



Smart Hospitality and Innovation: The Role of Leadership, Local Wisdom, and Technology Integration in Five-Star Hotels

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Abstract. Innovative work behavior is a key driver of technology-based service innovation in the hospitality industry. This study integrates innovative work behavior into Technology-Enabled Innovative Behavior and reconceptualizes organizational commitment into Technology Adoption Commitment to capture employees' psychological attachment to technology adoption underexplored area. Commitment to capture employees' psychological attachment to adopting technologies. This study aims to examine and analyze the influence of transformational leadership on Technology-Enabled Innovative Behavior, and through the mediating roles of paras-paros citizenship behavior and Technology Adoption Commitment. Using survey data from 377 employees of five-star hotels in Bali analyzed with PLS-SEM, the results show that transformational leadership significantly enhances Technology-Enabled Innovative Behavior, with Paras Paros Citizenship Behavior as a partial mediator, while Technology Adoption Commitment has no mediating effect. Higher Technology-Enabled Innovative Behavior is reflected in the frequent use of Property Management Systems, digital payment, and mobile check-in, whereas lower use of AI-driven customer service indicates areas for further innovation. The findings highlight that leadership and Paras Paros Citizenship Behavior provide strong cultural support, but innovation outcomes depend on the accessibility and integration of specific technologies. Strengthening leadership practices, local wisdom values, and the operational integration of underutilized tools can accelerate digital transformation in the hospitality industry.

Keywords: Transformational Leadership, Paras Paros Citizenship Behavior, Technology Adoption Commitment, Technology-Enabled Innovative Behavior, Smart Hospitality

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1. Introduction

The hospitality industry is one of the largest employment providers worldwide and makes a substantial contribution to the global economy through various dimensions, including the promotion of innovation and the deployment of smart hospitality technologies such as (PMS), (IoT) devices, energy management systems (EMS), and AI-driven customer service platforms [1–4]. Mobile check-in and digital key solutions, now adopted by over 70% of leading brands, and IoT-driven energy dashboards are shifting

expectations, with digital and contactless capabilities becoming baseline requirements in modern five-star hotels [5]. In particular, IoT installations and real-time analytics have proven effective in optimizing energy consumption and operational workflows [6].

These technologies enhance service efficiency, sustainability, and overall competitiveness. As competition intensifies and customer expectations rise, fostering employee-driven innovation has become a critical priority, especially in high-interaction service environments such as hotels [7], [8]. In the face of rapid industry evolution, understanding how to foster innovation among employees is increasingly urgent—not only to achieve service excellence but also to ensure the effective adoption and utilization of advanced digital and automation systems. This is especially relevant in Indonesia's highly competitive five-star hotel sector, where human resources remain the organization's driving force and must be prepared for technology-enabled service innovation (TESI). Incorporating technology-enabled service innovation (TESI) within organizational frameworks is critical for enhancing management practices and overall performance across industry sectors [9]. TESI entails the strategic integration of advanced technologies into service delivery processes, facilitating dynamic adaptation and improvement of service offerings [9], [10]. Leadership plays an instrumental role in the success of TESI initiatives, as effective leadership fosters an environment conducive to innovation and cultural acceptance of new technologies [11–13]. Furthermore, a robust organizational culture underpins the effective deployment of TESI, reinforcing motivation and commitment to service excellence [14].

The ever-changing business environment exposes employees to new and ambiguous situations, demanding stronger cognitive abilities [15]. (IWB) is crucial for organizational innovation, particularly in customer-oriented industries like hospitality [7], [16], as it reflects the ability to generate, promote, and implement new ideas that contribute to organizational advancement [17]. In modern hotel operations, IWB plays a key role in facilitating the introduction or enhancement of technological systems, such as mobile check-in applications, automated housekeeping scheduling, and energy monitoring dashboards. In this study, we integrate Innovative Work Behavior (IWB) with Technology-Enabled Service Innovation (TESI) and term the resulting construct Technology-Enabled Innovative Behavior (TEIB)-defined as the extent to which employees explore, generate, champion, and implement new ideas by leveraging organizational technologies (e.g., Property Management Systems, mobile check-in/digital key, automation tools, IoT devices, Energy Management Systems, and AI platforms) to enhance service quality, guest experience.

This is particularly important in Bali, one of Indonesia's premier tourist destinations, where traditional culture is a fundamental component of the economy. In 2024, Bali was named The Best Island in the Destin Asian Readers' Choice Awards and recorded the highest number of hotels and five-star accommodations in Indonesia. This achievement reflects ongoing investments in tourism infrastructure and marketing efforts aimed at enhancing visitor experiences, noted in various analyses of the tourism market in Indonesia [18]. This unique context offers a prime testing ground for integrating local cultural values into digital transformation strategies.

A research gap exists in understanding the role of paras paros citizenship behavior (PPCB) as a cultural mechanism for fostering both IWB and TESI (Technology-Enabled Innovative Behavior) in the luxury hospitality industry. Several studies show that transformational leadership influences innovative behavior. [8], [16], [18], [19] and enhances employees' readiness to adopt ICT tools, automation technologies, and smart service systems. However, other studies report inconsistent results [21] and [22]. While innovation should ideally be driven by leaders, hierarchical structures based on seniority can slow technological adoption and integration.

Transformational leadership has been found to enhance extra-role behaviors [23], [24], which in this study are expanded into Paras Paros Citizenship Behavior (PPCB) a culturally grounded form of organizational citizenship behavior rooted in Balinese local wisdom. Prior research also links transformational leadership to higher organizational commitment [29–31], in this study are expanded into Technology Adoption Commitment (TAC). TAC is defined as an employee's enduring psychological attachment to, felt obligation for, and perceived necessity of adopting, using, and continuously improving organizational technologies and digital processes. Extending organizational

commitment to a socio-technical context. Although earlier studies have examined innovation in hospitality, there has been limited investigation into how PPCB influences both Technology-Enabled Innovative Behavior, IoT-based services, and automated operational systems. Extra-role behaviors have been shown to improve innovation [28], [29], and TAC has also been linked to innovation [36–38].

This study proposes a new model that analyzes the mediating role of PPCB and TAC in the correlation between transformational leadership and technology-supported change behavior. Addressing the identified research gaps, the present study explores the combined socio-technical drivers of innovation in five-star hotels, focusing on how leadership and cultural values foster employee creativity and facilitate technology-enabled service innovation.

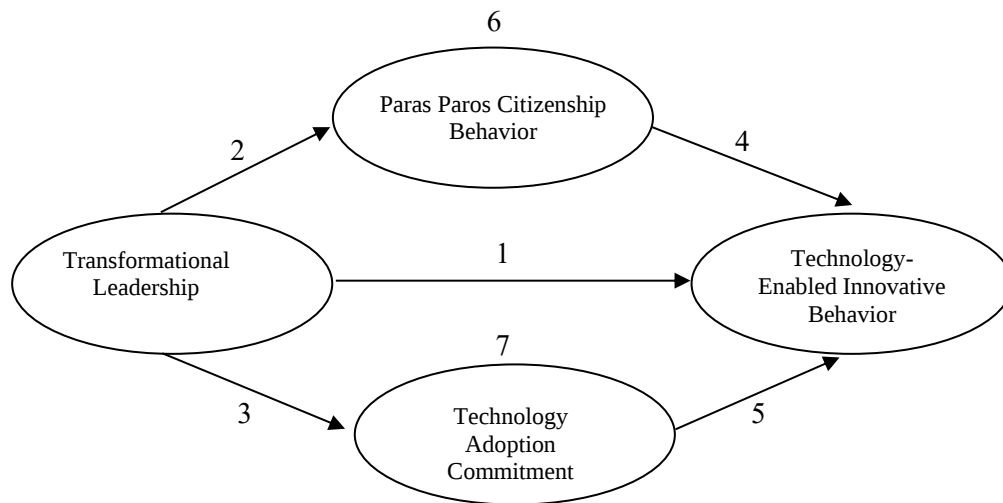


Figure 1. Proposed Conceptual Framework

There are seven hypotheses proposed in this study. These findings have implications for effective human resource management schemes and support social exchange theory [33] and to provide a more comprehensive perspective, it should be complemented by social cognitive theory [34], which explains how individuals process information, learn from their environment, and self-motivate in social interactions.

2. Methods

This study adopts a quantitative survey approach to examine the effect of transformational leadership on innovation outcomes in five-star hotels, focusing on innovative work behavior and Technology-Enabled Service Innovation (TESI) combined into a single socio-technical construct, Technology-Enabled Innovative Behavior (TEIB). The model also incorporates Paras Paras Citizenship Behavior (PPCB) and Technology Adoption Commitment (TAC) as mediators.

Bali was selected as the research setting due to its rapidly growing hospitality industry and the presence of numerous five-star hotels across major tourist destinations. In this study, the target population consists of all permanent employees working at 5-star hotels in Bali, Indonesia with a minimum tenure of three years. The decision to use employees as respondents is based on their ability to understand how new ideas are generated, how they respond to challenges, and how they engage in daily innovative processes [35].

The sample size was determined using the Krejcie & Morgan formula [36] from a population of 21,306 employees, resulting in a minimum required sample of 377. Data collection was conducted between December 2024 and January 2025 using a structured questionnaire distributed via online platforms. This study was conducted based on guidelines that have been reviewed and approved by the Institutional Review Board, Dean of the Faculty of Economics and Business, Brawijaya University, Malang, Indonesia (protocol code: 8977/UN10.F02.11.31/AK/2024).

All constructs were measured using 5-point Likert scales (1 = strongly disagree, 5 = strongly agree). Transformational Leadership (TL): Measured with 7 items adapted from the Multifactor Leadership Questionnaire (MLQ) [37]. Paras Paros Citizenship Behavior (PPCB): Developed from OCB indicators [38] and validated through expert judgment and the Content Validity Index (CVI) method [39]. Seven dimensions and sixteen items were retained: helping each other, equality, conscientiousness, togetherness, concern for the organization, compromise participation, and feedback acceptance. Technology Adoption Commitment (TAC) Measured with 6 items from [40], was contextually integrated with a technology: affective technology commitment, normative technology commitment, and continuance technology commitment. Technology-Enabled Innovative Behavior (TEIB) was measured using 10 items adapted from the Innovative Work Behavior (IWB) scales developed by [41], which were contextually modified to incorporate technology-related elements based on the Technology-Enabled Service Innovation (TESI) indicators from [42]. This modification ensures that every dimension of innovative behavior—idea exploration, idea advocacy, and even idea implementation—explicitly teaches the use of hotel technologies such as PMS and IoT devices, (EMS), digital service applications, and operational automation tools.

This study obtained data by distributing questionnaires to respondents through an online survey. (SEM) with (PLS) approach was used to test the proposed hypotheses using Smart PLS version 4. PLS was chosen for this study, combined with indicators of technology adoption readiness. PLS is a method applicable to all data scales, can be used to explore relationships between variables with weak theoretical foundations or for hypothesis testing (theory confirmation), and provides valuable insights for explanation, prediction, and confirmation purposes. Additionally, since dimensions were included in measuring paras paros citizenship behavior, both first-order and second-order techniques were applied in the testing process. Furthermore, two analytical methods were implemented: the algorithm was used to assess construct validity and reliability, while bootstrapping analysis was used to test hypotheses, both directly and indirectly (mediation) [43].

The majority of employees as the respondents in this study were male (51.46%) The dominant age group is 31– 40 years, with a percentage of 38.20%. Regarding educational background, 61.80% of the respondents hold a postgraduate degree, with the most dominant job position being Front office, and a tenure of more than 5 years.

3. Results and Discussion

3.1 Result

1. Result of the Outer Model Measurement

The outer model analysis was conducted using Smart PLS 4 software. All latent constructs achieved composite reliability scores that met the requirements for discriminant validity. The results of the validity and reliability analysis show that all constructs in this study, as presented in Table 1, meet the appropriate criteria.

Table 1. Validity and Reliability of the Study Variables

Construct	Item	Outer Loading	Composite Reliability	AVE
TL	TL1	0.808	0.937	0.868
	TL2	0.848		
	TL3	0.827		
	TL4	0.838		
	TL5	0.818		
	TL6	0.854		
	TL7	0.774		
PPCB (COMP)	COMP1	0.945	0.944	0.893
	COMP2	0.946		
PPCB (COOR)	COOR1	0.893	0.936	0.829

	COOR2	0.923		
	COOR3	0.916		
PPCB (CONS)	CONS1	0.866	0.827	0.705
	CONS2	0.812		
PPCB (EUA)	EUA1	0.859	0.867	0.765
	EUA2	0.889		
PPCB (FEAC)	FEAC1	0.934	0.932	0.873
	FEAC2	0.934		
PPCB (HEEO)	HEEO1	0.932	0.944	0.849
	HEEO2	0.930		
	HEEO3	0.902		
PPCB (TOG)	TOG1	0.920	0.929	0.68
	TOG2	0.944		
TAC	TAC1	0.795	0.911	0.632
	TAC2	0.876		
	TAC3	0.786		
	TAC4	0.753		
	TAC5	0.721		
	TAC6	0.829		
TEIB	TEIB1	0.748	0.965	0.732
	TEIB2	0.799		
	TEIB3	0.852		
	TEIB4	0.826		
	TEIB5	0.867		
	TEIB6	0.905		
	TEIB7	0.897		
	TEIB8	0.909		
	TEIB9	0.883		
	TEIB10	0.858		

The research results should indicate that all indicators of each variable have outer loading values > 0.7. In addition, the (AVE) values for all constructs exceed the minimum threshold of 0.50. where this shows > 50% of the variance in the indicator is explained by the construct in question, thereby fulfilling the criteria for high convergent validity. Therefore, it can be concluded that the research instrument possesses adequate measurement capability and is suitable for further analysis within the structural model.

Table 2. Fornell-Larcker criterion

Variables	1	2	3	4	5	6	7	8	9	10
TL	0.824									
COMP	0.638	0.945								
COOR	0.685	0.832	0.911							
CONS	0.609	0.668	0.702	0.840						
EUA	0.571	0.658	0.638	0.757	0.874					
FEAC	0.669	0.870	0.825	0.693	0.656	0.934				
TOG	0.571	0.793	0.733	0.616	0.586	0.749	0.932			
HEEO	0.467	0.496	0.498	0.671	0.713	0.473	0.481	0.921		
TAC	0.610	0.624	0.674	0.633	0.585	0.657	0.598	0.435	0.795	
TEIB	0.677	0.693	0.665	0.619	0.615	0.666	0.575	0.489	0.575	0.856

The results of the discriminant validity test using the Fornell-Larcker criterion indicate that all constructs in this research model exhibit good discriminant validity. This is evidenced by the square root values of the (AVE) for each construct being higher than the correlation values with other constructs in the same row or column. Furthermore, in Table 3, PPCB is analyzed as a second-order construct because it includes several dimensions that collectively represent a broader concept.

Table 3. Second-order construct

Path	Path Coefficient	T statistics	P values	Result
PPCB → COMP	0.902	72.312	0.000	Accepted
PPCB → COOR	0.898	55.689	0.000	Accepted
PPCB → CONS	0.847	37.719	0.000	Accepted
PPCB → EUA	0.829	34.649	0.000	Accepted
PPCB → FEAC	0.891	59.059	0.000	Accepted
PPCB → HEEO	0.726	20.080	0.000	Accepted
PPCB → TOG	0.835	38.134	0.000	Accepted

Table 3 shows that paras paros citizenship behavior significantly influences all its dimensions—compromise participation, concern for the organization, conscientiousness, equality, feedback acceptance, helping each other, and togetherness with all relationships significant (p-value = 0.000). The most influential dimension is compromise participation, with a path coefficient of 0.902 and T-statistic of 72.312. This highlights that paras paros citizenship behavior is closely linked to individuals' willingness to compromise in organizational decision-making for the collective good, reflecting fair behavior and perspective exchange among members, and plays a critical role in facilitating collaborative adoption of hotel digital platforms, automation tools, and IoT-enabled guest service systems.

2. Inner Model Measurement

The model fit indices indicate that the SRMR value of the saturated model (0.061) is below the recommend threshold of 0.08, suggesting a good fit, while the estimat model (0.087) shows a marginal but still acceptable fit. The discrepancy measures (d_ULS = 1.731; d_G = 1.090 for the saturated model, and d_ULS = 3.535; d_G = 1.175 for the estimated model) remain within acceptable ranges, indicating no severe misspecification. The chi-square values (2301.341 for the saturated model and 2389.724 for the estimated model) are relatively high, which is common in large samples, and the NFI values (0.798 for the saturated model and 0.790 for the estimated model) approach the recommended cut-off of 0.80, reflecting an acceptable overall model fit.

Tabel 4. R-Square

Construct	R-Square
Paras paros citizenship behavior	0.509
Technology Adoption Commitment	0.373
Technology-Enabled Innovative Behavior	0.585

Tabel 5. Q-Square

Construct	Q-Square
Paras paros citizenship behavior	0.628
Technology Adoption Commitment	0.486
Technology-Enabled Innovative Behavior	0.667

The R-squared analysis in this study shows the extent to which independent variables can explain dependent variables in the context of this study, including both innovative behavior and technology-

related outcomes (TESI). The obtained R-square values indicate that the model has a moderate explanatory power for the endogenous variables. The Q² value confirms that transformational leadership and PPCB explain substantial variance in employees' readiness and ability to integrate smart hospitality systems, energy management dashboards, and digital service automation into hotel operations. This strengthens the model's validity in analyzing the factors that influence Technology-Enabled Innovative Behavior.

3. Hypotheses testing

Table 6. Hypotheses testing direct effects

Path	Std Beta	T statistics	P values	Result
TL → TEIB	0.307	5.126	0.000	Significant
TL → PPCB	0.713	17.247	0.000	Significant
TL → TAC	0.610	11.647	0.000	Significant
PPCB → TEIB	0.479	8.063	0.000	Significant
TAC → TEIB	0.047	0.876	0.330	No significant

The analysis results indicate that TL has a sig effect on TEIB, with a path coefficient of ($\beta = 0.307$; p-value = 0.000). This finding confirms that the stronger the transformational leadership demonstrated by hotel leaders, the greater the encouragement for employees to display technology-enabled innovative behavior. In addition, TL was also found to have a sig effect on PPCB ($\beta = 0.713$; p = 0.000) and TAC ($\beta = 0.610$; p = 0.000). These results suggest that transformational leadership not only enhances the spirit of togetherness rooted in local wisdom (paras-paros) but also strengthens employees' commitment to adopting technology. Furthermore, PPCB significantly influences TEIB ($\beta = 0.479$; p = 0.000), whereas TAC doesn't have a sig effect on TEIB ($\beta = 0.047$; p = 0.330). This indicates that although employees may possess a strong commitment to technology adoption, such commitment does not necessarily lead to technology-enabled innovative behavior.

Table 7. Hypotheses testing indirect effects

Path	Std Beta	T statistics	P values	VAF	Result
TL → PPCB → TEIB	0.341	7.327	0.000	0.526 (52.6%)	Partial Mediation
TL → TAC → TEIB	0.029	0.877	0.380	0.086 (8.6%)	No Mediation

The mediation test further reveals that PPCB partially mediates the effect of TL on TEIB ($\beta = 0.341$; p = 0.000), indicates that PPCB significantly mediates part of the effect of TL on TEIB. This partial mediation is confirmed by the VAF value of 52.6%, which falls within the 20%–80% range [44]. In other words, transformational leadership is able to inspire and motivate employees to engage more deeply in organizational citizenship behavior based on harmony (paras paros citizenship behavior). This behavior then encourages employees to be more innovative in their work and more collaborative in implementing and optimizing the use of hotel digital systems, automation workflows, and ICT platforms.

However, TAC does not explain the correlation between TL and TEIB. ($\beta = 0.029$; p = 0.380), as evidenced by the VAF value of only 8.6%, which is below the 20% threshold, indicating the absence of mediation [44]. These findings are consistent with the results of hypothesis testing, which show that TAC has no sig effect on TEIB indicators. Thus, it can be concluded that Technology Adoption Commitment is not an effective pathway to change the effect of transformational leadership into Technology-Enabled Innovative Behavior or into measurable technology adoption outcomes. Taken together, the evidence suggests that within this sample and context TAC is not an effective mediating pathway translating transformational leadership into either TEIB or measurable technology-adoption outcomes. commitment to adopting technology may be necessary but not sufficient for technology-enabled innovation when other conditions (e.g., system usability and integration, access to tools, digital

skills, process redesign, or culture of collaboration) are binding constraints. Practically, this implies that leadership interventions should pair motivational levers (e.g., vision, support, recognition) with capability- and context-building levers (e.g., targeted training, workflow redesign, PPCB-based teamwork norms, and stronger IT enablement) to convert goodwill toward technology into sustained, innovation-oriented use.

Table 8. Utilization of Hospitality Technologies in Five-Star Hotels (n = 377)

No	Technology Type / Feature	Indicator	Measurement Unit	Mean	% Often/Very Often
1	Property Management System (PMS)	Percentage of daily operational tasks performed using PMS	% of tasks/day	76.4	82%
2	Mobile Check-in / Digital Key	Frequency of use for guest check-in/out or room access	Times/week	4.2	68%
3	Energy Management System (EMS)	Frequency of monitoring energy consumption	Times/month	5.8	55%
4	IoT Guest Room Control	Percentage of rooms with IoT devices operated /maintained by staff	% of rooms	64.7	61%
5	Automated Housekeeping Scheduling	Frequency of accessing/updating schedules	Times/week	3.6	59%
6	AI-driven Customer Service	Frequency of handling guest requests via AI/chatbot	Times/week	2.9	46%
7	Digital Payment Systems	Percentage of transactions processed digitally	% of transactions	72.8	74%
8	Customer Feedback Management System	Frequency of using digital tools for feedback	Times/month	4.5	58%

Note: “% Often/Very Often” refers to the percentage of respondents reporting a frequency of ≥ 3 times per week or $\geq 60\%$ usage.

Table 8 indicates that core operational technologies such as (PMS) (76.4% of daily tasks, 82% frequent use) and digital payment systems (72.8% of transactions, 74% frequent use) show the highest adoption in five-star hotels. Moderate usage is observed for mobile check-in/digital key (4.2 times/week, 68% frequent use) and IoT guest room controls (64.7% of rooms, 61% frequent use), while EMS and automated housekeeping scheduling record steady but lower frequencies. AI-driven customer service (2.9 times/week, 46% frequent use) and customer feedback management systems (58% frequent use) remain less utilized, indicating potential areas for increased training and integration.

The hypothesis testing results confirm that transformational leadership positively influences Technology-Enabled Innovative Behavior (TEIB), with PPCB acting as a significant mediator. This relationship is further contextualized by the actual utilization rates of hotel technologies presented in Table 8. For instance, the high mean usage of Property Management Systems (76.4%) and digital payment systems (72.8%) aligns with TEIB items related to identifying problems and implementing solutions through digital platforms (Items 1, 6, 8, and 9). Employees demonstrating higher TEIB scores were also more likely to frequently engage with mobile check-in/digital key systems (4.2 times/week) and IoT guest room controls (64.7% of rooms), reflecting their proactive approach in integrating technology into daily operations (Items 2, 3, 7, and 10). Conversely, technologies with lower reported utilization, such as AI-driven customer service (2.9 times/week), correspond to areas where TEIB scores

indicate room for growth, particularly in promoting and championing technology-driven service innovations (Items 3, 5, and 10). These findings suggest that while transformational leadership and PPCB encourage employees to innovate with technology, the degree of TEIB manifestation is closely tied to the accessibility, perceived usefulness, and integration level of specific hotel technologies. Therefore, managerial strategies should not only strengthen leadership and cultural support but also prioritize increasing the operational integration of underutilized technologies, ensuring that employees can fully translate innovative behaviors into measurable technology-enabled service improvements.

3.2 *Discussion*

The study results indicate that transformational leadership can influence Technology-Enabled Innovative Behavior (TEIB), such as the adoption of smart room systems, PMS modules, and automated guest service platforms. These findings support the proposed hypothesis and align with previous studies [8], [16], [18], [19], [39], [43]. Unlike much of the prior literature, these findings emphasize that hotels struggle not only with human resources issues but also with effectively adopting technology. Leadership and employee behavior play a crucial role in influencing the adoption of digital innovations. This study also reinforces Social Exchange Theory, which asserts that the exchange of valuable resources is expected to provide mutual benefits for all parties involved [33]. Transformational leadership effectively engages subordinates through social exchanges based on enduring reciprocal relationships with leaders, strong identification, interpersonal trust, and mutual loyalty. Transformational leadership encourages employees to engage in innovation and to actively contribute to ICT integration in daily hotel operations. Furthermore, transformational leadership has a significant influence on paras paras citizenship behavior. This finding aligns with previous research conducted by [22–25], which suggests that all behaviors are directed toward exceeding superior performance, demonstrating extra-role behavior. In line with Social Exchange Theory, employees participate in social exchange with transformational leader and reciprocate by displaying paras paras citizenship behavior that facilitates smooth collaboration during digital transformation initiatives.

Transformational leadership also influences Technology Adoption Commitment (TAC). These findings are consistent with previous studies [27–31], [36]. According to Social Exchange Theory, transformational leadership, which provides valuable resources to followers, can enhance their Technology Adoption Commitment (TAC) as a response to beneficial exchanges, although in this study such commitment did not significantly translate into improved TESI outcomes such as system adoption rates or automation uptake.

Furthermore, paras paras citizenship behavior has a sig influence on (TEIB). Research specifically examining the impact of paras paras citizenship behavior on innovative work behavior is either nonexistent or highly limited. From the perspective of Social Cognitive Theory, through learning, observation, increased self-efficacy, clear goal-setting, and positive reinforcement, in this case, paras paras citizenship behavior [50]. Employees who demonstrate PCB are more likely to engage in innovative behavior and to support the implementation of digital tools, smart energy systems, and ICT platforms Paras' civic behavior can also mediate the influence of transformational leadership on innovative work actions and employee effectiveness in technology adoption. Transformational leadership inspires employees to internalize PCB values, which in turn encourages them to be more creative, adaptive, and innovative in their work and more capable of leveraging technology to enhance service delivery.

The highest dimension of paras paras citizenship behavior is compromise participation, which refers to fair individual behavior in decision-making, involving the exchange of perspectives. In this context, all parties strive to find common ground that is mutually acceptable. This reflects the individual's commitment to collective well-being and encourages the creation of a synergistic and productive work environment that also facilitates cross-departmental coordination during the rollout of new hotel technology systems and reflects the spirit of deliberation and consensus of the parties, which is important for reaching decisions that are fair and acceptable to all parties. In the context of the characteristics of Balinese society, this dimension is very much in line with the culture of deliberation that is highly

respected in social and organizational life. The principle of "menyama braya" (we are all brothers) reflects balance in social relations and can be leveraged to reduce resistance to ICT and automation adoption.

Paras Paros Citizenship Behavior significantly mediates part of the influence of transformational leadership on TEIB. In the context of five-star hotels, this form of citizenship behavior fosters a harmonious work environment that supports the emergence of innovative work behavior and smoother integration of digital solutions such as PMS, IoT-enabled services, and energy management dashboards. Enhancing transformational leadership in five-star hotels not only helps in directing the organization's vision and strategy but also contributes to cultivating a work atmosphere that encourages PCB, thereby enabling innovation to grow in a sustainable manner and ensuring long-term success of technology adoption initiatives.

The widespread reliance on PMS (76.4%) and digital payment systems (72.8%) demonstrates how employees translate their innovative behavior into effective problem-solving and digital process optimization. Likewise, regular use of mobile check-in/digital key systems (4.2 times per week) and IoT guest room controls (applied in 64.7% of rooms) illustrates the proactive role of employees with higher TEIB in embedding digital solutions into routine service delivery. By contrast, technologies that remain less frequently used, such as AI-driven customer service (2.9 times per week), highlight areas where innovative behavior has yet to fully materialize, especially in championing technology-based service improvements. These patterns indicate that while transformational leadership and paras paros citizenship behavior provide a strong motivational and cultural foundation, the realization of innovation in measurable service outcomes is closely associated with how accessible, useful, and integrated the technology is within daily operations. Consequently, managerial attention should extend beyond leadership and cultural enablers toward strengthening the integration and user adoption of technologies that are still underutilized, ensuring that employees can optimally transform their innovative potential into tangible technology-enabled service enhancements.

However, Technology Adoption Commitment (TAC) does not have a sig effect on (TEIB), and does not function as a mediator in the correlation between transformational leadership and innovative work behavior. These findings do not align with previous studies [37–39], which suggest that affective commitment is associated with increased trustworthy behavior in the workplace, thereby increasing the likelihood that employees will acquire the necessary resources to implement creative ideas or adopt new systems. This implies that Technology Adoption Commitment (TAC) is not an effective pathway for transforming the influence of transformational leadership into Technology-Enabled Innovative Behavior or into measurable digital transformation performance. Transformational leadership is an aspect that must be considered more seriously, because this is the most contributing factor in determining the success or final results measured in the research model and in driving effective smart hospitality system integration.

4. Conclusion

The results of this study indicate that transformational leadership, as the primary antecedent, has a sig influence on TEIB in the five-star hotel industry in Bali, Indonesia, partially mediated by paras paros citizenship behavior. These findings reinforce social exchange theory and social cognitive theory, where transformational leadership creates a work environment that supports employees engaged in innovation through reciprocal relationships and local wisdom values like paras paros, while simultaneously enhancing their readiness and capability to adopt smart hospitality technologies, such as property management systems, IoT-enabled guest services, and energy management solutions.

Employees demonstrating paras paros citizenship behavior tend to be more proactive in innovating and in collaborating during digital transformation initiatives, while Technology Adoption Commitment (TAC) was not found to significantly drive Technology-Enabled Innovative Behavior (TEIB), and Technology-Enabled Innovative Behavior. From a technological perspective, the study highlights that the success of digital transformation in hospitality is tied to both leadership and the operational integration of technology. Practical implications emphasize the need for managers to reinforce inspiring

leadership and local wisdom values while simultaneously ensuring that underutilized technologies such as AI-driven service platforms and automated scheduling tools are better integrated and supported. By aligning cultural strengths with technological advancement, hotels can accelerate innovation and achieve sustainable competitive advantage through technology-enabled service improvements.

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