indirectly.

4.3.2. Coefficient of Determination (R^2)

The explanatory power of the structural model was assessed using the coefficient of determination (R^2). As depicted in Table 10, the model explained 28.2% of the variance in AIR, 38.4% of the variance in EE, and 38.1% of the variance in SSP. According to Hair et al. (2022), these values indicate moderate explanatory power.

Table 10. Coefficient of determination.

Endogenous Construct	R^2
Artificial Intelligence Readiness	0.282
Employee Engagement	0.384
Sustained Service Performance	0.381

4.3.3. Effect Size (f^2)

Effect sizes were calculated so that the relative contribution of each exogenous construct can be evaluated. Human-Centered Leadership has a large effect on AIR ($f^2 = 0.41$), AIR has a large effect on EE ($f^2 = 0.62$), EE has a medium effect on SSP ($f^2 = 0.29$), and the direct effect of HCL on SSP is small ($f^2 = 0.11$).

4.3.4. Predictive Relevance (Q^2)

Predictive relevance was assessed using the blindfolding procedure. As shown in Table 11, all endogenous constructs have Q^2 greater than zero, indicating that the model has acceptable predictive relevance.

Table 11. Predictive relevance.

Construct	Q^2
AIR	0.214
EE	0.296
SSP	0.402

To further assess the model's predictive performance, PLS predict analysis was conducted. The results indicated positive Q^2 predict values for all endogenous constructs (AIR = 0.287, EE = 0.341, and SSP = 0.382), demonstrating satisfactory predictive relevance. These findings provide additional support for the model's predictive capability.

4.3.5. Sequential Mediation Analysis

The indirect effect of HCL on SSP through the sequential mediation of AIR and EE was assessed using bias-corrected bootstrapping. The sequential indirect effect was positive and statistically significant ($\beta = 0.160$, $t = 5.84$, $p < 0.001$, 95% BCa CI = [0.109, 0.214]), providing support for H5. The direct effect of HCL on SSP remained positive and statistically significant after including AIR and EE as sequential mediators ($\beta = 0.241$, $t = 4.36$, $p < 0.001$), indicating complementary partial mediation rather than full mediation. These findings suggest that HCL enhances SSP both directly and indirectly by first strengthening employees' AI readiness, which subsequently promotes EE and, in turn, contributes to higher levels of SSP.

4.3.6. Moderation Analysis

The moderating role of DOS was assessed by estimating the interaction effect between HCL and DOS on AIR. The interaction effect between Human-Centered Leadership and Digital Organizational Support was positive and statistically significant ($\beta = 0.137$, $t = 2.91$,

$p = 0.004$), supporting H6. The positive interaction coefficient indicates that Digital Organizational Support strengthens the positive relationship between HCL and AIR. Employees perceiving higher levels of DOS derive greater AI readiness from HCL than employees reporting lower levels of organizational support. This finding suggests that leadership interventions are most effective when reinforced by organizational investments in AI training, digital infrastructure, and ongoing technical support.

5. Discussion

5.1. Human-Centered Leadership and Sustained Service Performance

The findings of this study support H1, demonstrating that Human-Centered Leadership (HCL) is positively associated with Sustained Service Performance (SSP) in luxury hotels. This finding suggests that leadership practices based on empathy, employee empowerment, psychological safety, trust, and development enable employees to deliver superior service consistently while simultaneously bolstering the organization's agility and long-term service excellence. The increasing use of artificial intelligence and digital technologies in luxury hotels to drive operational excellence notwithstanding, the results imply that Sustained Service Performance remains fundamentally dependent on a leadership approach that prioritizes employees as valuable strategic resources to be mobilized. The positive relationship between Human-Centered Leadership (HCL) and Sustained Service Performance (SSP) can be explained through the Job Demands–Resources (JD–R) Theory. JD–R Theory confirms that supportive leadership is an important organizational resource that helps employees cope with demanding service environments and preserve adequate levels of motivation, resilience, and work performance (Bakker & Demerouti, 2017). Human-centered leaders transmit autonomy, emotional support, developmental opportunities, and constructive feedback to employees, helping employees manage work demands and increasing the psychological resources available to preserve service quality standards needed for Sustained Service Performance. In luxury hospitality service environments where employees must deal with never-ending high customer expectations, emotional labor, and technology-enabled services, these leadership behaviors become essential for achieving consistent service excellence and organizational sustainability.

The findings are consistent with existing hospitality research that corroborates the importance of unit leadership for the effective performance of organizations. Earlier studies found that positive employee welfare-oriented leadership styles positively influence service quality through employee commitment, organizational citizenship behaviors, and customer satisfaction (Karatepe et al., 2023; C.-J. Wang & Tseng, 2019). Prior studies in luxury hospitality have shown that management practices centered on employee welfare and trust strengthened engagement, psychological contract fulfillment, and organizational performance (Hassanein et al., 2025; Hassanein, 2026). The present findings are an extension of this body of work by showing that even in the context of AI-enabled luxury hotels, where technology may to some extent replace human factors, Human-Centered Leadership HCL remains an essential predictor of Sustained Service Performance SSP.

This study enriches the hospitality leadership literature in several important ways. First, it shows that technological progress makes Human-Centered Leadership more relevant, not less, and the more that artificial intelligence is integrated into services, the greater the need for leadership rooted in human-centered principles. Second, the findings extend JD–R Theory, demonstrating how leadership resources act not only on employee wellbeing but also on organizationally sustained outcomes in digitally transforming hospitality organizations. Finally, by examining luxury hotels across the Middle East, the study contributes to the emerging body of ‘real world instances’ research, generating evidence in a region whose connection to hospitality and sociocultural luxury has had limited empirical studies

despite its rapid growth in investment in digital transformation and premium hospitality development. In combination, the findings make a strong case that the pursuit of sustained competitive advantage in luxury hospitality should be supported by both technological and human investment (Al-Romeedy & Alharethi, 2024).

5.2. Human-Centered Leadership and Artificial Intelligence Readiness

The findings support H2, providing evidence of a positive relationship between Human-Centered Leadership and Artificial Intelligence Readiness among hotel employees. This finding implies that leaders who orient their concern to well-being, empower, facilitate participation in decision-making, and encourage continuous learning create environments where employees are motivated to pursue AI rather than fear uncertainty and insecurity from its adoption. The outcome of this process is the powerfully formative role of Human-Centered Leadership as an antecedent of employee readiness to adopt AI-enabled technologies within modern hospitality organizations.

This relationship is explicable via the concurrent lens of Job Demands–Resources (JD–R) and Dynamic Capabilities Theory (DCT) perspectives. Within this view, Human-Centered Leadership (HCL) enables the development of AIR through continual learning, knowledge sharing, and organizational agility, enabling employees more readily to integrate intelligent technologies into service delivery. The present findings mirror other emerging evidence emphasizing the crucial role of leadership in employees' readiness for successful digital transformation. Work has found that enabling and supportive leadership relates positively to employees' willingness to experiment with new technologies, digital skills development, and organizational innovation participation (Frick et al., 2021; Rožman et al., 2022; Kumawat et al., 2024). Similarly, more recent research within hospitality has stressed that leaders capable of balancing innovative technology with the development of their employees can contribute to successful implementation of AI-enabled service systems while reducing resistance to organizational change (Gürsoy & Cai, 2024). The current findings advance this work by demonstrating that Human-Centered Leadership positively supports employees' openness towards AI within the luxury hotel context, an area that has received limited attention in empirical hospitality research. This finding advances both hospitality and leadership research in several respects. First, it describes Human-Centered Leadership as a vital organizational capability that supports AI readiness, thus extending previous leadership research beyond traditional employee attitudes and behavioral outcomes. Second, it adds to the emerging AI literature by showing that employee technological readiness is dependent not only on digital infrastructure and technical skills, but on leadership practices that cultivate trust, learning, and psychological security. Finally, by providing empirical evidence from luxury hotels in the Middle East, this study further develops our understanding of how human-oriented leadership promotes digital transformation in service-centric organizations where technology is an enabler, not a replacement for personalized guest experiences. These findings reiterate the necessity of organizations to invest congruently in both technological skills and leadership practices centered on employee inclusion for successful AI implementation.

5.3. Artificial Intelligence Readiness and Employee Engagement

The results support H3, showing a moderate positive relationship between AIR and employee engagement. Employees who perceive themselves as ready, willing, and able to engage with AI training are more likely to view technological innovation as a means of enhancing their professional capabilities, service delivery, and organizational roles. The positive relationship between AIR and Employee Engagement may be explained using Job Demands–Resources (JD–R) Theory (Bakker & Demerouti, 2017). In AI-powered hospitality

environments, intelligent technologies create new cognitive and technical demands on employees. If employees have sufficient AI readiness in terms of digital competency, confidence levels, and technological adaptability, they are more likely to see these as opportunities for learning, rather than sources of stress and uncertainty, and so are more willing to expend energy, help innovate, and assist with the implementation and diffusion of change. The findings corroborate early work highlighting the importance of digital readiness for positively oriented employee outcomes in the context of organizational change. Employees showing higher levels of digital confidence and positively oriented technology competence have been shown to be more willing to innovate and engage in organizational learning and show greater commitment (Rožman et al., 2022; Kumawat et al., 2024). Recent hospitality research reports that employee AI readiness enhances their willingness to work with intelligent machines and to bias tasks towards service quality and customer orientation while doing so (Gürsoy & Cai, 2024). This finding sides with studies reporting that AI enhances engagement (Aulia & Lin, 2024; Chin et al., 2024) rather than those linking AI to technostress and disengagement (Alfehaid et al., 2024; Hou & Fan, 2024); the likely reason is that readiness, not mere exposure to AI, determines whether AI is experienced as a resource or a stressor. This study builds on those studies and provides evidence that AI readiness is indeed a precursor of Employee Engagement, and this exists in the context of luxury hotels, linking a technological emergent with one of the most widely studied psychological outcomes in hospitality. This finding is valuable especially in that the majority of studies in the hospitality literature have examined employee engagement from traditional leadership, organizational support, or human resource management, but tend to pay limited attention to employees' readiness for AI. We demonstrate in this study that digital transformation is not an advancement restricted to technology but a human process as well that requires employees to have readiness, which means confidence, knowledge, and agility to work together with AI-powered systems. Organizations seeking to enhance employee engagement should therefore complement their investment in advanced technologies with carefully planned initiatives that strengthen employees' AI readiness through continuous training, ongoing digital learning opportunities, and supportive leadership.

5.4. Employee Engagement & Sustained Service Performance

Our findings provide support for H4 in showing that Employee Engagement is positively associated with Sustained Service Performance in luxury hotels. This means that employees who exhibit high vigor, dedication, and absorption are more likely to deliver consistently superior service, readily adapt to organizational change, and support the long-term sustainability of service. In luxury hospitality, where guest satisfaction depends heavily on employee commitment and interaction, engaging employees becomes a critical asset for continuous service innovation. We can understand the relationship between Employee Engagement and Sustained Service Performance through Job Demands–Resources (JD–R) Theory, which states that engaged employees convert available resources from the organization into positive individual and organizational outcomes (Bakker & Demerouti, 2017). Employees with higher engagement levels are more likely to “go the extra mile”, be engaged in proactive work activities, and be high performers in demanding service environments. In luxury hotels, “going the extra mile” and “proactive work behaviors” are particularly important, not only because guest expectations are unpredictable and variable, but also because processes are increasingly being enhanced by technology. Employee engagement thus helps organizations manage both service consistency and operational flexibility, which are both important forms of Sustained Service Performance. Our findings confirm a large body of research in the hospitality industry that has shown that employee engagement positively affects service quality, customer satisfaction, organizational citi-

zenship behavior, innovation, and organizational performance (Karatepe, 2013; Bakker & Albrecht, 2018). In luxury hospitality, engaged employees have been shown to exceed formal role requirements, cooperate well with colleagues, and deliver superior guest experiences (Hassanein et al., 2025; Hassanein, 2026). Our findings reinforce and extend these studies to AI-enhanced hotels, in which employees are increasingly expected to use intelligent technologies as part of the guest journey while retaining the human touch that makes the experience luxurious. The present study contributes to the hospitality literature in a number of ways. Although employee engagement is a well-established predictor of organizational performance, few studies examine it in digitally transforming luxury hotels. Our findings indicate that it remains a critical mechanism by which organizations achieve Sustained Service Performance even in a world of increasingly artificial intelligence-infused daily work. Organizational retooling through digital investment may not guarantee sustained organizational success; organizations must also foster highly engaged employees who are able to integrate digital technologies into service delivery while retaining empathy, responsiveness, and customer-centered service. In this way, we extend the argument that sustained competitive advantage in luxury hospitality lies in the effective integration of digital technologies and employee engagement practices.

5.5. The Sequential Mediating Roles of Artificial Intelligence Readiness and Employee Engagement

Findings of the present study supported H5, demonstrating that Artificial Intelligence Readiness and Employee Engagement sequentially mediate the relationship between Human-Centered Leadership and Sustained Service Performance. This finding constitutes the principal theoretical contribution of the present study, as it indicates the mechanism by which Human-Centered Leadership produces sustained organizational outcomes in AI-enabled luxury hotels. Rather than exerting its influence solely through a direct path, Human-Centered Leadership first strengthens employees' AI readiness, which raises engagement and, in turn, Sustained Service Performance. These findings suggest that sustained service excellence emerges through a cumulative process in which Human-Centered Leadership first develops employees' readiness to work confidently with AI, which subsequently enhances employee engagement and ultimately supports Sustained Service Performance. The sequential mediation can be understood through the complementary explanatory logic of Job Demands–Resources Theory and Dynamic Capabilities Theory. Human-Centered Leadership provides employees with the psychological and organizational resources required to embrace AI, while AI readiness represents a dynamic organizational capability that enables employees to translate technological change into higher engagement and Sustained Service Performance (Bakker & Demerouti, 2017; Teece, 2018). Within this sequential mechanism, AI readiness functions as the capability that enables employees to adapt confidently to AI-enabled work, whereas employee engagement represents the motivational pathway through which this capability is translated into Sustained Service Performance. Prior research has established each link: leadership to employee attitudes, readiness to adaptation, and engagement to performance, but only in isolation. By integrating Human-Centered Leadership, Artificial Intelligence Readiness, and Employee Engagement into a single sequential framework, the current paper provides a more complete explanation of the organizational processes through which leadership results in Sustained Service Performance. This integrated perspective responds directly to recent calls for more theoretical integration in hospitality leadership research and adds to the hospitality and digital leadership literature on artificial intelligence by demonstrating that technological readiness and employee motivation are complementary rather than independent organizational processes.

On several levels, these findings are of consequence for the luxury hospitality industry. CEOs and strategic investors across service industries continue to invest heavily in artificial intelligence and digital technologies; however, the current study suggests that technological investment alone will not lead to Sustained Service Performance unless employees are equipped and motivated to stay engaged through the organizational transformation. Human-Centered Leadership thus serves as the catalyst linking technological transformation with employee motivation by developing environments where employees see AI as an opportunity to learn, innovate, and grow, instead of seeing AI as a threat to their roles. This means Artificial Intelligence Readiness and Employee Engagement should not be treated as isolated organizational outcomes, but interdependent mechanisms through which leadership leads digital transformation. At the same time, these findings should not be interpreted as advocating greater automation for its own sake. Recent evidence suggests that excessive reliance on AI-driven service delivery may reduce perceptions of authenticity, empathy, and personalized attention if opportunities for meaningful employee interaction become limited. Particularly within luxury hospitality, where emotional labor and relationship building remain central to guest value creation, AI should complement rather than replace human service encounters. Human-Centered Leadership therefore plays a critical role in ensuring that employees remain visibly present during key moments of the guest journey, allowing technology to enhance operational efficiency while preserving the interpersonal qualities that differentiate luxury hospitality (Almokdad et al., 2025).

From a managerial perspective, developing AI readiness requires considerably more than providing employees with technical training. HCL should be operationalized through regular coaching conversations, transparent communication regarding the purpose and limitations of AI, employee participation in AI implementation decisions, psychological safety for experimentation, and continuous opportunities for digital learning. Equally, organizations should strengthen Digital Organizational Support by investing in accessible technical assistance, user-friendly AI systems, ongoing training programs, and recognition systems that reward appropriate AI use rather than simply technology adoption. Managers should also avoid over-structuring AI-enabled workflows. While standardization improves operational efficiency, excessive reliance on rigid algorithms may reduce employee autonomy, discretionary service behaviors, and the personalized interactions that define luxury hospitality. Instead, AI should support employees in routine and data-intensive activities while preserving their discretion during emotionally sensitive and high-value guest interactions.

Overall, the study demonstrates that Sustained Service Performance in AI-enabled luxury hotels arises not from leadership acting alone, but through a sequential process in which HCL strengthens AI readiness, AI readiness enhances EE, and engagement ultimately supports SSP. By integrating HCL, AI readiness, EE, and DOS into a single explanatory framework, the study advances hospitality leadership research by showing how organizations can successfully combine technological innovation with human-centered management during digital transformation.

5.6. Balancing Automation, Human Presence, and Service Humanization

The positive effects identified in this study should not be interpreted as evidence that greater digitalization is invariably beneficial. AI-enabled automation can increase speed, consistency, and informational accuracy, yet excessive or compulsory reliance on self-service technologies can reduce interpersonal contact, perceived empathy, and authenticity. Almkoddad et al. (2025) show that forced self-service use can heighten perceptions of service dehumanization and that access to employee presence can help preserve confidence and socio-emotional value. This risk is particularly salient in luxury hospitality, where guests

often evaluate quality not only through functional efficiency but also through recognition, discretion, emotional reassurance, and personalized attention.

HCL should therefore guide a selective rather than maximalist approach to automation. Routine, low-emotion, and information-intensive tasks may be automated when doing so releases employees to focus on relational work. By contrast, service recovery, complaints, complex requests, vulnerable or digitally excluded guests, and high-symbolic-value moments should retain accessible human involvement. Hotels should avoid forcing guests into a single digital channel and instead provide visible, easily activated human assistance. AI systems should be framed as augmenting employees' judgment rather than replacing the relational foundations of hospitality. In this way, employee presence functions not as an inefficiency to be removed, but as a service-design resource that protects authenticity and reduces the risk that digitally efficient encounters are experienced as impersonal or dehumanizing (Almokdad et al., 2025).

5.7. Managerial Implications

The findings translate into a set of concrete implementation priorities. First, managers should enact Human-Centered Leadership through observable behaviors: communicate the purpose, limits, and expected benefits of each AI application; invite employees to identify guest-facing risks before deployment; provide protected learning time and psychologically safe opportunities to practice; respond constructively to errors and concerns; recognize responsible experimentation; and preserve employee discretion to override or escalate AI-supported decisions when service quality or guest wellbeing is at stake. These behaviors build Artificial Intelligence Readiness because they strengthen competence, confidence, adaptability, and trust rather than merely demanding compliance.

Second, DOS should be invested in as a socio-technical system rather than reduced to purchasing software. Priority investments include role-specific training, sandbox or simulation environments, accessible technical support during shifts, reliable data and system integration, transparent guidance on data use and performance monitoring, employee participation in system selection and evaluation, and reward systems that recognize appropriate AI use without penalizing employees for seeking human review. Hotels should also appoint cross-functional implementation teams linking operations, Human Resources, information technology, data protection, and frontline service. These investments make digital support visible and credible, thereby strengthening the capacity of Human-Centered Leadership to build AI readiness.

Third, managers should avoid over-structuring service workflows. Standard operating procedures should define non-negotiable safeguards, escalation routes, and accountability, but they should not script every guest interaction or make algorithmic recommendations mandatory. A useful design principle is 'guardrails with discretion': automate repetitive tasks, specify when human review is required, and allow employees latitude to personalize the encounter. Hotels can monitor this balance through indicators that combine efficiency with human outcomes, such as guest access to staff, service-recovery quality, employee override frequency, complaints concerning impersonality, employee technostress, and guest perceptions of empathy and authenticity. Pilot testing by department, followed by employee and guest feedback before scale-up, can prevent rigid workflows from becoming embedded and help ensure that AI expands rather than constrains high-quality service.

6. Conclusions, Limitations, and Future Research

6.1. Conclusions

This study examined how HCL contributes to SSP in AI-enabled luxury hotels, and the psychological mechanisms through which it operates. Drawing on Job Demands–Resources

Theory, Dynamic Capabilities Theory, and Organizational Support Theory, the findings show that HCL is positively associated with SSP both directly and indirectly, through the sequential path of AIR and EE. DOS was found to strengthen the relationship between HCL and AIR. Together, these results indicate that in AI-enabled hospitality, sustained service excellence depends not on technology alone but on leadership that prepares and motivates employees to work alongside intelligent systems. The study contributes an integrated framework linking Human-Centered Leadership, AI readiness, employee engagement, and Digital Organizational Support, demonstrating how organizations can successfully combine technological innovation with human-centered management to sustain service excellence during AI-enabled transformation. It also provides empirical evidence from the under-researched but rapidly digitalizing luxury hospitality sector in the Middle East.

6.2. Limitations

Several limitations should be acknowledged. First, the study used a cross-sectional design, so the relationships observed are associational and cannot establish causal direction; the proposed sequence is grounded in theory rather than demonstrated over time. Second, data were collected through self-report questionnaires from a single source, which raises the possibility of common method bias; although procedural remedies and a statistical assessment were applied, future work would benefit from multi-source or objective performance data.

Third, the study relied on purposive identification of AI-enabled luxury hotels, followed by convenience sampling of employees within participating organizations. Because hotel participation depended on organizational willingness to collaborate, participating hotels may differ systematically from non-participating hotels in terms of AI maturity, organizational culture, or openness to innovation, introducing organizational selection bias. Employee participation was also voluntary, creating the possibility of self-selection bias. Furthermore, although the study achieved a high completion rate among employees within participating hotels, this figure should not be interpreted as representing the wider population of luxury hotel employees across the Middle East. Future studies should adopt probability-based or stratified sampling across a broader range of hotels and regions to strengthen representativeness and external validity.

Furthermore, although the proposed model was grounded in established theoretical frameworks, it did not include several organizational and contextual variables that may also influence employees' Artificial Intelligence Readiness, Employee Engagement, and Sustained Service Performance. In particular, AI usage intensity, organizational AI maturity, leader tenure, and organizational service climate were not measured in the original survey and therefore could not be included as control variables. Consequently, the possibility of omitted-variable bias cannot be entirely excluded, and the findings should be interpreted with this limitation in mind.

Fourth, although the sample spans four countries (UAE, Saudi Arabia, Qatar, and Lebanon), the data were pooled, and cross-national measurement invariance was not assessed. Consequently, the findings should not be interpreted as evidence that the proposed relationships operate equivalently across different national contexts, where cultural, institutional, and organizational differences may influence perceptions of HCL, AIR, and Digital Organizational Support. Finally, HCL is a relatively new construct, and although the measurement scale demonstrated satisfactory psychometric properties, further validation across industries, organizational contexts, and cultural settings would strengthen confidence in its broader applicability. In addition, some constructs demonstrated very high internal consistency reliability. Although this reflects strong coherence among the measurement items, future research could examine average inter-item correlations, assess

item redundancy, and explore shorter versions of the scales while preserving content validity. The complete measurement items and their corresponding sources are presented in Appendix A.

6.3. Future Research

These limitations point to several directions for future research. Longitudinal or multi-wave designs would allow the proposed sequential mechanism to be tested causally, observing how leadership shapes readiness, engagement, and performance over time. Multi-source data, for example, combining employee self-reports with supervisor ratings or objective service-performance indicators, would reduce common method concerns and strengthen validity. Future studies should also incorporate relevant organizational and contextual control variables, including AI usage intensity, organizational AI maturity, department, employee tenure, leader tenure, and organizational service climate, to examine the robustness of the proposed relationships while accounting for potential sources of endogeneity and omitted-variable bias.

Future studies could employ probability-based sampling and examine both observed and unobserved heterogeneity using approaches such as Multi-Group Analysis (PLS-MGA), the Measurement Invariance of Composite Models (MICOM) procedure, FIMIX-PLS, or prediction-oriented segmentation. Before conducting cross-group comparisons, future research should first establish measurement invariance to ensure that meaningful comparisons can be made across countries, hotel categories, organizational functions, or other employee groups. Such analyses would provide a more nuanced understanding of whether the proposed relationships differ across organizational and national contexts and would help identify context-specific patterns of AI adoption and leadership effectiveness.

Researchers might also extend the model to other service sectors undergoing AI-driven transformation (e.g., healthcare, aviation, retail) to assess its boundary conditions, and incorporate additional variables such as technostress, AI trust, or job insecurity to capture the potential dark side of AI adoption that a purely positive framing may overlook. Further validation and refinement of the Human-Centered Leadership construct would also help consolidate its place in the leadership literature.

Future research should also examine the ethical and cultural implications of AI-enabled leadership in hospitality. Important issues include meaningful employee consent, data governance, privacy and data minimization, AI-enabled workplace surveillance, and the fairness and transparency of evaluating employee performance when AI-supported decision-making is involved. Future studies should also explore the governance mechanisms required to ensure responsible and trustworthy AI implementation, including appropriate human oversight, contestability of AI-supported decisions, and the potential consequences of rewarding or penalizing employees for their reliance on AI or for appropriately seeking human review. Cross-cultural research would further enhance understanding of whether perceptions of Human-Centered Leadership, AI readiness, and Digital Organizational Support differ across national and organizational contexts, particularly where institutional environments, workforce composition, power distance, privacy norms, and expectations regarding interpersonal service may influence leadership effectiveness and technology adoption. Future studies should therefore employ cross-cultural qualitative research, formal measurement invariance testing, and multi-group analysis to determine the extent to which the proposed model is robust across different cultural settings and where context-specific adaptation may be required.

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Abbreviations

The following abbreviations are used in this manuscript:

- HCL Human-Centered Leadership
- AIR Artificial Intelligence Readiness
- EE Employee Engagement
- SSP Sustained Service Performance
- DOS Digital Organizational Support
- AI Artificial Intelligence

Appendix A

Construct	Code	Measurement Item	Adapted from
Human-Centered Leadership (HCL)	HCL1	My supervisor genuinely cares about employees’ well-being.	Baran (2025); Alshaibani et al. (2024)
	HCL2	My supervisor encourages continuous learning and professional development.	
	HCL3	My supervisor creates an environment where employees feel psychologically safe to express their ideas.	
	HCL4	My supervisor empowers employees to participate in decisions affecting their work.	
	HCL5	My supervisor treats employees with empathy, fairness, and respect.	
	HCL6	My supervisor supports employees in adapting to technological and AI-related changes.	
Artificial Intelligence Readiness (AIR)	AIR1	I feel confident using AI-enabled technologies in my daily work.	Frick et al. (2021); Chiu et al. (2021); W. Chang et al. (2026)
	AIR2	I am willing to learn new AI technologies introduced by my hotel.	
	AIR3	I can quickly adapt when AI systems change the way I perform my job.	
	AIR4	I believe I possess the skills needed to work effectively with AI technologies.	
	AIR5	I view AI as an opportunity to improve my work performance.	
	AIR6	I feel psychologically prepared to work alongside AI technologies.	

Employee Engagement (EE)	EE1	I feel enthusiastic about my work.	Schaufeli et al. (2002); Bakker and Albrecht (2018)
	EE2	I am fully engaged while performing my job.	
	EE3	I willingly put extra effort into providing excellent service.	
	EE4	My work inspires me to perform at my best.	
	EE5	I feel emotionally committed to my hotel.	
	EE6	I remain motivated even when my work becomes challenging.	
	EE7	At my work, I feel full of energy.	
	EE8	I am proud of the work that I do.	
	EE9	I become fully absorbed in performing my work.	
Sustained Service Performance (SSP)	SSP1	I consistently provide high-quality service to hotel guests.	Adapted from Karatepe (2013)
	SSP2	I maintain excellent service standards even during technological change.	
	SSP3	I effectively combine AI technologies with personalized customer service.	
	SSP4	I continuously improve the quality of service I provide.	
	SSP5	I contribute to maintaining long-term service excellence in my hotel.	
	SSP6	I help deliver reliable, personalized, and consistent guest experiences.	
Digital Organizational Support (DOS)	DOS1	My hotel provides adequate AI-related training.	Adapted from Eisenberger et al. (1986, 2020); Fenwick et al. (2024); Fan and Yang (2025)
	DOS2	My hotel provides the digital resources needed to perform my job effectively.	
	DOS3	My hotel encourages employees to develop AI-related skills.	
	DOS4	Technical assistance is available whenever I experience difficulties using AI technologies.	
	DOS5	My hotel supports continuous digital learning.	
	DOS6	My hotel provides sufficient organizational support during AI implementation.	

References

- Alfehaid, M. M., Hassan, T. H., Alfisal, A. A., Saleh, M. I., Bumbak, S. V., & Helal, M. Y. (2024). Post-pandemic digital transformation: Mitigating technostress and increasing well-being in the hospitality industry via the person-technology fit model. *GeoJournal of Tourism and Geosites*, 53(2), 388–399. [\[CrossRef\]](#)
- Almokdad, E., Mouloudj, K., & Lee, C. H. (2025). Rehumanizing AI-driven service: How employee presence shapes consumer perceptions in digital hospitality settings. *Journal of Theoretical and Applied Electronic Commerce Research*, 20(3), 209. [\[CrossRef\]](#)
- Al-Romeedy, B. S., & Alharethi, T. (2024). Reimagining sustainability: The power of artificial intelligence and intellectual capital in shaping the future of tourism and hospitality organizations. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(4), 100417. [\[CrossRef\]](#)
- Alshaibani, E., Bakır, A., & Al-Atwi, A. A. (2024). The impact of leadership behaviors on organizational innovative performance and learning in AI-driven Industry 5.0 environments. *Development in Learning Organizations: An International Journal*, 39(3), 18–21. [\[CrossRef\]](#)
- Alzeiby, E. A., Islam, N., Shaik, A. S., & Yaqub, M. Z. (2025). AI adoption in enterprises for enhanced strategic human resource management practices: Benefiting the employee engagement and experience. *Journal of Enterprise Information Management*, 38(5), 1441–1464. [\[CrossRef\]](#)

- Aulia, S. R., & Lin, W.-S. (2024). Embracing the digital shift: Leveraging AI to foster employee well-being and engagement in remote workplace settings in the Asia Pacific region. *Asia Pacific Management Review*, 30(3), 100339. [\[CrossRef\]](#)
- Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly*, 16(3), 315–338. [\[CrossRef\]](#)
- Bakker, A. B., & Albrecht, S. L. (2018). Work engagement: Current trends. *Career Development International*, 23(1), 4–11. [\[CrossRef\]](#)
- Bakker, A. B., & Demerouti, E. (2007). The job demands–resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328. [\[CrossRef\]](#)
- Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273–285. [\[CrossRef\]](#) [\[PubMed\]](#)
- Baran, M. (2025). AI-augmented leadership. In *AI and humanistic management* (pp. 147–169). Routledge. [\[CrossRef\]](#)
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. Free Press.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership* (2nd ed.). Lawrence Erlbaum Associates.
- Başer, M. Y., Büyükeşer, T., & Ivanov, S. (2024). The effect of STARA awareness on hotel employees' turnover intention and work engagement: The mediating role of perceived organizational support. *Journal of Hospitality and Tourism Insights*, 8(2), 532–552. [\[CrossRef\]](#)
- Belanche, D., Casaló, L. V., & Flavián, C. (2021). Frontline robots in tourism and hospitality: Service enhancement or cost reduction? *Electronic Markets*, 31, 477–492. [\[CrossRef\]](#)
- Blöcher, K., & Alt, R. (2021). AI and robotics in the European restaurant sector: Assessing potentials for process innovation in a high-contact service industry. *Electronic Markets*, 31, 529–551. [\[CrossRef\]](#)
- Bocić, Z., & Jagodič, G. (2025). Reframing digital innovation through emotional intelligence: A human-centred concierge technology in luxury hospitality. *ENTRENOVA-ENTERPRISE RESEARCH INNOVATION JOURNAL*, 11(1). [\[CrossRef\]](#)
- Breque, M., De Nul, L., & Petridis, A. (2021). *Industry 5.0: Towards a sustained, human-centric and resilient European industry*. (No. KI-BD-20-021-EN-N). Directorate General for Research and Innovation (DG RTD) of the European Commission.
- Buhalis, D., Efthymiou, L., Uzunboyly, N., & Thrassou, A. (2024). Charting the progress of technology adoption in tourism and hospitality in the era of industry 4.0. *EuroMed Journal of Business*, 19(1), 1–20. [\[CrossRef\]](#)
- Camilleri, M. A., Troise, C., & Morrison, A. M. (2024). Motivations and commitment to work in the hospitality industry: Investigating employee psychology and responsible organizational behaviors. *Tourism Review*, 79(1), 85–103. [\[CrossRef\]](#)
- Chang, J. Y., Cheah, J., Lim, X., Morrison, A. M., & Kennell, J. (2022). Are unmanned smart hotels du jour or are they here forever? Experiential pathway analysis of antecedents of satisfaction and loyalty. *International Journal of Hospitality Management*, 104, 103249. [\[CrossRef\]](#)
- Chang, W., Swift, A. W., & Shulga, L. V. (2026). Artificial intelligence (AI) preparedness in hospitality: A framework and research agenda for building organizational capacities. *International Journal of Contemporary Hospitality Management*, 38(4), 1237–1256. [\[CrossRef\]](#)
- Chin, Y. S., Mohamad, A. A., & Lo, M. (2024). Harnessing the power of artificial intelligence (AI): A paradigm shift in HRM practices for employee sustained performance. *Global Knowledge, Memory and Communication*. [\[CrossRef\]](#)
- Chiu, Y.-T., Zhu, Y., & Corbett, J. (2021). In the hearts and minds of employees: A model of pre-adoptive appraisal toward artificial intelligence in organizations. *International Journal of Information Management*, 60, 102379. [\[CrossRef\]](#)
- Cingillioglu, I., & Wellalage, N. (2026). The digital tightrope: Balancing value and ethics in hotel transformation. *Journal of Hospitality and Tourism Technology*, 17(3), 801–821. [\[CrossRef\]](#)
- Demir, M. (2026). Integrating artificial intelligence into decision processes: A dual role of psychological ownership and emotional intelligence. *International Journal of Human–Computer Interaction*, 42(15), 12092–12106. [\[CrossRef\]](#)
- Demir, Ş. Ş., & Demir, M. (2023). Professionals' perspectives on ChatGPT in the tourism industry: Does it inspire awe or concern? *Journal of Tourism Theory and Research*, 9(2), 61–77. [\[CrossRef\]](#)
- Dwivedi, Y. K., Pandey, N., Currie, W. L., & Micu, A. (2023). Leveraging ChatGPT and other generative artificial intelligence (AI)-based applications in the hospitality and tourism industry: Practices, challenges and research agenda. *International Journal of Contemporary Hospitality Management*, 36(1), 1–12. [\[CrossRef\]](#)
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500–507. [\[CrossRef\]](#)
- Eisenberger, R., Rhoades Shanock, L., & Wen, X. (2020). Perceived organizational support: Why caring about employees counts. *Annual Review of Organizational Psychology and Organizational Behavior*, 7(1), 101–124. [\[CrossRef\]](#)
- Eva, N., Robin, M., Sendjaya, S., van Dierendonck, D., & Liden, R. C. (2019). Servant leadership: A systematic review and call for future research. *The Leadership Quarterly*, 30(1), 111–132. [\[CrossRef\]](#)
- Fan, X., & Yang, N. (2025). When digital meets human: How organizational digital capability promotes service innovation via cognitive flexibility and empowering leadership. *Acta Psychologica*, 262, 106014. [\[CrossRef\]](#)

- Fenwick, A., Molnár, G., & Frangos, P. (2024). The critical role of HRM in AI-driven digital transformation: A paradigm shift to enable firms to move from AI implementation to human-centric adoption. *Discover Artificial Intelligence*, 4(1), 34. [\[CrossRef\]](#)
- Frick, N., Mirbabaie, M., Stieglitz, S., & Salomon, J. (2021). Maneuvering through the stormy seas of digital transformation: The impact of empowering leadership on the AI readiness of enterprises. *Journal of Decision Systems*, 30, 235–258. [\[CrossRef\]](#)
- Glikson, E., & Woolley, A. W. (2020). Human trust in artificial intelligence: Review of empirical research. *Academy of Management Annals*, 14(2), 627–660. [\[CrossRef\]](#)
- Gonçalves, A. R., Pinto, D. C., Shuqair, S., Mattila, A. S., & Imanbay, A. (2024). The paradox of immersive artificial intelligence (AI) in luxury hospitality: How immersive AI shapes consumer differentiation and luxury value. *International Journal of Contemporary Hospitality Management*, 36(11), 3865–3888. [\[CrossRef\]](#)
- Greenleaf, R. K. (1977). *Servant leadership: A journey into the nature of legitimate power and greatness*. Paulist Press.
- Gürsoy, D., & Cai, R. (2024). Artificial intelligence: An overview of research trends and future directions. *International Journal of Contemporary Hospitality Management*, 37(1), 1–17. [\[CrossRef\]](#)
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). *A primer on partial least squares structural equation modeling (PLS-SEM)* (3rd ed.). SAGE Publications.
- Hair, J. F., Sarstedt, M., Ringle, C. M., Sharma, P. N., & Liengaard, B. D. (2024). Going beyond the untold facts in PLS-SEM and moving forward. *European Journal of Marketing*, 58(13), 81–106. [\[CrossRef\]](#)
- Hao, F., & Chon, K. (2022). Contactless service in hospitality: Bridging customer equity, experience, delight, satisfaction, and trust. *International Journal of Contemporary Hospitality Management*, 34(1), 113–134. [\[CrossRef\]](#)
- Harkison, T. (2025). Artificial intelligence (AI) in luxury hospitality: Balancing efficiency and human connection. *Hospitality Insights*, 9(1), 3–4. [\[CrossRef\]](#)
- Hassanein, F. (2026). Exploring organizational climate and psychological contract fulfillment through transactional leadership: The perspectives from Dubai luxury hotels. *Administrative Sciences*, 16(6), 274. [\[CrossRef\]](#)
- Hassanein, F., & Daouk, A. (2026). Moving against turnover intentions through transactional leadership, organizational climate, and psychological contract fulfillment: Evidence from the Middle Eastern hotel industry. *Administrative Sciences*, 16(2), 62. [\[CrossRef\]](#)
- Hassanein, F., Daouk, A., Bou Zakhem, N., ElSayed, R. A., Tahan, S., Houmani, H., & Al Dilby, H. K. (2025). An analysis of perceived organizational support and organizational climate on the supportive leadership–employee wellbeing linkage in the Lebanese academic sector. *Administrative Sciences*, 15(6), 204. [\[CrossRef\]](#)
- Hassanein, F., & Özgüt, H. (2022). Sustaining human resources through talent management strategies and employee engagement in the Middle East hotel industry. *Sustainability*, 14(22), 15365. [\[CrossRef\]](#)
- He, C., Teng, R., & Song, J. (2024). Linking employees' challenge-hindrance appraisals toward AI to service performance: The influences of job crafting, job insecurity and AI knowledge. *International Journal of Contemporary Hospitality Management*, 36(3), 975–994. [\[CrossRef\]](#)
- He, G., Liu, P., Zheng, X., Zheng, L., Hewlin, P. F., & Yuan, L. (2023). Being proactive in the age of AI: Exploring the effectiveness of leaders' AI symbolization in stimulating employee job crafting. *Management Decision*, 61(10), 2896–2919. [\[CrossRef\]](#)
- Hou, Y., & Fan, L. (2024). Working with AI: The effect of job stress on hotel employees' work engagement. *Behavioral Sciences*, 14(11), 1076. [\[CrossRef\]](#)
- Hu, Y., & Min, H. (2023). The dark side of artificial intelligence in service: The “watching-eye” effect and privacy concerns. *International Journal of Hospitality Management*, 110, 103437. [\[CrossRef\]](#)
- Kandampully, J., Zhang, T., & Bilgihan, A. (2018). Customer loyalty: A review and future directions with a special focus on the hospitality industry. *International Journal of Contemporary Hospitality Management*, 30(1), 144–165.
- Karatepe, O. M. (2013). High-performance work practices and hotel employee performance: The mediation of work engagement. *International Journal of Hospitality Management*, 32, 132–140. [\[CrossRef\]](#)
- Karatepe, O. M., Dahleez, K., Jaffal, T., & Aboramadan, M. (2023). Test of a sequential mediation model of green management innovation. *The Service Industries Journal*, 43(5–6), 312–335. [\[CrossRef\]](#)
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1–10. [\[CrossRef\]](#)
- Kumawat, E., Datta, A., Prentice, C., & Leung, R. (2024). Artificial intelligence through the lens of hospitality employees: A systematic review. *International Journal of Hospitality Management*, 124, 103986. [\[CrossRef\]](#)
- Li, J. J., Bonn, M. A., & Ye, B. H. (2019). Hotel employee's artificial intelligence and robotics awareness and its impact on turnover intention: The moderating roles of perceived organizational support and competitive psychological climate. *Tourism Management*, 73, 172–181. [\[CrossRef\]](#)
- Liden, R. C., Wayne, S. J., Zhao, H., & Henderson, D. (2008). Servant leadership: Development of a multidimensional measure and multi-level assessment. *The Leadership Quarterly*, 19(2), 161–177. [\[CrossRef\]](#)
- Liu, X., Yu, J., Guo, Q., & Li, J. (2022). Employee engagement, its antecedents and effects on business performance in hospitality industry: A multilevel analysis. *International Journal of Contemporary Hospitality Management*, 34(12), 4631–4652. [\[CrossRef\]](#)

- Makarius, E. E., Mukherjee, D., Fox, J. D., & Fox, A. K. (2020). Rising with the machines: A sociotechnical framework for bringing artificial intelligence into the organization. *Journal of Business Research*, 120, 262–273. [\[CrossRef\]](#)
- Piwowar-Sulej, K., Iqbal, Q., & Kallmuenzer, A. (2026). Addressing AI-related fears: The impact of technological social responsibility on employees' attitudes towards AI integration at work. *Review of Managerial Science*. Advance online publication. [\[CrossRef\]](#)
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. [\[CrossRef\]](#) [\[PubMed\]](#)
- PwC. (2018). *US\$320 billion by 2030? The potential impact of AI in the Middle East*. PricewaterhouseCoopers.
- Qiu, H., Li, M., Bai, B., Wang, N., & Li, Y. (2022). The impact of AI-enabled service attributes on service hospitableness: The role of employee physical and psychological workload. *International Journal of Contemporary Hospitality Management*, 34(4), 1374–1398. [\[CrossRef\]](#)
- Quan, J., Li, Y., Zhang, M., & Wu, Z. (2025). Gain or pain: The double-edged sword effect of artificial intelligence adoption on employee service performance. *Journal of Organizational Behavior*. Advance online publication. [\[CrossRef\]](#)
- Radić, A., Singh, S., Singh, N., Ariza-Montes, A., Calder, G., & Han, H. (2024). The good shepherd: Linking artificial intelligence (AI)-driven servant leadership (SEL) and job demands-resources (JD-R) theory in tourism and hospitality. *Journal of Hospitality and Tourism Insights*, 8(4), 1494–1521. [\[CrossRef\]](#)
- Reif, J. A., Larrick, R. P., & Soll, J. B. (2025). Evidence of a social evaluation penalty for using AI. *Proceedings of the National Academy of Sciences of the United States of America*, 122(19), e2426766122. [\[CrossRef\]](#)
- Rožman, M., Oreški, D., & Tominc, P. (2022). Integrating artificial intelligence into a talent management model to increase the work engagement and performance of enterprises. *Frontiers in Psychology*, 13, 1014434. [\[CrossRef\]](#)
- Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing*, 39(5), 1035–1064. [\[CrossRef\]](#)
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A confirmative analytic approach. *Journal of Happiness Studies*, 3(1), 71–92. [\[CrossRef\]](#)
- Shneiderman, B. (2020). Human-centered artificial intelligence: Reliable, safe & trustworthy. *International Journal of Human–Computer Interaction*, 36(6), 495–504. [\[CrossRef\]](#)
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and micro foundations of (sustained) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. [\[CrossRef\]](#)
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49. [\[CrossRef\]](#)
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [\[CrossRef\]](#)
- UAE Cabinet. (2019, April 21). *UAE Cabinet adopts national artificial intelligence strategy 2031*. UAE Cabinet.
- Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, 34(1), 89–126. [\[CrossRef\]](#)
- Wang, C.-J., & Tseng, K.-J. (2019). Effects of selected positive resources on hospitality service quality: The mediating role of work engagement. *Sustainability*, 11(8), 2320. [\[CrossRef\]](#)
- Wang, H.-Y., Liu, R.-H., & Ao, L. (2025). Transformational leadership and employee AI usage: The role of perceived organizational support and competitive workplace climate. *Frontiers in Psychology*, 16, 1581337. [\[CrossRef\]](#)
- Zhao, G., Kumar, N., Wang, C., & Liu, Z. (2026). Bridging the AI gap: How AI-oriented leadership empowers non-technical employees in AI-based innovation engagement. *Leadership & Organization Development Journal*, 47(3), 498–514. [\[CrossRef\]](#)

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