

Elaboration of Information Technology Adoption and Employee Productivity in Moderation of Business Sustainability Determinants

Elaboration of
Information
Technology Adoption

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ABSTRACT

The purpose of this study is to investigate the direct effects of organizational commitment and environmental factors on business sustainability, while also testing the role of information technology adoption and employee productivity in moderating these effects. Method: quantitative approach with primary data collected by sampling through the Lemeshow alpha 5% approach obtained by 384 respondents consisting of leaders and employees of 1, 2, 3 star hotels in Central Java Province. Influence analysis using the least squares regression method, and indirect influence test using the moderated regression analysis technique. Especially for the indirect influence test is built based on the results and recommendations of previous studies using bibliography and systematic literature review methods. Results: organizational commitment and environmental factors each provide a significant positive influence in improving the sustainability of the hotel business. This influence is stronger when the company adopts information technology and is supported by high employee work productivity. These findings present a novelty in the hotel sector to maintain business sustainability, it is time for management to elaborate between information technology and increasing employee productivity.

Keywords: Business Sustainability, Employee Productivity, Environmental Factors, Information Technology Adoption, Organizational Commitment.

ABSTRAK

Tujuan dari kajian ini menginvestigasi efek langsung dari komitmen organisasi dan faktor lingkungan terhadap keberlanjutan usaha, sekaligus menguji peran dari adopsi teknologi informasi dan produktivitas karyawan dalam memoderasi pengaruh tersebut. Metode : pendekatan kuantitatif dengan data utama primer dikumpulkan secara sampling melalui pendekatan Lemeshow alpha 5% di peroleh 384 responden terdiri dari pimpinan dan karyawan hotel bintang 1, 2, 3 di Provinsi Jawa Tengah. Analisis pengaruh langsung menggunakan metode regresi kuadrat terkecil, dan uji pengaruh tidak langsung dengan teknik moderated regression analysis. Khususnya untuk uji pengaruh tidak langsung dibangun berdasarkan hasil dan rekomendasi dari penelitian terdahulu yang menggunakan metode bibliografi dan systematic literature review. Hasil : komitmen organisasi dan faktor lingkungan masing-masing memberikan pengaruh positif yang signifikan dalam meningkatkan keberlanjutan usaha perhotelan. Pengaruh tersebut semakin kuat manakala perusahaan melakukan adopsi teknologi informasi dan didukung oleh produktivitas kerja karyawan yang tinggi. Temuan ini menyajikan keterbaruan di sektor perhotelan untuk menjaga keberlanjutan usaha pihak manajemen sudah saatnya untuk mengelaborasi antara teknologi informasi dan meningkatkan produktivitas karyawan.

Kata kunci: Keberlanjutan Bisnis, Produktivitas Karyawan, Faktor Lingkungan, Adopsi Teknologi Informasi, Komitmen Organisasi.

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INTRODUCTION

The hotel industry is recognized as one of the most dynamic sectors, demanding adaptive and responsive governance to ensure business continuity. Based on a survey conducted by the Indonesian Hotel and Restaurant Association (*Perhimpunan Hotel dan Restoran Indonesia*/PHRI) and Horwath HTL (Hotel, Tourism and Leisure) in 2025 in 30 provinces with a sample of 717 hotels, post-pandemic market sentiment in 2024 shows signs of recovery (BPS, 2025). However, optimism was tempered by alarming projections for 2025, where over half of the respondents believed that the hotel sector in Indonesia would face severe challenges. Among the pressing issues were underutilized meeting rooms (42%), disrupted market segmentation (18%), declining weekday demand (16%), stagnant room rates (15%), and cancellations (9%). These factors are expected to lead to income reductions between 10% and 30% annually (Rizky, 2025). One of the underlying causes stems from the government's austerity policies, particularly in travel and meeting budgets. Without strategic interventions from policymakers, the industry may continue to suffer, hindering its potential for sustainable growth and competitiveness.

A growing body of literature has emphasized the increasing importance of sustainability in the hospitality industry. Jain et al. (2023) in their bibliographic analysis stressed sustainable practices as critical for future competitiveness. These scholars argued that the hospitality sector must overcome challenges posed by an unpredictable market through sustainable performance strategies. Macke and Genari (2019) and Fatima and Elbanna (2023) further emphasized that sustainability practices are integral to long-term business survival. Despite its importance, Arkoh et al. (2024), Asad et al. (2024), and Budiherwanto (2025) pointed out that sustainability reporting has yet to receive focused empirical attention, especially in hotel industry settings. This study addresses this gap by responding to the call from Elbelehy and Crispim (2025), who highlighted the need to investigate determinants of sustainability in hotel businesses, especially within dynamic and resource-constrained environments.

The theoretical foundation of this study is rooted in several perspectives. Dynamic capabilities theory emphasizes a firm's ability to adapt and respond to rapidly changing environments through internal and external resource management (Tece et al., 2009). This includes managing human resources and adapting to competitive pressures. Complementing this, stakeholder theory encourages hospitality businesses to consider diverse stakeholder interests and integrate innovation and digital strategies to achieve sustainable outcomes (Okumus et al., 2019; Martínez-Peláez et al., 2023). The Resource-Based View (RBV) also plays a crucial role by underlining the value of productive human resources in achieving sustainable performance. Studies by Lucas et al. (2024) and Olaleye et al. (2024) reinforce this, demonstrating that organizational behavior, support, and commitment significantly affect sustainability in the hotel industry. Environmental performance, according to Abbas et al. (2023) and Ali et al. (2023), is another critical driver of sustainable hotel practices and competitiveness.

With the increasing relevance of digitalization, recent studies suggest integrating technological capability as a key component of sustainable hospitality (Khan et al., 2024; Manalu, 2025). Budiherwanto (2025) argues that achieving sustainability requires efficient, technology-driven strategies. Khalil et al. (2024) emphasized that hotels must adapt to eco-conscious consumer lifestyles through digital innovations. The findings of Lucas et al. (2024) further confirm that technological adoption enhances sustainable hotel performance, especially in developing economies. In addition, employee productivity remains central to service quality and operational sustainability (Pratono et al., 2019). Yet, there is a gap in studies empirically testing the moderating roles of technology adoption and employee productivity in the relationship between organizational and environmental factors and sustainability outcomes. This gap forms the novelty of the current study. Grounded in the bibliographic insights of Jain et al. (2023), Arkoh et al. (2024), and Elbelehy and Crispim (2025), this research develops a comprehensive framework to test the impact of organizational commitment and environmental considerations on hotel business sustainability. It introduces technology adoption and

employee productivity as novel moderating variables. The research aims to answer several key questions related to how these variables influence sustainability both directly and through moderation. Ultimately, the findings are expected to provide valuable recommendations for government and industry stakeholders in shaping strategic, sustainable tourism and hospitality policies.

LITERATURE REVIEW & HYPOTHESES DEVELOPMENT

Dynamic Capabilities and Business Sustainability

Dynamic Capabilities Theory, introduced by Teece et al. (1997), serves as a relevant framework for analyzing the effects of organizational commitment and environmental factors on business sustainability. This theory emphasizes how firms can rapidly and effectively adapt to dynamic changes in the business environment (Teece et al., 2009; Lucas et al., 2024; López-Gamero et al., 2024). It underscores a company's ability to transform and adapt swiftly to ensure continuity and long-term success (Sharma, 2023; Khalil et al., 2024). Initially, the theory centered on the firm's capacity to create, renew, and internalize knowledge and skills (Alqarni et al., 2023). Arkoh et al. (2024) and Khalil et al. (2024) further developed the model to include the ability to integrate, build, and reconfigure internal competencies in response to rapid environmental change.

To enhance dynamic capabilities, organizations require strong commitment from employees and leadership that aligns with internal values. Environmental aspects, both internal and external, also play a crucial role in ensuring long-term sustainability (Alqarni et al., 2023; López-Gamero et al., 2024). Sharma (2023) emphasized that organizational commitment significantly contributes to sustainable performance in the hospitality sector. Empirical findings by Lucas et al. (2024) supported this by showing a strong impact of organizational commitment on sustainability in African hotel industries. Similarly, Olaleye et al. (2024) highlighted its long-term effects on upscale hotels. Abbas et al. (2023) and Lucas et al. (2024) further affirmed that environmental factors significantly influence sustainable business practices. Most previous studies were based on literature reviews; this study provides empirical evidence and formulates the following hypothesis to address the research gap.

H1: Organizational commitment has a positive effect on business sustainability.

H2: Environmental factors have a positive effect on business sustainability.

Stakeholder Theory and Technology Adoption

Stakeholder theory, originally introduced by R. Edward Freeman in 1984, posits that to achieve long-term business sustainability, companies must consider the interests of all stakeholders, not only shareholders (He & Zaman, 2024). This theory has broad applicability, including in the context of explaining the interconnectedness between organizational commitment, environmental dynamics, sustainability, and technological adoption in modern business settings (Guinot et al., 2022; Langgat et al., 2023). Stakeholder theory emphasizes that business sustainability involves more than just profitability; it also relates to the well-being of employees, customers, suppliers, society, and environmental preservation (Espino-Rodríguez & Taha, 2022; Lei et al., 2023; López-Gamero et al., 2024). When organizational commitment is oriented toward meeting stakeholder needs, it has the potential to significantly improve long-term sustainability (Martini et al., 2021; Alraja et al., 2022). This effect becomes more pronounced when companies are responsive to evolving service expectations, particularly through responsible technology utilization, which enhances competitive advantage (Guinot et al., 2022; Elshaer et al., 2022; AlNawafleh et al., 2022). Martínez-Peláez et al. (2023) further argue that technology serves as a critical enabler of sustainability.

In today's evolving landscape, environmental considerations are increasingly essential to sustainable business practices. Stakeholder theory highlights the importance of balancing environmental, social, and economic priorities to achieve sustainable outcomes (Martínez-Peláez et al., 2023; Sharma, 2023). As business environments grow more

competitive and uncertain, organizations are urged to focus on strategic advantages that ensure long-term viability (AlNawafleh et al., 2022; Alqarni et al., 2023; Nguyen et al., 2023; López-Gamero et al., 2024). On the insights of Khan et al. (2024) and Khalil et al. (2024), current hospitality practices must increasingly incorporate digital solutions. Lucas et al. (2024) similarly argue that technological integration plays a pivotal role in enhancing sustainable performance. Guided by stakeholder theory and reinforced by these findings, this study introduces a novel conceptual framework supported by a newly formulated hypothesis.

H3: Adoption of information technology moderates the influence of organizational commitment on business sustainability.

H4: Adoption of information technology moderates the influence of environmental factors on business sustainability.

Resource-Based View and Employee Productivity

The Resource-Based View (RBV) theory, first articulated by Wernerfelt (1984), emphasizes that an organization's internal resources and capabilities are central to achieving a competitive edge and ensuring sustainable long-term performance (López-Gamero et al., 2024). Unlike perspectives that prioritize external forces like industry competition or technology trends, RBV focuses on the strategic value of internal elements, particularly those that are rare, valuable, difficult to imitate, and non-substitutable (Macke & Genari, 2019; Okumus et al., 2019; Asad et al., 2024; Lucas et al., 2024). Important internal resources include physical assets, human capital, and organizational knowledge (Elshaer et al., 2022). He and Zaman (2024) argue that capabilities refer to a company's ability to utilize these resources to achieve sustainable advantage.

Within the hospitality industry, organizational commitment emerges as a key internal capability supporting sustainability. Firms with a strong commitment to sustainability initiatives often optimize employee potential, enhancing productivity, which contributes directly to long-term viability (AlNawafleh et al., 2022; Asad et al., 2024). Productive employees facilitate innovation in both services and operations, aligning environmental, social, and economic outcomes (Huong et al., 2021; Guinot et al., 2022; Ali et al., 2023). In addition, employees with high environmental awareness foster green practices that support day-to-day sustainability goals (Okumus et al., 2019; Khatter, 2023). Psychological factors like attitudes, perceived control, and workplace satisfaction also affect productivity and alignment with sustainability targets (Marta et al., 2021; Sun et al., 2022). Moreover, autonomous motivation further strengthens environmental commitment (Olaleye et al., 2024), affirming findings by Abbas et al. (2023) and Arkoh et al. (2024) that strategic human resource and resource management are essential for sustaining competitive advantage in the hospitality sector.

H5: Employee productivity moderates the influence of organizational commitment on business sustainability.

H6: Employee productivity moderates the influence of environmental factors on business sustainability.

Based on dynamic capabilities theory, stakeholder theory, resource-based view theory, and several previous research studies, most of which use the systematic literature review method, a new conceptual framework is briefly constructed as follows.

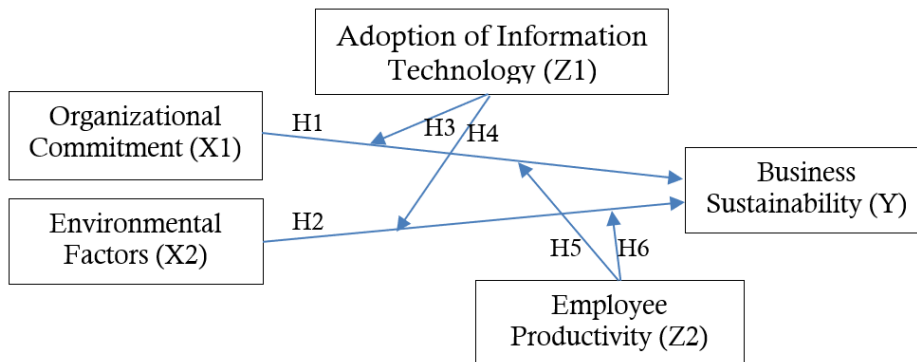


Figure 1. Conceptual Framework

Based on Figure 1, the diagram illustrates the conceptual framework for examining the influence of organizational commitment (X1) and environmental factors (X2) on business sustainability (Y), with adoption of information technology (Z1) and employee productivity (Z2) acting as mediating variables. Hypotheses H1 and H2 suggest direct effects from X1 and X2 to Y. Hypotheses H3 and H4 examine how X1 and X2 influence Z1, which in turn affects Y. Similarly, H5 and H6 assess how X1 and X2 influence Z2, which also affects Y. This model seeks to test the integrated impact of organizational behavior, environmental responsiveness, digitalization, and human capital productivity on the long-term sustainability of businesses, particularly in the hospitality industry.

RESEARCH METHOD

This research employs a quantitative empirical approach designed to test hypotheses derived from predetermined research questions concerning the sustainability of hotel businesses. The study focuses on leaders and employees from 1-star to 3-star hotels located throughout Central Java Province. Due to the large and indeterminate size of the target population, the researchers applied a sampling method based on the Lemeshow formula, using a 5% margin of error, which resulted in a required minimum sample size of 384 respondents. Data collection was carried out by distributing a structured questionnaire directly to respondents. The questionnaire utilized a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), allowing the participants to express their level of agreement with various statements representing the study’s variables. Five core constructs are examined, each operationalized through a comprehensive set of indicators.

Organizational Commitment (X1) includes affective and continuance commitment, normative influence, loyalty, pride, involvement, willingness, and emotional attachment. Environmental Factors (X2) are measured through indicators such as the use of resources efficiently, adoption of renewable energy, reduction of pollution and stress, ISO certification, environmental audits, regulatory compliance, and staff training. Adoption of Information Technology (Z1) covers the implementation of digital check-in systems, property management software, mobile applications, IoT integration, and employee readiness for technological change. Employee Productivity (Z2) is reflected in competence, skill, motivation, personal development, efficiency, discipline, and quality of service. Business Sustainability (Y), the dependent variable, is assessed using measures such as income growth, cost efficiency, customer satisfaction, strategic flexibility, service excellence, and competitiveness. To explore the direct and interaction effects among these variables, the study applies Moderated Regression Analysis (MRA), which provides a robust framework for testing how technology adoption and productivity moderate the impact of organizational commitment and environmental factors on sustainability outcomes. This method also includes thorough testing of feasibility, validity, and reliability, ensuring the rigor of the findings and the strength of theoretical and managerial implications (Sugiyono, 2016).

RESULTS

Respondent identity demographics refer to the classification of participants based on personal and professional characteristics such as gender, age, education level, years of work experience, and job field. These demographic details help researchers understand the background of respondents and ensure the sample is representative of the target population. Analyzing demographics is essential to interpret responses accurately and to assess how different characteristics may influence perceptions, behaviors, or outcomes related to the research objectives.

Table 1. Respondent Identity Demographics

Classification	Category	Amount	Percentage
Gender	Male	105	27.34%
	Female	279	72.66%
	Total	384	100 %
Age	18-30 years	82	21.35%
	31-40 years	121	31.51%
	41-50 years	162	42.19%
	51-60 years	19	4.95%
	Total	384	100%
Level of education	Senior High School	74	19.27%
	Associate's Degree	93	24.22%
	Bachelor's Degree	131	34.11%
	Master's Degree	83	21.61%
	Doctoral Degree	3	0.78%
	Total	384	100%
Length of working	<1 year	26	6.77%
	1-5 years	98	25.52%
	6-15 years	189	49.22%
	>15 years	71	18.49%
	Total	384	100%
Field of work	Hotel management	91	23.70%
	Front office	79	20.57%
	Human resources	101	26.30%
	Sales and marketing	85	22.14%
	Other	28	7.29%
	Total	384	100%

Based on Table 1, primary data were collected from 384 respondents. After analyzing the demographic profile, it appears that the majority of respondents are women (279 respondents or 72.66%). In terms of age, most respondents are between 41–50 years old (162 respondents or 42.19%). Regarding education, the majority hold a Bachelor's degree (131 respondents or 34.11%). The length of work experience is predominantly between 6–15 years (189 respondents or 49.22%). Most respondents work in human resources (101 respondents or 26.30%) and hotel management (91 respondents or 23.70%).

Table 2. Respondent Response Scores

Indicator	Mean	Mode	Min	Max	S. D
P1	4.23	4	3	5	21.30
P2	4.36	4	3	5	30.05
P3	3.28	3	3	5	11.43
P4	4.37	4	3	5	10.34
P5	3.43	3	3	4	24.32
P6	4.47	4	3	5	10.21
P7	4.01	4	3	4	10.53
P8	4.41	4	3	4	20.31
P9	4.03	4	4	4	17.03
P10	4.34	4	4	5	18.91
P11	4.72	4	4	5	10.45
P12	4.84	4	4	5	14.67
P13	4.21	4	4	5	16.01
P14	3.47	3	3	4	25.32

Indicator	Mean	Mode	Min	Max	S. D
P15	4.34	4	4	5	21.51
P16	3.08	3	3	4	13.54
P17	4.82	4	4	5	10.35
P18	4.05	4	3	5	9.73
P19	3.43	3	3	4	8.76
P20	4.45	4	3	5	12.34
P21	3.48	3	3	4	11.72
P22	4.61	4	3	5	10.01
P23	4.71	5	3	5	12.31
P24	4.57	5	3	5	10.34
P25	4.60	5	3	5	16.04
P26	4.02	4	3	5	8.94
P27	4.35	4	3	5	10.32
P28	4.73	4	3	5	9.46
P29	4.57	4	3	5	12.05
P30	4.32	4	3	5	11.84
P31	3.45	3	3	5	8.75
P32	3.35	3	3	5	23.01
P33	3.49	4	3	5	18.93
P34	4.01	4	3	5	9.83
P35	3.87	4	3	5	13.42
P36	4.04	4	3	5	12.43
P37	4.43	4	3	5	11.56
P38	3.76	4	3	5	8.08
P39	4.32	4	3	5	12.04
P40	4.43	4	3	5	11.34
P41	3.78	4	3	5	13.45
P42	3.69	4	3	5	10.54
P43	4.05	4	3	5	11.67

Based on Table 2, respondents' responses regarding organizational commitment were, on average, agreeable, except for normative commitment and loyalty, which received a neutral response. This means that respondents have the potential to change jobs when there are more promising career opportunities. Furthermore, for the environmental factor variable regarding the question of ISO standard adoption and implementation of the company's environmental policy, it also received an average neutral response from respondents; the rest agreed. The technology adoption variable was dominated by an average agreeable response, except for questions regarding digital check-in and check-out, and the use of IoT service management. Employee work productivity, only for question items regarding self-development awareness, quality of work results, and work efficiency, where respondents stated neutral, the rest agreed. Regarding the sustainability variable of the hotel business, out of 384 respondents, all agreed with the 10 question items asked.

Table 3. Variable Feasibility Test

Variable	Cut Off	Sig.	Hasil
Organizational commitment (X1)	0.05	0.000	Significantly correlated
Environmental factors (X2)	0.05	0.000	Significantly correlated
Adoption of technology (Z1)	0.05	0.000	Significantly correlated
Employee productivity (Z2)	0.05	0.000	Significantly correlated
Business continuity (Y)	0.05	0.000	Significantly correlated

Table 3 presents the results of the variable feasibility test, indicating that all variables meet the significance threshold of 0.05. With a significance value (Sig.) of 0.000 for each variable, it can be concluded that organizational commitment, environmental factors, technology adoption, employee productivity, and business sustainability are all significantly correlated. This confirms that each variable is appropriate and relevant for further analysis in the research model, supporting the validity of the study's proposed framework.

Table 4. Validity Test

Variable	Question Items	Component Matrix	Alpha Cronbach	KMO
Organizational commitment (X1)	P1	0.673	0.879	0.673
	P2	0.578		
	P3	0.485		
	P4	0.732		
	P5	0.487		
	P6	0.568		
	P7	0.657		
	P8	0.678		
Environmental factors (X2)	P9	0.745	0.823	0.578
	P10	0.663		
	P11	0.578		
	P12	0.582		
	P13	0.635		
	P14	0.484		
	P15	0.564		
	P16	0.494		
	P17	0.741		
Adoption of technology (Z1)	P18	0.587	0.912	0.742
	P19	0.498		
	P20	0.567		
	P21	0.501		
	P22	0.587		
	P23	0.782		
	P24	0.652		
	P25	0.673		
Employee productivity (Z2)	P26	0.569	0.795	0.634
	P27	0.621		
	P28	0.576		
	P29	0.583		
	P30	0.634		
	P31	0.493		
	P32	0.487		
	P33	0.511		
Business continuity (Y)	P34	0.634	0.846	0.821
	P35	0.673		
	P36	0.567		
	P37	0.734		
	P38	0.569		
	P39	0.651		
	P40	0.642		
	P41	0.755		
	P42	0.675		
	P43	0.653		

Instrument testing was conducted with validity, reliability, and sample adequacy test stages. Based on Table 4, the results of the validity instrument test show that all question items contained in the research variables obtained a component matrix coefficient > 0.40 , meaning that 43 question items are valid. The next instrument test, namely the reliability test, also proved that all respondent responses were stated as reliable, as seen from the Cronbach alpha coefficient > 0.70 . Furthermore, for the sample adequacy test, it was also proven that using 384 respondents was stated as sufficient to represent the entire population, as seen from the Kaiser-Meyer-Olkin (KMO) coefficient > 0.50 .

Based on the results of data processing using Moderated Regression Analysis (MRA), a series of tests was conducted, starting from model validation to the examination of both direct and interaction effects. The results shown in Table 5 demonstrate that Model I confirms organizational commitment and environmental factors significantly influence business sustainability, as indicated by a t-count of 5.293 (greater than the t-table value of 3.019) and a significance value of 0.000, with an explanatory power of 40.6%. Model II shows that the interaction of these two variables with the adoption of information

technology further enhances their explanatory strength (t-count 7.046 > 3.019; significance 0.000), raising the model's ability to explain business sustainability to 64.1%. Model III also reveals that when employee productivity is introduced as a moderating variable, it strengthens the relationship between the independent variables and business sustainability (t-count 6.428 > 3.019; significance 0.000), with an explanatory power of 55.3%. These findings suggest that among the tested models, the adoption of information technology plays the most significant moderating role in reinforcing hotel business sustainability. Furthermore, the direct effect tests in Model I confirm that both organizational commitment (t-count 7.236; sig. 0.000; coefficient 0.506) and environmental factors (t-count 4.941; sig. 0.000; coefficient 0.367) positively influence business sustainability, supporting hypotheses H1 and H2, with organizational commitment having a more dominant impact. In Model II, IT adoption significantly strengthens the effects of organizational commitment and environmental factors (t-counts 8.027 and 5.625, sig. 0.000 and 0.001), validating H3 and H4. In Model III, employee productivity also significantly moderates the relationships (t-counts 7.843 and 5.721, sig. 0.002 and 0.000), thereby supporting hypotheses H5 and H6.

Table 5. Moderated Regression Analysis Test

Test	Variable	Coefficient	t	Sig. t	Information
H1	X1 → Y	0.506	7.236	0.000	Accepted
H2	X2 → Y	0.367	4.941	0.001	Accepted
	F	5.293		0.000	
	Adj. R ²	0.406			
H3	X1.Z1 → Y	0.691	8.027	0.000	Accepted
H4	X2.Z1 → Y	0.409	5.625	0.001	Accepted
	F	7.046		0.000	
	Adj. R ²	0.641			
H5	X1.Z2 → Y	0.658	7.843	0.000	Accepted
H6	X2.Z2 → Y	0.416	5.721	0.000	Accepted
	F	6.428		0.000	
	Adj. R ²	0.553			

DISCUSSION

The findings of this study confirm that organizational commitment has a significant direct effect on business sustainability, especially within the hotel sector. Employee commitment, particularly affective commitment, emerges as a critical internal factor that drives long-term operational success. Respondents acknowledged feeling proud of their workplace and demonstrated a strong emotional bond, resulting in behaviors such as discipline, loyalty, and active contribution, which are essential for ensuring sustainability. These findings align with the dynamic 'capability theory, which emphasizes internal competencies like human resources to adapt to environmental changes and sustain business operations (Aliane et al., 2023; Elbelehy & Crispim, 2025). Prior research by Arkoh et al. (2024) and Khalil et al. (2024) similarly emphasizes that employees who are committed are more inclined to engage in productive and proactive behaviors, which foster organizational resilience. Compared to previous systematic literature reviews, this empirical evidence offers practical insights that reinforce theoretical frameworks through measurable results, making it an important addition to the field.

Environmental factors also significantly influence business sustainability in the hospitality industry. Respondents reported that actions such as using resources efficiently, training staff in eco-friendly practices, and complying with environmental regulations contribute positively to long-term sustainability. These results are consistent with the dynamic capabilities theory, which explains how external sensing and internal adaptation to environmental changes help organizations remain competitive (Lucas et al., 2024). Previous studies by Espino-Rodríguez and Taha (2022) and Abbas et al. (2023) similarly emphasize that environmental factors are essential in shaping sustainability outcomes. However, many of these studies have not empirically validated this relationship in the context of hospitality, making this study's findings an important contribution to the

literature. The ability to sense market trends and adapt to regulatory requirements is shown to enhance strategic decision-making, thus strengthening sustainability performance.

Furthermore, the study reveals that the adoption of information technology significantly moderates the relationship between organizational commitment and business sustainability. Respondents indicated that the presence of user-friendly, relevant technology, along with adequate training, enhanced their willingness to adopt digital tools. This implies that technological adoption does not just facilitate operational processes but also amplifies the impact of human resource commitment. These findings align with stakeholder theory, which posits that businesses must generate value for all stakeholders, including customers, employees, and communities (Martini et al., 2021; Lucas et al., 2024). The integration of technology improves service quality, fosters customer satisfaction, and ultimately leads to sustainable operations (Aliane et al., 2023; Tarigan et al., 2025). Previous studies, such as Khan et al. (2024) and Khalil et al. (2024), have highlighted the growing importance of digital integration in sustainable hospitality, but they primarily relied on literature reviews. This study builds on those insights with empirical evidence, offering a robust validation of the moderating role of technology.

Finally, the study confirms that employee productivity significantly moderates the relationship between environmental factors and business sustainability. Productive employees, defined by their skills, motivation, and work ethic, can effectively respond to and support environmentally sustainable practices. This is consistent with the resource-based view theory, which stresses that unique internal resources, such as highly productive personnel, are difficult to replicate and crucial for achieving sustainable competitive advantages (Langgat et al., 2023). Respondents emphasized that when employees are motivated and capable, their contribution to sustainability becomes more impactful, especially in navigating dynamic environmental challenges. These findings, which have not been thoroughly tested in earlier empirical studies, introduce a new dimension for future research. They suggest that employee productivity not only enhances organizational outcomes but also strengthens the firm's capacity to respond to environmental shifts, positioning it as a central lever in achieving long-term sustainability in the hotel industry.

CONCLUSION

The results of this study demonstrate that high organizational commitment and favorable environmental conditions have a significant direct impact on enhancing the sustainability of the hotel business, supporting the dynamic capability theory, which emphasizes the importance of internal adaptability. The study also confirms that the adoption of information technology strengthens these relationships, aligning with stakeholder theory, which highlights the need for businesses to create value for all stakeholders, including employees and customers. Furthermore, when employee productivity is high, the influence of both organizational commitment and environmental factors becomes even stronger, providing empirical support for the resource-based view theory that underscores human capital as a strategic asset for achieving sustainable performance. In relation to the research objective, to examine the impact of organizational commitment and environmental factors on hotel business sustainability, moderated by technology adoption and employee productivity, these findings offer valuable theoretical and practical contributions.

The implication for hotel management is clear: to enhance sustainability, especially for hotels that have yet to adopt the latest technologies, it is critical to adapt quickly to digital advancements and ensure employee readiness through training and upskilling programs. However, this study has limitations, including its focus only on 1-star to 3-star hotels. The generalizability of results to higher-rated hotels remains uncertain. Future researchers are encouraged to expand this model by testing it on 4-star and 5-star hotel categories to explore potential differences in technological integration, employee capabilities, and sustainability practices. Additionally, longitudinal studies could offer deeper insights into

the long-term impact of these variables. With limited prior empirical research in this area, this study opens new pathways for examining sustainable hospitality practices through a multidimensional lens involving people, technology, and environmental adaptation.

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