



## Unleashing creativity through AI collaboration: how do employees' learning behavior and wellbeing mediate?

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### Abstract

The hospitality business has increasingly relied on AI technologies to foster expansion and creativity. However, the extent of its impact has not been fully studied. Encompassing the theory of conserved resources, the research aimed to address knowledge gaps and utilize AI. The study explores the impact of artificial intelligence collaboration on creativity, employee learning behavior, and wellbeing, as well as the mediating role of these factors in fostering creativity. Using a survey questionnaire distributed to front office staff at a five-star Cairo hotel, this study employs a quantitative research methodology. The statistical analysis was carried out using SPSS version 29, while Smart PLS 4.1.0.6 was employed for structural equation modelling (SEM). According to the findings, AI collaboration has a substantial impact on the learning behaviors and wellbeing of employees. Employees' learning behaviors have an impact on creativity as well. Additionally, employee learning practices significantly moderate the relationship between AI cooperation and creativity. Nevertheless, there are no significant mediation effects on employees' wellbeing. Regular training sessions for front office staff can improve AI proficiency, promote creativity, and reduce stress. Customizing AI technology for individual tasks and collecting employee feedback can enhance well-being. Government assistance can offer tax benefits or AI adoption certifications. The research's originality lies in its focus on the AI's specific influence on creativity, particularly in relation to employee learning behavior and well-being inside Cairo five-star hotels, an area that may not have been well explored.

**Keywords:** Artificial intelligence; Wellbeing; Learning behavior; Creativity; Front office employees.

### 1. Introduction

Technological advancements have prompted the lodging industry to undergo digital transformation, necessitating a data-driven approach and a receptive work climate (Sam & Jasim, 2023). Artificial intelligence (AI) is being utilized to automate tasks and make informed judgments. Effective communication with consumers is crucial in the hospitality industry, as they significantly influence the overall client experience (Park, 2023).

Artificial intelligence (AI) collaboration is utilized to improve efficiency in the hospitality, playing a crucial role in enhancing employees' learning and wellbeing (Zhou et al., 2024a). Artificial intelligence has the potential to enhance educational experiences for staff by utilizing AI and interactive learning techniques (Alam, 2022).

The concept of wellbeing has become increasingly complex in recent years and thoughts that AI is to boost the mental health of employees by supplying crucial information,

simplifying procedures and enhanced overall wellbeing (Kim et al., 2023).

There is a dearth of investigation regarding the perspective of hotel staff on human-robot collaboration, as the study conducted by Budhwar et al. (2022) primarily examined the influence of service robots on consumers. Similarly, Guo et al. (2024) focused on enhancing service quality through collaboration with AI.

This study aims to address knowledge gaps in AI collaboration, employee learning behavior, wellbeing, and creativity in developing countries' hotel businesses, focusing on resource conservation theory and improving employee creativity. The research objectives are:

1. To examine the influence of artificial intelligence collaboration on creativity.
2. To examine the influence of artificial intelligence collaboration on employees' learning behavior and wellbeing.
3. To examine the influence of employees' learning behavior and wellbeing on creativity.
4. To test the mediating role of employees' learning behavior and wellbeing between artificial intelligence on creativity.

## 2. Literature review

### 2.1 Artificial Intelligence (AI)

In the Conservation of Resources Theory, core resources relate to the key things that individuals value and endeavor to gain, maintain, protect, and promote (Hobfoll, 1989). AI technology as a resource tackle problem, reducing resource utilization and improving reservation operations, social media responses, service recovery, and customer satisfaction (Liu and Zhang, 2023).

There are several definitions of "artificial intelligence" (AI), some of which are newly developed (Chhillar and Aguilera, 2022). AI, conceptualized in 1955, can be defined as a research field that enables computers to perform tasks that humans excel at (Kaushal et al., 2023). It has expanded to identify intricate patterns (Esmaily et al., 2024). The fusion of

"artificial" and "intelligence" integrates thinking, reasoning, education, and operation to form AI (Adesina and Zubairu, 2024). It is an emerging technology that replicates human actions using programs, methods, structures, and computers (Ratten, 2024).

AI applications in the hospitality industry have significantly accelerated automation, providing a competitive edge and improved customer experience (Belk et al., 2023). AI's widespread use affects society's perception (Brewer et al., 2022), but concerns about human worker displacement and legal issues persist (Dogru et al., 2023). Effective AI use requires collaboration, shared objectives, and resource pooling (Li and Khan, 2023). Hilton's Connie is an artificial intelligence virtual assistant that provides instant assistance and enhances recommendations based on user interactions, Marriott International utilizes AI-powered kiosk check-in systems, which decrease waiting times and enhance the guest experience; and finally, Edwardian Hotels London employs an AI Chabot to handle numerous inquiries, thereby improving reservation efficiency and guest satisfaction, as an example of using AI in the front office (Huang et al., 2022).

### 2.2. Learning Behavior

Learning is a deliberate mental activity that involves absorbing knowledge, reflecting, and implementing it (Ye et al., 2018). Employee learning behavior is crucial for achieving institutional effectiveness and brilliance (Liu and Xiang, 2020). Learning behavior involves creative adaptation, proactive problem-solving, long-range planning, and engagement in work activities to improve employees' abilities and knowledge (Sutha, 2024). It contributes to the organization's efficacy and long-term growth. Active learning behavior increases skills, proficiency, job satisfaction, fosters positive personality changes, and improves performance, promoting personal growth (Taris and Kompier, 2004).

From another point of view, effective managers foster a safe and supportive environment, promoting open communication and sharing of opinions, skills, and vision, which indirectly and directly influences staff learning behaviors

(Nejati and Shafaei, 2023). Learning often involves seeking feedback, seeking help, and discussing issues (Van den Brand et al., 2018). Companies adopting trial-and-error cultures foster growth, creativity, and risk-taking (Behn et al., 2024). AI can enhance employee learning, group dynamics, empathy, behavioral awareness, and mental awareness, ultimately increasing creativity and learning (Nuraini, 2024).

### **2.2.1. AI collaboration and learning behavior**

The conservation of resources theory provides a viewpoint on employee behavior by identifying resources as valuable commodities that should be preserved, nurtured, and safeguarded. This approach aims to promote positive attitudes and behaviors among employees (Hobfoll, 1989).

According to the conservation of resources theory collaboration with AI considered as a plentiful asset that has the potential to enhance staff experiences, interactive learning, and augmented reality, potentially enhancing efficiency by eliminating monotonous tasks (Christ-Brendemühl, 2022). AI usage in tourism and hospitality may lead to mistakes, lack of unique content, and negative job behavior, such as inactive opposition and poor performance (Lu et al., 2024, Zhou et al., 2024b).

From another viewpoint, the incorporation of AI technology in the learning process and delivery of services has a substantial influence on service creation, delivery, and consumption (Huang and Gursoy, 2024). This calls for additional research into employee learning behaviors (chen et al., 2023b).

**H1:** Artificial intelligence collaboration significantly and positively influences employees' learning behavior.

### **2.3. Employees' wellbeing**

The literature on employee wellbeing is limited, particularly in the lodging industry (He and Hao, 2022). The concept of wellbeing refers to a state of equilibrium between happy and sad emotions to improve the quality of life and working conditions (Teng, 2023). It is

characterized by contentment, purpose, and pride in one's work (Kim et al., 2023).

Hill et al. (2024) declared that the notion of employee wellness primarily focuses on psychological wellness, which encompasses contentment, fitness, and professional accomplishments. Employee wellbeing is crucial for business growth, impacting mind-sets, actions, creativity, efficiency, and stability (Konuk et al., 2023). Zahoor et al. (2022) support that in his study showing that psychological wellbeing positively influences abilities, innovation, job efficiency, and stability. Zhang et al. (2023) revealed that employees' wellbeing (EWB) comprises five components: emotional, social, cognitive, motivation, and psychosomatic symptoms.

### **2.3.1 AI collaboration (AIC) and employees' wellbeing**

The Conservation of Resources theory posits that the depletion of resources can result in stress, whereas investment in resources can intensify it, and the acquisition of resources leads to additional gains, hence lessening stress and strain (Hobfoll, 1989). Mer and Viridi (2022) showed that AI can improve the psychological well-being of employees by providing essential data, streamlining processes, and reducing stress.

One side of the coin is the evidence that suggests that using AI technology might harm one's psychological wellbeing as declared from (Rasmussen et al., 2020) literature. Where employees encounter new and unforeseen difficulties (Li et al., 2024).

From another side, Huang and Gursoy (2024) indicated a positive effect like increased ingenuity and output, while Yin et al. (2024) suggested a negative effect like job fatigue and revenue. Which means a further research is needed to understand the effects of AI on employee wellbeing (Zahoor et al.,2022).

**H2:** Artificial intelligence collaboration significantly and positively influences employees' wellbeing.

#### **2.4. Employees` learning behavior and creativity**

Amid globalization and digitization in the workplace, human resource creativity is paramount for enhancing enterprise productivity (Jaboob et al., 2023), particularly in a competitive economy (Zhou et al., 2024a). Creativity is the ability of staff members to generate original and valuable suggestions (Seo et al., 2015), which can be applied in various fields, including the workplace (Luqman et al., 2021). It involves creating beneficial products, services, or solutions for customers, buyers, and consumers (Si et al., 2023). Employee creativity involves challenging automatic responses, generating alternative behaviors, and reframing perspectives (Loderer et al., 2024). It consists in creating practical solutions to problems, although not always result in perfect outcomes (Lin et al., 2023).

Many hospitality studies emphasize the importance of employee learning and diversity in teams (Tian, 2024). It suggests that businesses should prioritize employee learning to drive corporate creativity and facilitate organizational structure changes, ensuring long-term competitive advantage (Chen et al., 2023c). High-quality job expertise enhances employee learning and creativity, while enterprises prioritize creativity by developing new technologies for diverse applications across different disciplines (Habib et al., 2024). **H3:** Employees` learning behavior significantly and positively influences creativity.

#### **2.5 Employees` wellbeing and creativity**

Employee creativity significantly enhances enterprise competitiveness (Ding et al., 2019), allowing businesses to adapt to dynamic marketplaces and better address client needs (Rasheed et al., 2023). In the hospitality and tourism industry, it improves service quality, increases client satisfaction, and offers a competitive edge due to frequent in-person interactions (Hou et al., 2024).

Research on employee wellbeing's impact on creativity in the workplace is limited (Miao and Cao, 2019), despite its critical importance (Jaboob et al., 2023). Stress can negatively impact employees' creative abilities (Luqman et

al., 2021), while effective leadership positively impacts their mental health and wellbeing, fostering increased creativity and originality in the workforce (Hou et al., 2024).

**H4:** Employees` wellbeing significantly and positively influences creativity.

#### **2.6 AI collaboration and creativity**

Concerning theory of resource conservation, people typically allocate their available resources towards role behaviors that offer significant returns in order to enhance the likelihood of resource appreciation (Li et al., 2024).

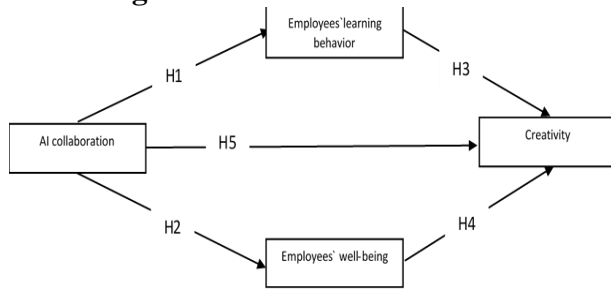
AI is increasingly being utilized in tourism and hospitality, transforming the industry (Wang and Uysal, 2024). Employers use AI to enhance their professional significance (Chowdhury et al., 2023) and foster creativity in fast-paced work environments (Pinarbasi et al., 2023). Human-AI collaboration supports employee advancement and competitiveness (Chowdhury et al., 2022). AI enhances learning, operational procedures, and staff knowledge, impacting organizational performance (Baabdullah, 2024). AI is being utilized in companies to involve employees, improve efficiency, and enhance customer satisfaction (Chen et al., 2023a), while hospitality businesses are focusing on sustainable automation to enhance productivity and human involvement (Khoa et al., 2023).

From another point of view, the hospitality industry faces challenges in technological advancement (Tian, 2024). AI may only benefit individuals with limited creativity (Ivcevic and Grandinetti, 2024), and there is limited exploration of human-machine interactions and collaboration (Leocádio et al., 2024).

**H5:** Employees` learning behavior and employees` wellbeing significantly and positively mediates the relationship between artificial intelligence collaboration and creativity.

In the end, the first figure displays the research hypotheses to illustrate the theoretical structure and framework.

**Figure 1.** Theoretical framework



\* Source: Author's Work

### 3. Methodology

#### 3.1 Research design

Questionnaires are considered a vital instrument in social research and play a crucial role in quantitative research by allowing researchers to test hypotheses and provide scientific explanations using deductive methods, and statistical inference (Chen and Chen, 2024).

#### 3.2 Data collection

The data gathering process of the study focused on the front desk employees due to their pivotal role in defining client experiences, and the integration of AI can optimize and simplify operations additionally the impact of obvious learning behavior, job performance (Giesbrecht et al., 2015). Five-star hotels were the only ones considered for this study, due to their extensive knowledge of the world updates and technology, adherence to standards, and ongoing training and learning initiatives (Salem, 2014). in Cairo, the capital city, provides a diverse selection of hotels from many renowned chains that are well-suited for studying purposes (Hassanien, 2006).

The investigation of the study was conducted from April to July 2024. An academic symposium was convened with professionals specializing in the domains of hospitality, during which front office managers scrutinized the questionnaire to ensure its appropriateness and comprehensibility, so ensuring its efficacy and user-friendliness. In April 2024, a pilot study was conducted to ensure the clarity and use of the poll in identifying any issues and enhancing the accuracy and reliability of the items. Modifications were implemented based

on the recommendations provided in the pre-test.

The selected technique of conducting face-to-face surveys is optimal because it yields a greater rate of response, facilitates more comprehensive data collection, and allows for prompt clarification, so assuring participants comprehend the questions and offer precise replies (Szolnoki and Hoffmann, 2013). The researcher delivered 250 survey questionnaires using a random sampling method. The researcher returned after one week to make sure all question was filled in and provide additional surveys to those who have lost or damaged their original survey. Several challenges raised in this context. Firstly, participants failed to return the survey, leading to partial data. Additionally, some surveys were lost, damaged, or returned in an incomplete state.

All hotels agreed to distribute questionnaire forms to their front office employees, except four hotels: The Nile Ritz Carlton, The Westin Cairo Golf Katameya, Four Seasons Cairo at Nile Plaza, and Fairmont Nile City Hotel. The reasons for this can include inadequate staffing, exhaustion, worries about confidentiality, stringent policies, or uncertainties over data usage and confidentiality. However, 67 survey questionnaires were lost, and 5 questions were incomplete, thus they were excluded from the data set because of their excessively poor responses. The study utilized 178 fully completed responses, resulting in a response rate of 71.2%.

#### 3.3 Measurement scale

To gather data for this study, a questionnaire survey was distributed among front office employees in five-star hotels in Cairo and utilized artificial intelligence (AI). There were five sections to the questionnaire. The first section started with a 10-item survey questioning respondents about their level of agreement with AI collaboration among staff (Kong et al., 2023). The primary focus of the survey's second section was gauging workplace creativity among employees. The primary emphasis of employee creativity measurement is the Nagayama (2023) study, which consists

of six questions. The primary purpose of the third section of the survey was to measure the employees' attitudes toward learning. This section was constructed using the Chen et al. (2023b) scale. Based on this, there are ten indicators on the scale. The wellbeing of the employees as determined by their work was the subject of the fourth section of the questionnaire. The eleven-item scale that Wang et al. (2021) suggested was used for this investigation.

All of the measurement items in this study were based on the Likert 5-level scale, where 1–5 indicates the respondents' perceived level of agreement, ranging from "Strongly Disagree" to "Strongly Agree." Furthermore, questions for the final part of the questionnaire to record respondents' demographic data, such as age, gender, degree of education, and work history. The measurement items used in this study were derived from a prior research study that demonstrated strong validity (above 0.70) and reliability (above 0.70). The following table presents a range of measuring scales used in the study, all sourced from reliable academic research.

Table1. Measurement scales and sources

No.	Constructs	Items	Source
1	AI collaboration	10	Kong et al., (2023)
2	Creativity	6	Nagayama (2023)
3	Employees' Learning Behavior	15	Chen et al. (2023b)
4	Employees' Wellbeing	11	Wang et al. (2021)

\* Source: Author's work

### 3.4 Data analysis

The researcher acquired the questionnaires and inputted the data onto SPSS version 29 and Smart PLS version 4.1.0.6 (Ringle et al., 2024). SPSS is employed for conducting descriptive and demographic analyses, whereas Smart version 4.1.0.6 assesses the validity, reliability, and research hypotheses using structural equation modelling. Incorporating these techniques enables a comprehensive comprehension of data organization and rigorous hypothesis testing, rendering it a potent methodology in quantitative research.

## 4. Results

### 4.1 Profile details of respondents

A varied picture of respondents is shown by the demographic information from Table 2, which represents respondents. 46.1% of the study sample, or those in the age range of 32 to 42. Gender of the study sample indicates a little domination of males (53.4%) over females (46.6%) within the sample, Metropolitan areas employ women because of greater work and educational opportunities, the capital's demographic and socioeconomic characteristics, and the rise in female participation in the research study. The large proportion of participants (83.1%) who hold a bachelor's degree is the result of the study's demography. A considerable proportion of the participants are in their early to mid-stage careers, as evidenced by the fact that 42.1% of the sample has job experience spanning from two to five years.

Table2. Profile of respondents (N=178)

Demographic	Category	Frequency	%	Valid percent %	Cumulative (%)
Age	21-31	31	17.4	17.4	17.4
	32-42	82	46.1	46.1	63.5
	43-53	54	30.3	30.3	93.8
	More than 54	11	6.2	6.2	100.0
Gender	Male	95	53.4	53.4	53.4
	Female	83	46.6	46.6	100.0
Education	Bachelors	148	83.1	83.1	83.1
	Masters	24	13.5	13.5	96.6
	PhD	6	3.4	3.4	100.0
Work experience	Less than 1 year	51	28.7	28.7	28.7
	2-5 years	75	42.1	42.1	70.8
	6-10 years	38	21.3	21.3	92.1
	More than 10 years	14	7.9	7.9	100.0

\* source: author's work.

### 4.2 Reliability analysis

Reliability analysis uses composite reliability (CR) and Cronbach's alpha to assess a measurement model's consistency. A Cronbach's alpha of 0.7 or above and a CR of 0.7 or higher are considered to be a generally acceptable criterion (Ringle et al., 2015). All the study's constructs are measured with good reliability, according to the data in Table 3, learning behaviour of employees represent the highest value of 0.87 and artificial intelligence collaboration the lowest value of 0.82, demonstrating the dependability and internal consistency of the study scale.

Table 3. Reliability analysis

Constructs	Cronbach's alpha	Composite reliability
AIC	0.829	0.801
CR	0.867	0.867
EWB	0.845	0.852
ELB	0.870	0.875

Source: Author's work

### 4.3 Convergent validity

In social science research, the research on SEM and its robustness in validating constructs lend credence to this study. Convergent validity is a statistic used to evaluate the validity of measurement models, especially partial least squares PLS-SEM (Hair et al., 2024). An AVE of 0.5 or higher and factor loadings of 0.7 or higher are common benchmarks for proving convergent validity (Hair et al., 2022).

Table 4 examines the component loadings and average variance extracted (AVE) for each concept to assess convergent validity. According to (Franke and Sarstedt, 2019) standard benchmarks for proving convergent validity include factor loadings of 0.7 or higher and an AVE of 0.5 or higher. As CR5 is at 0.707 and AIC2 is at 0.709, it is noteworthy that all factor loadings in Table 4 are more than 0.7. The majority of factor loadings, however, are substantially over the threshold, indicating that the constructs have considerable item convergent validity. Every component has an AVE value greater than the recommended limit of 0.5; learning behavior has the greatest AVE value at 0.685, while creativity has the lowest at 0.603. These figures suggest that, on average, the constructs explain more than 50% of the variance of the items, demonstrating good convergent validity.

In summary, constructs with strong convergent validity are shown in Table 4. The items may be appropriate markers of the associated constructs, as shown by the fact that the factor loadings are generally greater than the recommended limit. The overall strong convergent validity of the measurement model lends credibility to the research, demonstrating that the constructs are accurately defined and quantified within the parameters of this investigation.

Table 4 Convergent validity

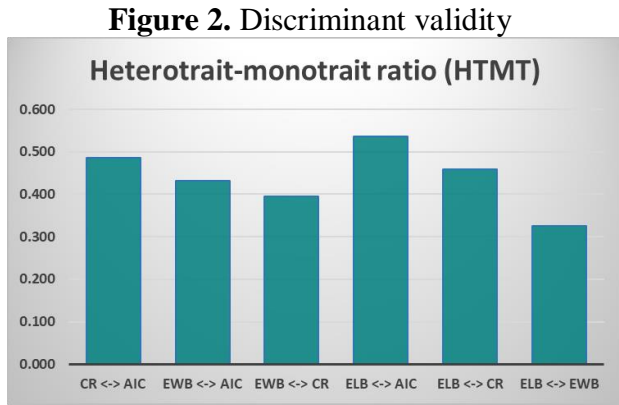
Constructs	Items	Factors loading	AVE
Artificial intelligence collaboration	AIC1	0.76	0.617
	AIC2	0.709	
	AIC3	0.888	
	AIC4	0.794	
	AIC5	0.789	
	AIC6	0.839	
	AIC7	0.795	
	AIC8	0.778	
	AIC9	0.782	
	AIC10	0.71	
Employees' Learning behaviors	ELB1	0.793	0.685
	ELB2	0.95	
	ELB3	0.811	
	ELB4	0.789	
	ELB5	0.968	
	ELB6	0.843	
	ELB7	0.959	
	ELB8	0.84	
	ELB9	0.827	
	ELB10	0.797	
	ELB11	0.757	
	ELB12	0.767	
	ELB13	0.751	
	ELB14	0.726	
	ELB15	0.792	
Employees' wellbeing	EWB1	0.869	0.696
	EWB2	0.949	
	EWB3	0.881	
	EWB4	0.79	
	EWB5	0.742	
	EWB6	0.913	
	EWB7	0.808	
	EWB8	0.735	
	EWB9	0.876	
	EWB10	0.757	
	EWB11	0.827	
Creativity	CR1	0.821	0.603
	CR2	0.8	
	CR3	0.825	
	CR4	0.824	
	CR5	0.707	
	CR6	0.668	

Source: Author's work

### 4.4 Discriminant validity

Henseler et al. (2015) showed that analyzing links between reflectively assessed components in PLS path models requires the measurement of discriminant validity, which is called the heterotrait-monotrait ratio of correlations (HTMT). As shown the HTMT ratio in Figure 2, which shows the HTMT values between pairs of constructs, should, per Henseler et al. (2015), be less than 0.90. Based on the available data, all the HTMT values are less than 0.90, suggesting that each construct may be sufficiently distinct from the others and that there is significant discriminant validity across the constructs. The study ultimately achieves discriminant validity.





Source: Author's work

### 4.5 Testing the hypotheses

Since social sciences study concepts, a 5% significant level and a 95% confidence interval are needed to test the hypotheses (Pirani, 2024). Consequently, a 5% significance level was employed in the investigation, with t-values > p 1.96 and p-value < 0.05. The findings of the SEM provide important insights into the variables influencing the learning behaviors, wellbeing, and creativity of employees. The findings of the analysis are shown in (Table 5, Figure 3).

Research has demonstrated that when artificial intelligence cooperation becomes a crucial driver, concentrated collaboration with artificial intelligence has a significant impact on employee learning behavior. A beta value of 0.413, t-values of 2.611, and a p-value of 0.009 support this. Employees that engage in extensive collaboration with artificial intelligence in the workplace are more likely to have access to possibilities for proper learning behavior.

The partnership of artificial intelligence also has a significant and favorable impact on the wellbeing of employees (p-value 0.000, t-value 5.917, beta value 0.465). This validates the notion that the wellbeing of employees increases when they engage in collaboration with artificial intelligence. The beta value of 0.262, t-value of 2.635, and p-value of 0.008 show that employees who openly acknowledge their learning behavior have a significant and favorable impact on creativity.

A beta value of 0.427, a t-value of 3.956, and a p-value of 0.000 demonstrate the significant and undeniable influence of collaboration and

creativity in artificial intelligence. This demonstrates that enhancing cooperation between artificial intelligence and human beings is a strategic approach to enhancing employee creativity. However, the wellbeing of employees did not have a significant impact on creativity in this scenario.

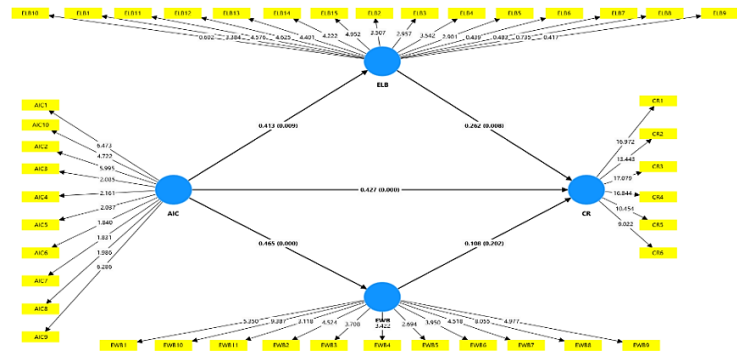
Table 5 Direct effects

Hypotheses	Direct paths	B	T- values	P-values	Conclusion
H1	AIC -> ELB	0.413	2.611	0.009	Supported
H2	AIC -> EWB	0.465	5.917	0.000	Supported
H3	ELB -> CR	0.262	2.635	0.008	Supported
H4	EWB -> CR	0.108	1.275	0.202	Not supported
H5	AIC -> CR	0.427	3.956	0.000	Supported

Note: AIC-Artificial Intelligence Collaboration, CR- Creativity, ELB- employee's Learning Behavior, EWB- Employees' Wellbeing

Source: Author's work

Figure.3 Structure equation modelling



Source: Author's work

Table 6 displays the indirect effects used to examine the presented hypotheses. The study discovered that the association between collaboration with artificial intelligence and creativity is strongly and positively influenced by employees' learning practices (beta value 0.108, t-values 2.124, p-value 0.034).

However, the study discovered that the welfare of employees does not act as a mediator in the relationship between artificial intelligence collaboration and creativity. The beta value for this relationship was 0.050, with t-values of 1.158 and a p-value of 0.247. Therefore, there is no evidence of mediation, as shown in Table 6.

Moreover, the overall analysis of indirect effects indicates that artificial intelligence collaborations contribute to creativity, with a beta value of 0.159, a t-value of 2.452, and a p-



value of 0.014. To explore more precise indirect consequences.

Table. 6 Indirect effects

Hypotheses	Indirect paths	B	T-values	P-values	Conclusion
H5	AIC -> CR	0.159	2.452	0.014	Supported
H5a	AIC -> ELB -> CR	0.108	2.124	0.034	Supported
H5b	AIC -> EWB -> CR	0.050	1.158	0.247	Not supported

Note: AIC-Artificial Intelligence Collaboration, CR- Creativity, ELB- employee's Learning Behavior, EWB- Employees' Wellbeing  
 Source: Author's work

#### 4.6. Model Fit

A model is considered to have a good fit when there is minimal disparity between the model's predictions and the actual correlation matrix, any remaining disparities are primarily attributed to random sampling variations (Ringle et al., 2024). The R<sup>2</sup> values in this model for learning behaviors (0.171) and employee wellbeing (0.216) are considered to be weak indicators. However, the R<sup>2</sup> value for creativity (0.416) suggests that artificial intelligence collaboration modestly explains creativity. In addition, the adjusted R<sup>2</sup> values (0.166 for learning behavior, 0.212 for employee wellbeing, and 0.406 for creativity) closely correspond to the R<sup>2</sup> values, indicating the significance of the predictors and the suitability of the model. This demonstrates the substantial impact of AI collaboration on the engagement of front-line staff, as well as the improvement of learning behavior and employee wellbeing as a means to enhance creativity in the hospitality industry.

The standardized root mean square residual (SRMR) is a model of fit measure for PLS-SEM, assessing the average magnitude of discrepancies between observed and expected correlations in addition to the normed fit index (NFI) is another fit measure, and these criteria's values have a specific threshold SRMR less than 0.08 and NFI more than 0.90.

The researcher employed the standardized residual mean root (SRMR) criterion to evaluate the model's adequacy. The SRMR (Standardized Root Mean Square Residual) in this instance was 0.063, which is below the threshold of 0.08. Additionally, the NIF was 0.91. The results demonstrated a sufficient degree of explanatory power and a suitable model fit.

#### 5. Discussion

The study was done among frontline personnel in a five-star hotel in Cairo using a quantitative questionnaire. The results of this study on the effects of AI cooperation dimensions on employee learning behavior align with several other research studies completed in the past. The works by Chen et al. (2023b), Huang and Gursoy (2024) and Nuraini (2024) are referenced. Their findings indicate that AI cooperation has a good impact on employees' learning behavior and has the ability to improve error management, task execution, and user satisfaction. Additionally, it broadens the scope of users who may benefit from this technology. This is consistent with the principle of resource conservation, which suggests that individuals are driven to develop and safeguard valuable assets, such as knowledge and skills.

The research findings disagree with Zhou et al. (2024b) who argue in their study that the awareness and utilization of AI can lead to negative behavioral and emotional responses among employees in the workplace.

The findings made by Saba and Pretorius (2024), as well as the research conducted by Li et al. (2024) demonstrated a favorable correlation that could reduce the workload of hotel staff, allowing them to focus more on delivering exceptional customer service and improving their mental wellbeing. This aligns with the research study, which found that the collaboration with AI positively impacts employees' overall health. Through the conservation of resources theory highlights the significance of well-being as a crucial resource, artificial intelligence has the potential to improve employee well-being by mitigating stress, boosting productivity, and fostering a nurturing work atmosphere which is asserted in this hypothesis in this study.

The literature by Zhou et al. (2024a) demonstrates that learning behavior entails the acquisition of novel behavioral patterns, skills, problem-solving strategies, and creative adjustments to the surrounding environment. The research concludes that the mediating role of employees' learning behavior has a significant and favorable impact on creativity.

Ye et al. (2018) have highlighted the increasing research focus on the relationship between positive mood at work and employee wellbeing. However, their findings do not agree with earlier studies by George and Zhou (2007) and Miao and Cao (2019), which showed the mediating effect of employee work wellbeing on employee creativity. The disparity in results may be attributed to cultural factors, particularly in developing countries. The conversation of resources theory posits that resource gain spirals ensue when the acquisition of a resource results in the acquisition of additional resources. According to this hypothesis, an increase in resources results in a higher level of investment in activities that promote creativity.

In their research, Huang and Gursoy (2024) and Yin et al. (2024) showed that the collaboration between artificial intelligence (AI) and highly intelligent individuals can effectively promote employees' creativity by boosting their creative self-efficacy. These findings provide supporting evidence for this phenomenon. The research confirms the findings of prior studies, which showed that the relationship between artificial intelligence collaboration and creativity is considerably and positively influenced by employees' learning behavior and wellbeing.

## **6. Theoretical contribution**

Via the standpoint of the theory of resource conservation. The current study's findings have significant implications for theory and improves it. This study highlights the importance of cooperation in improving employee creativity within the field of AI. It emphasizes the function of ELB and EWB in mediating this relationship. The study also provides insights into the specific processes and configurations that contribute to creative results.

This study addresses the need for a more thorough knowledge of how AI collaboration positively affects employees' learning behavior and wellbeing in the hotel business.

The findings specifically emphasize the crucial function of ELB in positively impacting

employees' creativity. It is recommended to examine EWB to enhance its influence on creativity.

In addition, the study enhances our comprehension of how employees' learning behavior and employees' wellbeing impact creativity among front office staff by highlighting the significance of good AI collaboration.

## **7. practical Implication**

The study examines the impact of artificial intelligence cooperation on the learning behavior and wellbeing of first-line personnel in the hospitality business, specifically in five-star hotels in Cairo. The findings indicate a strong influence of artificial intelligence collaboration on these aspects.

Hotels can improve their decision-making process by utilizing AI solutions to facilitate precise business plans and foster collaboration between AI systems and frontline personnel by establishing regular training sessions for front office people to enhance their proficiency in utilizing AI tools, thereby fostering innovation and promoting well-being. Customizing AI technology to suit the individual tasks and preferences of the personnel, minimizing aggravation. Collecting employee feedback regarding their experiences with AI to gain insight into its effects on professional learning and overall well-being. Encouraging the integration of AI in team projects to stimulate creative problem-solving and a sense of unity, cultivating an uplifting work atmosphere. Hotels can employ Chatbot's to handle routine questions, reservations, check-ins, and room selection to improve booking confirmations and billing processes. AI-augmented reality experiences can be provided via digital concierges.

Hotel managers should prioritize human creativity and use AI to augment human abilities rather than replace them, encouraging experience development and risk-taking decisions.

Stakeholders should possess the capacity to customize Chatbot solutions to meet the front office needs. Government aid can provide financial incentives like tax benefits or

certifications for the deployment of artificial intelligence in all hotel services.

### 8. Limitations and future directions

While the study is comprehensive, it is important to acknowledge that it has certain constraints. The study is focused on the town of Cairo and mostly utilizes a quantitative method, specifically through the use of survey questionnaires administered to personnel in the Front Office department. The findings of the study may not be generalizable to other locations or hotel categories due to its narrow emphasis on luxury five-star hotels.

While the study's findings may not be applicable to a broad range of contexts, they could have relevance to other locations within the Egyptian hotel industry.

Subsequent research will address certain limitations of a quantitative study by employing a mixed-methods approach. A comprehensive comprehension of managers and supervisor perspectives and opinions will be acquired through qualitative data gathered via focus groups or interviews.

This study aims to improve understanding of the impact of AI collaboration on employees' creativity. An expanded assessment of the effectiveness of AI cooperation in various hotel categories or across different segments of the Egyptian hospitality industry.

### 9. Conclusion

The research conducted on front-line employees in the front office department emphasizes the essential function that collaboration with artificial intelligence plays in improving employees' learning behavior and wellbeing, ultimately fostering creativity.

Effective AI cooperation procedures are crucial in the hotel industry to foster engaged and optimistic workforce development. Nevertheless, the study also emphasizes certain variations, such as the absence of overall wellbeing. This remark highlights a relationship between AI collaboration and employee creativity that is subtler and reliant on specific circumstances.

This study contributes to the existing knowledge in AI cooperation by showcasing

the importance of contextual elements in shaping learning behavior and wellbeing, as well as confirming their impact on overall creativity.

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