

The Role of AI in Transforming the Employee Experience

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Purpose:

The increasing integration of artificial intelligence (AI) into the hospitality industry is transforming employee-technology interactions and reshaping workplace experiences. This study aims to examine employee experience in AI-integrated work environments within the hotel sector. The study adopts the conceptualization of employee experience proposed by Yang and Zhang (2025) and further investigates how employees' perceptions of competence, autonomy, and relatedness influence their overall workplace experience in AI-integrated hospitality settings.

Design/Methodology/Approach:

This study employs a quantitative, cross-sectional methodology. Grounded in Self-Determination Theory, data were collected from 164 Indian hospitality professionals using a structured survey. The conceptual model was empirically validated, and structural relationships were tested utilizing multiple regression.

Findings:

The study shows that AI boosts employee experience in Indian hospitality by positively affecting competence, autonomy, and relatedness. AI is seen as empowering, improving autonomy and relationships, and fostering a more efficient and connected work environment.

Originality/Value:

The research adds to the growing body of work on AI and employee experience by presenting a structured framework that links AI integration to employees' perceptions of their experience. Also, this research contributes to the existing body of knowledge by offering a novel SDT-based framework that captures the psychological mechanisms underlying AI-enabled employee experience, particularly within the hospitality sector, where human interaction remains central to service delivery

Keywords: *Artificial intelligence, AI-integration workplace, hospitality, Employee experience, self-determination theory.*

1. Introduction

AI powers everything these days, drastically altering our way of life. The widespread application of AI in businesses and enterprises is helping them to reduce costs, increase productivity, streamline processes, and improve efficiency. Brynjolfsson and McAfee (2016) refer to the emergence of AI in the workplace as the second machine era. In addition to changing business fundamentals, this AI boom is also altering employee dynamics globally, affecting tasks, jobs, and the efficacy of entire organisations (McKinsey & Company, September 2018; Wamba-Taguimdje et al., 2020). AI in business encompasses a range of applications, including digital twins, facial recognition, and process automation. Numerous organisations that adopt AI applications expect substantial advantages in terms of augmented

income, reduced costs, and enhanced operational efficiency (Bakir et al., 2025; Bhupender et al., 2024; El Hajal & Yeoman, 2024; Kelly et al., 2023; Limna, 2023; N. Yadav et al., 2024).

Artificial intelligence has become essential for firms that want to capitalise on their data-driven culture. Despite AI's potential and ongoing investments, many projects fail. While recent advancements such as Mid-Journey and Stable Diffusion show progress, many impressive demonstrations don't translate into practical, value-adding solutions (Makarius et al., 2020).

Common human adoption issues, such as a lack of technical know-how, resistance to organisational change, and worries about possible job loss, Lack of technical expertise, Data Availability and Quality, and Cost, may be obstacles to the broad integration

of AI (Burgess & Connell, 2020; Ramos, 2023.) On the other hand, implementing AI solutions may require more work than initially anticipated, necessitating time to address a variety of problems effectively. (Deloitte, 2020; Forbes, 2023).

Moreover, the workforce has experienced significant transformations in recent years, driven mainly by the rapid increase in digitisation and the broad integration of AI-related technologies. As a result, employees today have higher expectations and are seeking easy-to-use, well-designed applications that simplify their tasks. They also want these applications to create a stronger sense of involvement in the workplace. Consequently, this provides a favourable occasion to reassess and enhance the employee experience. (Attaran et al., 2019; Murugesan et al., 2023; Zel & Kongar, 2020) In recent years, employee experience (EX) has gained significant importance on the Human Resources (HR) agenda. This is because organisations that prioritise great employee experiences experience substantial growth and achieve higher profit margins, as reported by Forbes (2023) (Itam & Ghosh, 2020; M. Yadav & Vihari, 2021)

The phrase employee experience encompasses various dimensions, including employees' perceptions and reactions to the organisation's culture and internal processes, as well as their sense of significance in their work. Enhanced employee engagement stems from a favourable work environment, and devoted and engaged personnel enhance the client contacts and experiences (Plaskoff, 2017; Morgan, 2018). Creating a thorough employee experience entails combining human engagement with technology interfaces. Technology is crucial in facilitating the digital transformation of user interactions. Currently, clients enjoy customised suggestions and fast delivery tailored to their interests, making their lives more efficient in a complicated world. Similarly, employees expect customised, employee-focused experiences in their workplaces, mirroring the digital functionalities customers like (Ersoy & Ehtiyar, 2023; Vendramin et al., 2021; Zahidi et al., 2024).

The mere provision of appropriate technologies to employees does not guarantee great satisfaction. The

vital aspect is to incorporate technology into key interaction points throughout an employee's journey, from recruitment through continuous learning, and concluding when they depart the organisation. Prioritising a comprehensive employee life cycle that integrates appropriate digital tactics is essential (Attaran et al., 2019; Zel & Kongar, 2020). Although there is increasing attention on the successful implementation of AI in HR, there remains a lack of research on how AI affects the employee experience (Mohsen Attaran et al., 2019; Serap Zel, Elif Konger et al., 2020). There is a lacuna in the literature on how AI affects employee experience. (Bakir et al., 2025; Kumawat et al., 2025; Malik et al., 2023a, 2023; Nguyen & Malik, 2022)

To overcome the challenges associated with human acceptance of artificial intelligence (AI) and with change management, it is increasingly important to leverage AI and other modern technologies to enhance the employee experience (EX) of HR procedures.

Therefore, to address this critical gap in the literature, this study aims to investigate the impact of AI on employee experience (EX). While prior research has predominantly emphasized the operational and financial efficiencies gained through AI, this paper shifts the focus toward the employee-centric outcomes of digital transformation. The primary objective is to investigate how the adoption of AI affects employee perceptions, engagement, and interactions within the hospitality industry.

To guide this empirical investigation, the study proposes the following research questions:

Central RQ: How does AI integration in the hospitality sector affect employees' experience?

RQ 1 How does AI influence employees' perception of competence?

RQ 2 How does AI influence employees' perception of Autonomy?

RQ3 How does AI influence employees' perception of relatedness?

2. Search Strategy

2.1. Comprehensive review

A thorough examination of the existing literature was conducted using specific keywords and search queries. To ensure comprehensiveness and minimise bias, this study examines academic research and the practical implementation of artificial intelligence technology in the hospitality industry. To attain this, A thorough review was carried out that included unpublished studies, conference proceedings, media, trade journals, book chapters, and peer-reviewed journal articles. The review drew on two databases: ScienceDirect and Scopus. The articles considered in this study are written in English and have been published after 2010.

Keywords used in the paper search: *Artificial Intelligence, AI, Employee experience, robots, employees, Automation, human-AI collaboration, Hotel, Tourism, Hospitality, technology, SDT, Self-determination theory.*

2.2. Inclusion and exclusion criteria.

The current study examines the current status of AI device applications and research in the hospitality sector. Therefore, the publications reviewed in this study focus on articles that (1) mainly discuss AI technology, (2) are in the context of services, (3) investigate the use or adoption of AI technology, and (4) discuss employees' experiences. Articles not meeting one of these criteria were excluded from this review.

Publications failing to meet any of these four criteria were excluded, resulting in a final repository of 59 pertinent articles.

3. Literature Review

3.1. AI in the Hospitality Industry

Across several industries, including the hotel industry, artificial intelligence (AI) technology has become increasingly prevalent (Samala et al., 2022; N. Malik et al., 2022). The use of AI in the hospitality and tourism sectors has grown exponentially. With an annual growth rate of 6.5%, approximately 12% of travel and tourism-related firms, including those in hospitality and entertainment, have fully adopted AI (McKinsey Global Institute, 2017). Looking to the future of the

hospitality industry as a whole, there is no doubt that AI will play a leading role in transforming work processes (Chi et al., 2020; Guo et al., 2023). As AI technology enables employees to collaborate more easily, quickly, and accurately, the industry can raise its service levels to meet customer demands without a significant rise in additional manpower or resources. Literature shows that many organizations focus on harnessing AI for transformative results, employee empowerment, and societal opportunities, rather than just adopting and automating processes (Deloitte, 2024; Parvez et al., 2022; Zahidi et al., 2024; Cain et al., 2019). However, a notable gap remains in the literature, with very few studies exploring the impact of AI on employee experience. A deeper understanding of AI's effect on employees is essential (Gursoy & Cai, 2024; Kumawat et al., 2025; A. Malik et al., 2023), along with its antecedents in employee engagement, retention, and productivity levels, is of significant interest to the hospitality and tourism research community due to their potential implications for service quality and customer satisfaction (Ivanov & Webster, 2017; Cain et al., 2019). Further research is needed in this field, especially on employees' experiences in hospitality service operations, to improve efficiency and productivity. It is crucial to identify factors that enhance employee experience and encourage continuous use (Kumawat et al., 2025). Since employees interact with these technologies, their concerns and experiences are particularly important (A. Huang et al., 2022; Kong et al., 2021).

3.2. AI and Employee Experience

The growing digitalization of workplaces has significantly transformed the dimensions of employee experience. With the increasing integration of advanced technologies, particularly artificial intelligence (AI), organizations are redefining how employees interact with organizational systems and perform their work tasks (Marković et al., 2020). Creating an end-to-end EX environment now requires integrating human interaction and technological systems, making employee experience a central element of digital transformation initiatives. When combined with human intelligence, AI technologies are increasingly used to enhance employee experiences by supporting decision-making processes, automating

repetitive tasks, and improving workplace efficiency (Zel & Kongar, 2020).

Recent research highlights that technological advancements significantly reshape employees' daily work experiences by providing new tools and solutions that enhance operational efficiency and decision-making capabilities (Ersoy & Ehtiyar, 2023; Vendramin et al., 2021; Zahidi et al., 2024). As organizations move toward more technology-driven work environments, employees' expectations and needs are also evolving, requiring organizations to reconsider traditional approaches to employee experience management (IBM, 2021). However, despite the increasing importance of digital technologies in shaping workplace experiences, empirical research examining the specific role of AI in influencing employee experience remains relatively limited (Murugesan et al., 2023; Bakir et al., 2025; Kumawat et al., 2025).

From a theoretical perspective, employee experience can also be understood through the lens of Self-Determination Theory (SDT), which emphasizes the importance of fulfilling employees' basic psychological needs, competence, autonomy, and relatedness in shaping motivation and well-being. When organizational environments support these needs, employees are more likely to experience positive workplace perceptions, higher engagement, and stronger organizational commitment. Accordingly, employee experience can be viewed as employees' subjective perception of how effectively the workplace environment satisfies these fundamental psychological needs throughout their interactions with the organization.

3.3. Theoretical Underpinning

To systematically examine how AI integration reshapes the employee experience in the hospitality sector, this study is anchored in Self-Determination Theory (SDT), which provides a comprehensive framework for understanding employees' intrinsic motivation and psychological well-being (Deci & Ryan, 1985; Ryan & Deci, 2017). SDT posits that human motivation and optimal functioning are driven by the fulfilment of three fundamental psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2000).

In the context of AI-enabled hotel operations, SDT offers a deeper, more human-centric lens than purely technology-focused models. AI systems, such as intelligent booking platforms, chatbots, and service robots, do not merely alter task execution; they fundamentally reshape how employees perceive control over their work (autonomy), their ability to perform tasks effectively (competence), and their social connections within the workplace (relatedness). When AI tools are implemented to empower employees to make decisions, enhance their skills, and support meaningful interactions, they can foster intrinsic motivation and positively influence the employee experience. Conversely, poorly designed AI integration may lead to reduced autonomy, skill redundancy, and social disconnection, thereby diminishing overall well-being (Ryan & Deci, 2017).

Drawing from recent conceptualizations of employee experience, which emphasize the satisfaction of employees' intrinsic needs as central to workplace outcomes, SDT enables this study to move beyond surface-level interactions and to capture the deeper psychological implications of AI adoption (Yang & Zhang, 2025). Unlike traditional perspectives that view employee experience as a response to external organizational stimuli, SDT highlights employees as active agents whose perceptions, motivations, and needs shape their overall work experience (Deci & Ryan, 2000).

Thus, this study adopts SDT to complement and extend existing technology-centric frameworks by integrating both operational and psychological dimensions of AI use. While AI may enhance efficiency and service delivery, its true impact on employee experience depends on the extent to which it supports or undermines employees' basic psychological needs. This theoretical grounding allows for a more holistic understanding of employee experience in AI-augmented hospitality environments, where technological advancement must coexist with human-centric workplace design.

4.0. Hypotheses Development and Conceptual Model

Building upon the established literature and the theoretical foundations of SDT, this study proposes a focused conceptual model to test the direct impact

of Artificial Intelligence (AI) integration on the overall employee experience. In this framework, AI Integration serves as the primary predictor (Independent Variable), while Employee Experience

(Dependent Variable) is measured through three distinct dimensions of SDT: Competence, Autonomy, and Relatedness (Figure:1).

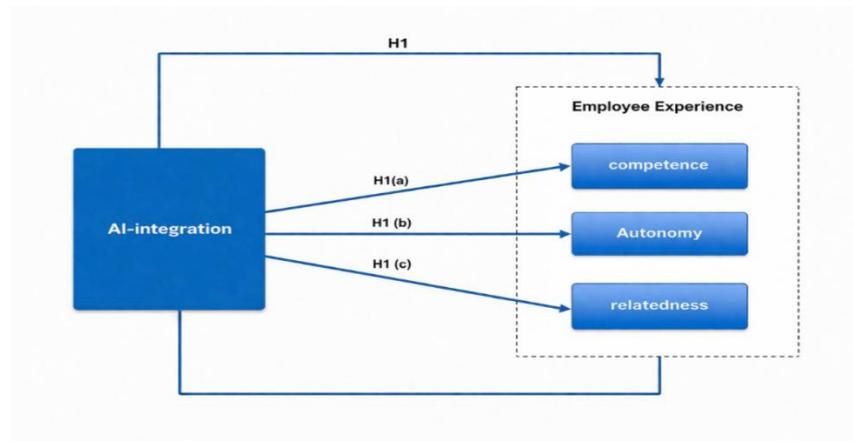


Figure:1

4.1 AI Integration and Competence

The integration of AI into hospitality operations extends beyond efficiency gains and plays a crucial role in shaping employees' perceived competence. Grounded in Self-Determination Theory (SDT), competence refers to an individual's need to feel effective, capable, and skilled in performing work-related tasks (Deci & Ryan, 2000). When employees successfully incorporate AI tools into their workflows, routine and repetitive tasks are streamlined, allowing them to focus on more complex and value-added activities (Pillai et al., 2021). This shift enables employees to apply their skills more effectively and develop new capabilities, thereby enhancing their sense of mastery and professional confidence (Ivanov & Webster, 2017).

Furthermore, AI-driven systems that provide real-time insights and decision support can reinforce employees' problem-solving abilities, thereby strengthening their perceived competence. As employees become more proficient in leveraging these technologies, their confidence in handling job demands increases, positively influencing their overall work experience. Therefore, we hypothesize that effective AI integration will strengthen employees' perceived competence in the workplace.

H1(a): AI integration is positively associated with employees' perceived competence.

4.2 AI Integration and Autonomy

Another critical dimension influenced by AI integration is autonomy, which refers to the degree of control and discretion employees experience in their work (Ryan & Deci, 2017). In hospitality settings, AI systems can enhance autonomy by reducing dependency on rigid procedures and enabling employees to make faster, data-informed decisions. By automating routine processes and providing actionable insights, AI gives employees greater flexibility to manage their tasks and respond to dynamic service situations (Parvez et al., 2024; Romero & Lado, 2021).

This increased flexibility can foster a sense of ownership and independence, as employees are better equipped to exercise judgment and tailor their actions to meet guest needs (Kabadayi et al., 2019; Tuomi et al., 2021). However, the extent to which autonomy is enhanced depends on how AI systems are implemented; overly prescriptive or restrictive systems may limit decision-making freedom. When designed to support rather than control employees, AI integration is expected to strengthen their perceived autonomy and improve their work experience.

H1(b): AI integration is positively associated with employees' perceived autonomy.

4.3. *AI Integration and Relatedness*

AI integration also has implications for relatedness, which reflects employees' need to feel connected and maintain meaningful relationships within the workplace (Deci & Ryan, 2000). In traditionally human-centric industries such as hospitality, interpersonal interactions play a vital role in shaping employee experience. While AI systems may reduce certain face-to-face interactions by automating service processes, they can also facilitate collaboration by improving communication efficiency and information sharing among employees.

For instance, AI-enabled platforms can support cross-departmental coordination, enable smoother teamwork, and enhance collective service delivery (Simon et al., 2020). When AI is used as a supportive tool rather than a replacement for human interaction, it can create opportunities for more meaningful engagement by allowing employees to focus on relationship-building aspects of their roles (Raisch & Krakowski, 2021; Huang & Rust, 2021). Consequently, effective AI integration is expected to positively influence employees' sense of relatedness within the organization.

H1(c): AI integration is positively associated with employees' perceived relatedness.

5. Methodology:

5.1 *Sampling and Data Collection*

This study was conducted in the hospitality sector, focusing on hotels operating in AI-integrated environments.

A stratified random sampling technique was adopted to obtain a representative sample of employees from participating hotels. Employees were stratified based on (a) department and (b) job position, as these categories reflect meaningful differences in work roles, levels of interaction with AI systems, and contribution to service processes. The departmental strata included key service units such as Front Office, Food and Beverage, Housekeeping, Marketing, HR, and Guest Relations, while job position stratification distinguished between line-level employees and supervisory staff.

Following stratification, proportional allocation was used to determine the number of respondents required from each stratum based on its relative size within the hotel workforce. Subsequently, random selection was carried out within each stratum using random number generation, ensuring that all eligible employees had an equal probability of participation. Data were collected using a structured questionnaire administered through an online survey. A total of 167 valid responses were obtained and included in the analysis after screening for completeness and consistency. The sampling procedure ensured balanced representation across operational roles, thereby enhancing the validity and generalisability of the findings.

Participation in the study was voluntary, and respondents were assured of confidentiality and anonymity to reduce response bias.

5.2 *Survey Design and Measures*

The study employed a cross-sectional survey design using a structured questionnaire. All constructs were measured using a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This scale was selected to capture respondents' perceptions effectively while maintaining reliability and ease of response.

The questionnaire was developed based on existing literature and adapted to suit the context of AI-integrated workplaces in the hospitality industry. It comprised items measuring employee experience (Appendix 1).

5.2.1 *AI-Integrated Workplace (independent variable)*

The independent variable in this study is the AI-integrated workplace, defined as the extent to which artificial intelligence (AI) technologies are embedded within organizational processes and service operations in hotels. Drawing on prior conceptualizations of AI in service contexts (e.g., Ming-Hui Huang & Roland T. Rust), AI integration refers to AI-enabled systems that support task execution, data-driven decision-making, and service delivery.

In contrast to studies that operationalize AI as a multidimensional construct, the present research treats AI integration as an organizational-level

contextual condition. Accordingly, no psychometric scale was developed or adopted for its measurement. Instead, respondents were drawn exclusively from workplaces where AI technologies were already implemented across operational or service functions.

This approach is methodologically appropriate for two reasons. First, the objective of the study is not to measure variations in AI sophistication, but to examine its impact as an existing workplace condition on employee experience. Second, treating AI integration as an exogenous contextual variable reduces the risk of common method bias that may arise when both predictor and outcome variables are self-reported within the same instrument.

Thus, AI integration is operationalized as the presence of AI within the work environment, indicating that employees perform their roles in AI-enabled settings. This contextualization allows for a clearer assessment of its influence on employees' perceived competence, autonomy, and relatedness.

5.2.2 Employee Experience (dependent variable)

Employee experience was conceptualized within the framework of Self-Determination Theory, which posits that the fulfilment of three basic psychological needs, competence, autonomy, and relatedness, enhances individuals' motivation and well-being. In an AI-integrated workplace, these dimensions capture employees' psychological responses to their work environment.

Employee experience was operationalized as a multidimensional construct comprising:

Competence – the extent to which employees feel effective and capable in performing their job tasks.

Autonomy – the degree of perceived control and discretion employees have over their work activities.

Relatedness – the sense of connection and belongingness employees experience within the workplace.

Measurement items were adapted from validated scales grounded in SDT (e.g., ACTA framework) to ensure construct validity. Respondents rated their agreement with statements reflecting their workplace experiences.

Sample items include:

Competence: AI helps me make informed decisions in my daily tasks.

Autonomy: Using AI systems at work gives me a sense of accomplishment when I complete my tasks.

Relatedness: AI systems at my workplace facilitate smoother communication among employees.

These three dimensions were analyzed as outcome variables to assess the impact of AI integration on the overall employee experience, consistent with hypotheses H1a, H1b, and H1c.

5.3 Data Analysis Method

The data were analyzed using SPSS software. The analysis was conducted in multiple stages.

First, descriptive statistics were computed to summarize the sample and study variables, including means and standard deviations.

Second, reliability analysis was conducted using Cronbach's alpha to assess the internal consistency of the measurement scales. A threshold value of 0.70 was considered acceptable.

Third, correlation analysis was performed to examine the relationships between the AI-integrated workplace and employee experience dimensions.

Finally, multiple regression analysis was employed to test the hypothesized relationships. Separate regression models were estimated for each dependent variable:

AI-integrated workplace → Competence (H1)

AI-integrated workplace → Autonomy (H2)

AI-integrated workplace → Relatedness (H3)

This approach enabled the assessment of the direct influence of AI-integrated workplaces on different dimensions of employee experience.

5.4 Controlling for Bias

Several procedural measures were adopted to minimize potential biases. Respondents were assured of anonymity and confidentiality to reduce social desirability bias. The questionnaire items were structured clearly and organized into different sections to reduce common method bias.



The use of stratified random sampling further reduced selection bias and ensured the sample's representativeness. Additionally, incomplete and inconsistent responses were excluded during data screening to enhance data quality.

6. Results

6.1. Data Screening and Common Method Bias

Prior to hypothesis testing, the raw dataset was screened for missing values, unengaged responses, and outliers. The final usable sample consisted of N = 164 hospitality professionals. Given that the data for both the independent and dependent variables were collected cross-sectionally from a single source via self-report measures, procedural remedies were employed to mitigate Common Method Bias (CMB) (Podsakoff et al., 2003). These included ensuring respondent anonymity and separating the measurement of the predictor and criterion variables within the survey instrument.

6.2. Sample Characteristics

The demographic profile of the sample (N = 164) reflects a diverse cross-section of the operational hospitality workforce. The sample was predominantly male (84.6%), with females comprising 13.6%. The age distribution indicated a moderately young workforce, heavily concentrated in the 25 to 35 years category (62.8%), followed by those under 25 years (21.3%), and those aged 36 to 45 years (15.9%). In terms of educational attainment,

the majority possessed a university degree (59.1% graduation; 6.7% post-graduate), with 31.1% holding intermediate education. To ensure cross-departmental validity, respondents were drawn from multiple core hotel operations, primarily Kitchen/Culinary (21.5%), Food & Beverage (19.6%), Housekeeping (16.6%), Sales & Marketing (12.3%), Management/Administration (10.4%), and Front Office (9.8%).

6.3. Descriptive Statistics, Reliability, and Correlations

Table 1 presents the descriptive statistics (Means and Standard Deviations) and zero-order Pearson correlations for all focal variables. The mean scores for AI Integration (M = 3.75, SD = 0.66) and the three psychological needs -Competence (M = 3.90, SD = 0.75), Autonomy (M = 3.87, SD = 0.74), and Relatedness (M = 3.86, SD = 0.81) were all moderately high, indicating a generally positive reception of AI tools among the sampled hospitality professionals. An examination of the correlation matrix provides preliminary support for the study's theoretical propositions. AI Integration was significantly and positively correlated with competence (r = .76, p < .001), Autonomy (r = .74, p < .005), and Relatedness (r = .73, p < .001). Furthermore, all inter-construct correlations remained below the strict .85 threshold, indicating the absence of severe multicollinearity and confirming adequate discriminant validity among the constructs.

Table 1. Descriptive Statistics and Intercorrelations

Variables	M	SD	AI Integration	Competence	Autonomy	Relatedness
AI Integration	3.75	0.66	1.00			
2Competence	3.90	0.75	.76***	1.00		
Autonomy	3.87	0.74	.74***	.83***	1.00	
4Relatedness	3.86	0.81	.73***	.82***	.76***	1.00

N = 164. All variables were measured on a 5-point Likert scale. M = Mean; SD = Standard Deviation. *** < .001

6.4. Measurement Model: Reliability and Convergent Validity

Prior to structural hypothesis testing, the measurement instrument was evaluated for internal consistency and convergent validity. Following contemporary psychometric standards (Hair et al., 2019), both Cronbach's alpha (α) and Composite Reliability (CR) were calculated.

As detailed in Table 2, all constructs demonstrated excellent internal consistency. The Cronbach's alpha and CR values for all latent variables vastly exceeded the recommended threshold of 0.70, ranging from 0.86 to 0.94. Furthermore, convergent validity was firmly established, as the Average Variance Extracted (AVE) for all constructs exceeded the strict 0.50 benchmark. This confirms that a substantial majority of the variance in the

observed items is directly explained by their respective underlying latent constructs, proving the survey instrument is highly reliable.

Table 2. Measurement Model Reliability and Validity

Table 2 Measurement Model Reliability and Validity				
Construct	Number of Items	Cronbach's Alpha (α)	Composite Reliability (CR)	Average Variance Extracted (AVE)
AI Integration	12	0.93	0.94	0.58
Competence	3	0.89	0.93	0.82
Autonomy	3	0.86	0.91	0.78
Relatedness	3	0.89	0.93	0.82

Acceptable thresholds: $\alpha > 0.70$, CR > 0.70, AVE > 0.50.

6.5. Structural Model and Hypothesis Testing

To empirically test the theoretical propositions grounded in Self-Determination Theory, three separate simple linear regression analyses were executed. AI Integration was entered as the sole

predictor against each of the three psychological needs comprising the multidimensional Employee Experience: Competence, Autonomy, and Relatedness. The comprehensive results of the sub-hypothesis testing are summarized in Table 3.

Table 3. Summary of OLS Regression Analyses Predicting Employee Experience Dimensions

Hypothesis & Path	R ²	F	df	B	SE	p-value	Decision
H1a: AI Int. Competence	.583	226.74***	1, 162	0.87	0.06	< .001	Supported
H1b: AI Int. Autonomy	.551	199.16***	1, 162	0.83	0.06	< .001	Supported
H1c: AI Int. Relatedness	.545	193.77***	1, 162	0.91	0.07	< .001	Supported

6.5.1. AI Integration and Competence (H1a)

Hypothesis 1a posited that higher levels of AI integration would positively influence employees' perceived competence by streamlining routine tasks. The regression model yielded a highly significant fit ($F(1, 162) = 226.74, p < .001$), explaining a substantial 58.3% of the variance in perceived competence ($R^2 = .583$). The unstandardized regression coefficient confirmed a robust, significant positive main effect of AI integration on competence ($B = 0.87, p < .001$).

Thus, Hypothesis 1a is fully supported, providing empirical evidence that AI tools significantly enhance operational capability.

6.5.2. AI Integration and Autonomy (H1b)

Hypothesis 1b posited that AI integration is positively associated with employees' perceived autonomy. It was theorized that by utilizing AI as an operational co-pilot, employees would experience greater discretionary control over their tasks. The regression model was highly statistically significant ($F(1, 162) = 199.16, p < .001$) and accounted for 55.1% of the variance in autonomy ($R^2 = .551$). The unstandardized coefficient revealed a strong, statistically significant positive effect ($B = 0.83, p < .001$). Therefore, Hypothesis 1b is fully supported, confirming that employees perceive AI tools as empowering mechanisms that augment their operational independence.

6.5.3. AI Integration and Relatedness (H1c)

Hypothesis 1c predicted that AI integration is positively associated with employees' perceived

relatedness, proposing those automated systems free up time for meaningful interpersonal engagement. The regression model was highly significant ($F(1, 162) = 193.77, p < .001$), explaining 54.5% of the variance in relatedness ($R^2 = .545$). The empirical data confirmed a highly significant positive influence on workplace relatedness ($B = 0.91, p < .001$). Thus, Hypothesis 1c is fully supported. The data conclusively indicates that AI integration facilitates, rather than degrades, social connectivity and peer collaboration.

6.5.4. Conclusion on the Primary Hypothesis (H1)

Because AI Integration was found to exert a highly significant and robust positive impact across all three underlying dimensions of the employee experience (Competence, Autonomy, and Relatedness), the overarching primary hypothesis (H1) is **strongly supported**. The integration of AI-driven applications fundamentally and positively alters the holistic psychological experience of hospitality professionals.

7. Discussion and Conclusion

7.1. Discussion of Key Findings

The primary objective of this study was to empirically investigate how the integration of Artificial Intelligence reshapes the multidimensional employee experience within the Indian hospitality sector. Anchored in Self-Determination Theory (Deci & Ryan, 2000), the conceptual model tested the positive impact of AI integration on three fundamental psychological needs: competence, autonomy, and relatedness. The empirical findings derived from 164 hospitality professionals provided overwhelming support for all proposed hypotheses, presenting a highly optimistic narrative regarding human-AI interaction in service environments.

Consistent with the initial theoretical proposition (H1a), the data strongly supported the positive impact of AI integration on employee competence. As hotels deploy AI-driven property management systems and predictive analytics, the operational friction of repetitive tasks is significantly reduced. This aligns perfectly with recent literature suggesting that AI augments human capability by absorbing low-complexity analytical tasks, allowing

employees to reallocate cognitive resources toward high-value service recoveries (Huang et al., 2021; Wamba-Taguimdje et al., 2020).

Crucially, the data also fully supported the predictions regarding autonomy (H1b) and relatedness (H1c). While some critical literature warns that algorithmic management functions as a digital dictator, stripping employees of control and isolating them (Kellogg et al., 2020), this study's findings validate a modern, augmentation-focused perspective. Regarding autonomy, hospitality employees perceive AI as a collaborative co-pilot. By automating time-consuming administrative duties, AI provides employees with *more* discretionary time and better data to make independent, informed decisions. This confirms the concept of human-AI augmentation, where technology enhances rather than replaces human agency (Raisch & Krakowski, 2021).

Similarly, regarding relatedness, the data confirmed that integrating AI directly facilitates workplace connection. Because AI efficiently handles backend operational silos, frontline and backend staff are freed from their screens. Consequently, they possess greater capacity and time to engage in organic, meaningful interactions with their peers and guests. This confirms that, when deployed effectively, AI does not inherently degrade human connection; rather, it serves as a structural facilitator that deepens a sense of workplace belonging and team cohesion.

7.2. Theoretical Implications

This research offers significant contributions to the theoretical discourse surrounding workplace digitalization. First, it advances Self-Determination Theory within the context of Human-Computer Interaction (HCI). While SDT has been widely utilized to study human motivation (Deci & Ryan, 2000), this study provides empirical evidence that AI is not inherently detrimental to the fulfillment of basic psychological needs. Instead, when deployed in service-oriented environments, AI acts as an environmental catalyst that simultaneously fulfills the needs for competence, autonomy, and relatedness, thereby elevating the holistic employee experience.

7.3. Practical and Managerial Implications

For hotel administrators, human resource professionals, and technology vendors, these findings offer actionable operational strategies. The data explicitly dispels the pervasive fear that AI implementation will inherently trigger employee resistance, driven by concerns about isolation or loss of control.

Positioning AI as a Collaborative Tool: Management should reframe the internal narrative surrounding digital transformation. Rather than introducing AI solely as a cost-cutting or efficiency mechanism, it should be marketed to staff as an empowering tool designed to eliminate drudgery. Highlighting how AI grants employees more time to focus on creative, guest-facing interactions will accelerate technology acceptance.

Redesigning Job Roles: Because AI enhances competence and frees up discretionary time, HR departments must redesign traditional job descriptions. Hospitality employees should be cross-trained in emotional intelligence and complex conflict resolution, capitalizing on the human-centric skills that AI cannot replicate (Wirtz et al., 2018).

Fostering a Culture of Augmented Teamwork: Since AI has been found to increase relatedness, managers should use AI-driven communication platforms not just for task delegation but also to foster team support, recognize employee achievements, and facilitate smoother interdepartmental workflows.

7.4. Limitations and Directions for Future Research

While this study yields robust and highly significant empirical insights, certain methodological limitations must be acknowledged. First, the cross-sectional design captures a snapshot of the employee experience at a single point in time. Because AI technology evolves rapidly, future research should employ longitudinal designs to assess whether this positive reception of AI persists or if "technostress" and fatigue emerge over prolonged exposure (Salo et al., 2019).

Second, the sample size ($N = 164$), while statistically well-powered for the regression models used, is geographically confined to the Indian hospitality

sector. Cultural dimensions, such as power distance and collectivism, may influence employees' perceptions of technology and teamwork. Future scholars are encouraged to replicate this conceptual framework with cross-cultural samples to determine whether the positive impacts of AI on autonomy and relatedness hold true in Western and other organizational contexts.

7.5. Conclusion

As the hospitality industry navigates the complexities of the second machine age, understanding the human-centric outcomes of digital transformation is paramount. This study successfully challenged the prevailing narrative that Artificial Intelligence acts as a dehumanizing force in the workplace. By empirically testing the impact of AI through the lens of Self-Determination Theory, this research concludes that AI serves as a powerful catalyst for a superior employee experience. When integrated effectively, AI-driven applications do not strip workers of their humanity; rather, they automate the mundane, augment professional competence, restore operational autonomy, and ultimately afford employees the time and freedom to forge deeper, more meaningful human connections in the workplace.

References:

1. Attaran, M., Attaran, S., & Kirkland, D. (2019). The need for digital workplace: Increasing workforce productivity in the information age. *International Journal of Enterprise Information Systems*, 15(1), 1–23. <https://doi.org/10.4018/IJEIS.2019010101>
2. Bakir, S., Dogru, T., Bilgihan, A., & Ayoun, B. (2025). AI awareness and employee-related outcomes: a systematic review of the hospitality literature and a framework for future research. *International Journal of Hospitality Management*, 124, 103973.
3. Bakir, S., Dogru, T., Bilgihan, A., & Ayoun, B. (2025). AI awareness and employee-related outcomes: A systematic review of the hospitality literature and a framework for future research. *International Journal of Hospitality Management*, 124. <https://doi.org/10.1016/j.ijhm.2024.103973>
4. Batat, W. (2022). The employee experience (EMX) framework for well-being: an agenda for the future. *Employee Relations*, 44(5), 993–

1013. <https://doi.org/10.1108/ER-03-2022-0133>
5. Bersin, et al. (2017). The organization of the future: Arriving now, 2017 Global Human Capital Trends
 6. Bhupender, Mr., Sapna, Ms., & Hitesh, Mr. (2024). harnessing technology and artificial intelligence for enhancing guest experiences in the hospitality and tourism industry. In *Futuristic Trends in Management Volume 3 Book 10* (pp. 72–84). Iterative International Publisher, Selfypage Developers Pvt Ltd. <https://doi.org/10.58532/v3bhma10p1ch4>
 7. Burgess, J., & Connell, J. (2020). New technology and work: Exploring the challenges. *Economic and Labour Relations Review*, 31(3), 310–323. <https://doi.org/10.1177/1035304620944296>
 8. Cain, L. N., Thomas, J. H., & Alonso, M. (2019). From sci-fi to sci-fact: the state of robotics and AI in the hospitality industry. In *Journal of Hospitality and Tourism Technology* (Vol. 10, Issue 4, pp. 624–650). Emerald Group Holdings Ltd. <https://doi.org/10.1108/JHTT-07-2018-0066>
 9. Cain, L. N., Thomas, J. H., & Alonso, M. (2019). From sci-fi to sci-fact: the state of robotics and AI in the hospitality industry. In *Journal of Hospitality and Tourism Technology* (Vol. 10, Issue 4, pp. 624–650). Emerald Group Holdings Ltd. <https://doi.org/10.1108/JHTT-07-2018-0066>
 10. Chi, O. H., Denton, G., & Gursoy, D. (2020). Artificially intelligent device use in service delivery: a systematic review, synthesis, and research agenda. *Journal of Hospitality Marketing and Management*, 29(7), 757–786. <https://doi.org/10.1080/19368623.2020.1721394>
 11. Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality*, 19(2), 109-134.
 12. Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual review of organizational psychology and organizational behavior*, 4, 19–43.
 13. El Hajal, G., & Yeoman, I. (2024). AI and the future of talent management in tourism and hospitality. *Current Issues in Tourism*. <https://doi.org/10.1080/13683500.2024.2439395>
 14. Ersoy, A., & Ehtiyar, R. (2023). The impact of artificial intelligence on hospitality employees' work outcomes. *Advances in Hospitality and Tourism Research (AHTR)*, 11(4), 505-526.
 15. Guo, q., zhu, d., lin, m. T. (brian), Li, F. (sam), Kim, P. B., Du, D., & Shu, Y. (2023). Hospitality employees' technology adoption at the workplace: evidence from a meta-analysis. *International Journal of Contemporary Hospitality Management*, 35(7), 2437–2464.
 16. Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers' acceptance of artificial intelligence (AI) device use in service delivery. *International Journal of Information Management*, 49, 157–169. <https://doi.org/10.1016/j.ijinfomgt.2019.03.008>
 17. Huang, A., Chao, Y., de la Mora Velasco, E., Bilgihan, A., & Wei, W. (2022). When artificial intelligence meets the hospitality and tourism industry: an assessment framework to inform theory and management. *Journal of hospitality and tourism insights*, 5(5), 1080–1100.
 18. Huang, M. H., & Rust, R. T. (2018). Artificial intelligence in service. *Journal of Service Research*, 21(2), 155–172. <https://doi.org/10.1177/1094670517752459>
 19. Huang, Y.-C., Chang, L. L., Yu, C.-P., & Chen, J. (2019). Examining an extended technology acceptance model with experience construct on hotel consumers' adoption of mobile applications. *Journal of Hospitality Marketing and Management*, 28(8), 957–980.
 20. Itam, U., & Ghosh, N. (2020). Employee experience management: A new paradigm shift in HR thinking. *International Journal of Human Capital and Information Technology Professionals*, 11(2), 39–49. <https://doi.org/10.4018/IJHCITP.2020040103>
 21. Ivanov, S., & Webster, C. (2017.). Adoption of robots, artificial intelligence, and service automation by travel, tourism, and hospitality companies: a cost-benefit analysis. Publications Inc.
 22. Ivanov, S., & Webster, C. (2019). Robots, artificial intelligence, and service automation in travel, tourism, and hospitality. In *Robots, Artificial Intelligence and Service Automation in Travel, Tourism and Hospitality*. Emerald Group Publishing Ltd. <https://doi.org/10.1108/9781787566873>
 23. Kabadayi, S., Ali, F., Choi, H., Joosten, H., & Lu, C. (2019). Smart service experience in hospitality and tourism services: a conceptualization and future research agenda. *Journal of Service Management*, 30(3), 326–348.



24. Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at work: The new contested terrain of control. *Academy of management annals*, 14(1), 366-410.
25. Kelly, P., Lawlor, J., & Mulvey, M. (2017). Customer Roles in Self-Service Technology Encounters in a Tourism Context. *Journal of Travel and Tourism Marketing*, 34(2), 222-238. <https://doi.org/10.1080/10548408.2016.1156612>
26. Kelly, S., Kaye, S. A., & Oviedo-Trespalacios, O. (2023). What factors contribute to the acceptance of artificial intelligence? A systematic review. *Telematics and Informatics*, 77. <https://doi.org/10.1016/j.tele.2022.101925>
27. Kong, h., yuan, y., baruch, y., bu, n., jiang, x., & wang, k. (2021). Influences of artificial intelligence (ai) awareness on career competency and job burnout. *International Journal of Contemporary Hospitality Management*, 33(2), 717-734.
28. Kumawat, E., Datta, A., Prentice, C., & Leung, R. (2025). Artificial intelligence through the lens of hospitality employees: A systematic review. *International Journal of Hospitality Management*, 124. <https://doi.org/10.1016/j.ijhm.2024.103986>
29. Limna, P. (2023). Artificial Intelligence (AI) in the Hospitality Industry: A Review Article. *International Journal of Computing Sciences Research*, 7, 1306-1317. <https://doi.org/10.25147/ijcsr.2017.001.1.103>
30. 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.
31. Malik, A., Budhwar, P., Mohan, H., & Srikanth, N. R. (2023a). Employee experience –the missing link for engaging employees: Insights from an MNE's AI-based HR ecosystem. *Human Resource Management*, 62(1), 97-115. <https://doi.org/10.1002/hrm.22133>
32. McAfee, A., & Brynjolfsson, E. (2016). Human work in the robotic future: Policy for the age of automation. *Foreign Affairs*, 95(4), 139-150.
33. Morgan, J. (2017). The employee experience advantage: How to win the war for talent by giving employees the workspaces they want, the tools they need, and a culture they can celebrate. John Wiley & Sons
34. Murugesan, U., Subramanian, P., Srivastava, S., & Dwivedi, A. (2023). A study of Artificial Intelligence impacts on Human Resource Digitalization in Industry 4.0. *Decision Analytics Journal*, 7. <https://doi.org/10.1016/j.dajour.2023.100249>
35. Nguyen, T. M., & Malik, A. (2022). Impact of knowledge sharing on employees' service quality: the moderating role of artificial intelligence. *International Marketing Review*, 39(3), 482-508. <https://doi.org/10.1108/IMR-02-2021-0078>
36. Panneeselvam, S., & Balaraman, K. (2022). Employee experience: the new employee value proposition. *Strategic hr review*, 21(6), 201-207. Pillai, R., & Sivathanu, B. (2020). Adoption of AI-based chatbots for hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 32(10), 3199-3226.
37. Parent-Rocheleau, X., & Parker, S. K. (2022). Algorithms as work designers: How algorithmic management influences the design of jobs. *Human resource management review*, 32(3), 100838.
38. Parvez, M. O., Öztüren, A., Cobanoglu, C., Arasli, H., & Eluwole, K. K. (2022). Employees' perception of robots and robot-induced unemployment in the hospitality industry under the COVID-19 pandemic. *International Journal of Hospitality Management*, 107. <https://doi.org/10.1016/j.ijhm.2022.103336>
39. Pillai, S. G., Haldorai, K., & Seo, W. S., & Kim, W. G. (2021). COVID-19 and hospitality 5.0: redefining hospitality operations. *International Journal of Hospitality Management*, 94.
40. Plaskoff, J. (2017). Employee experience: the new human resource management approach. *Strategic HR Review*, 16(3), 136-141. <https://doi.org/10.1108/shr-12-2016-0108>
41. 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.
42. Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation-augmentation paradox. *Academy of management review*, 46(1), 192-210.
43. Raisch, S., & Krakowski, S. (2021). Artificial intelligence and management: The automation-augmentation paradox. *Academy of Management Review*, 46(1), 192-210.
44. Retrieved from: <https://www.deloitte.com/us/en/what-we-do/capabilities/applied-artificial->



intelligence/content/state-of-ai-in-the-enterprise.html

45. Retrieved from: [https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai?](https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai?_ga=2.141111111.15054683.20260101.15054683)

46. Romero, J., & Lado, N. (2021). Service robots and COVID-19: exploring perceptions of prevention efficacy at hotels in generation Z. *International Journal of Contemporary Hospitality Management*, 33(11), 4057-4078.

47. Salo, M., Pirkkalainen, H., & Koskelainen, T. (2019). Technostress and social networking services: Explaining users' concentration, sleep, identity, and social relation problems. *Information Systems Journal*, 29(2), 408-435.

48. Samala, N., Katkam, B. S., Bellamkonda, R. S., & Rodriguez, R. V. (2022). Impact of AI and robotics in the tourism sector: a critical insight. *Journal of tourism futures*, 8(1), 73-87.

49. Simon, O., Neuhofer, B., & Egger, R. (2020). Human-robot interaction: conceptualising trust in frontline teams through Lego Serious Play: tourism management perspectives, 35.

50. Tuomi, A., & Ascensão, M. P. (2023). Intelligent automation in hospitality: exploring the relative automatability of frontline food service tasks. *Journal of Hospitality and Tourism Insights*, 6(1), 151–173.

51. Tuomi, a., tussyadiah, i. P., & Stienmetz, J. (2021). Applications and implications of service robots in hospitality. *Cornell hospitality quarterly*, 62(2), 232–247.

52. Vallerand, R. J. (2000). Deci and Ryan's self-determination theory: A view from the hierarchical model of intrinsic and extrinsic motivation. *Psychological inquiry*, 11(4), 312-318.h

53. Vendramin, N., Nardelli, G., & Ipsen, C. (2021). Task-technology fit theory: an approach for mitigating technostress. In *A handbook of theories on designing alignment between people and the office environment* (pp. 39-53). Routledge.

54. Wamba-Taguimdje, S. L., Fosso Wamba, S., Kala Kamdjoug, J. R., & Tchatchouang Wanko, C. E. (2020). Influence of artificial intelligence (AI) on firm performance: the business value of AI-based transformation projects. *Business process management journal*, 26(7), 1893-1924.

55. Wirtz, J., Patterson, P. G., Kunz, W. H., Gruber, T., Lu, V. N., Paluch, S., & Martins, A. (2018). Brave new world: service robots in the frontline. *Journal of Service Management*, 29(5), 907–931.

56. Yadav, M., & Vihari, N. S. (2021). Employee Experience: Construct Clarification, Conceptualization, and Validation of a New Scale. *FIIB Business Review*. <https://doi.org/10.1177/23197145211012501>

57. Zahidi, F., Kaluvilla, B. B., & Mulla, T. (2024). Embracing the new era: Artificial intelligence and its multifaceted impact on the hospitality industry. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(4), 100390.

58. Zel, S., & Kongar, E. (2020). Transforming Digital Employee Experience with Artificial Intelligence. *2020 IEEE / ITU International Conference on Artificial Intelligence for Good, AI4G 2020*, 176–179. <https://doi.org/10.1109/AI4G50087.2020.9311088>

59. Zhang, M., Bo, Z., Chen, W., Chen, X., Chen, Y., Cheng, C., ... & (pandax Collaboration). (2025). Search for light dark matter with 259 days of data in Pandax-4 T. *Physical Review Letters*, 135(21), 211001.

Appendix A

Measurement Scale for Employee Experience (EX)

(Adapted from the Autonomy and Competence in Technology Adoption (ACTA) Questionnaire and SDT-based measures)

Response Format:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

Table A1 Employee Experience Scale (Autonomy, Competence, Relatedness — ACTA-Based Adaptation)

Construct	Code	Item
Autonomy	EXA1	Using AI gives me a sense of control over my work outcomes.
	EXA2	I feel free to decide how I use AI tools in my daily tasks.
	EXA3	Using AI systems at work helps me learn new skills that improve my job performance.
Competence	EXC1	AI helps me make informed decisions in my daily tasks.



	EXC2	Using AI systems at work gives me a sense of accomplishment when I complete my tasks.
	EXC3	AI helps me manage complex work situations.
Relatedness	EXR1	AI systems at my workplace facilitate smoother communication among employees.
	EXR2	I feel supported when AI helps me meet my guests' needs.
	EXR3	Working with AI tools makes collaboration with coworkers easier.

Note. This scale is adapted from the Autonomy and Competence in Technology Adoption (ACTA) questionnaire, which is based on Self-Determination Theory (SDT), along with related SDT-based measures of technology experience. The original ACTA tool focuses on autonomy and perceived competence in technology use and can be adapted for specific technologies.

Items in this study were modified to reflect AI integration in the hospitality context, and additional items were incorporated to capture the relatedness dimension consistent with SDT.

All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).