

The Influence of Internet of Things (IoT), Digital Payment Systems, and 24/7 Customer Support Services on Improving Tourist Experience at Tourism Destinations in Bali, Indonesia

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ABSTRACT

This study investigates the influence of Internet of Things (IoT), digital payment systems, and 24/7 customer support services on improving travelers' experiences in tourism destinations in Bali, Indonesia. Using a quantitative approach, data were collected from 200 respondents through a structured Likert scale questionnaire, with analysis conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS 3). The results show that all three factors positively and significantly contribute to enhancing tourists' experiences, with 24/7 customer support services having the strongest impact, followed by digital payment systems and IoT. The findings highlight the importance of continuous customer support, secure and convenient digital transactions, and seamless IoT-enabled services in creating a positive tourism experience. These insights provide practical implications for tourism operators and policymakers in Bali, underscoring the need for technological investments to meet modern travelers' expectations.

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1. INTRODUCTION

The rapid advancement of technology has significantly transformed the tourism sector, with the Internet of Things (IoT), digital payment systems, and 24/7 customer support services playing pivotal roles in enhancing the travel experience by providing seamless connectivity, secure transactions, and continuous assistance. These innovations

improve operational efficiency and customer satisfaction, marking a broader trend of digitalization that is reshaping the industry. IoT facilitates seamless connectivity between devices, enabling travelers to access real-time information and manage bookings efficiently, which contributes to sustainable tourism practices by improving resource management and reducing environmental impact [1]. In the

hospitality industry, IoT also personalizes travel experiences, offering timely suggestions and information to enhance customer engagement and satisfaction [2]. Digital payment systems, another critical component of this transformation, provide a secure, efficient method for completing transactions, reducing cash reliance, and simplifying the purchasing process. This shift is essential for maintaining global competitiveness in the digital age [3], especially as contactless transactions have become more prevalent post-COVID [4]. Additionally, 24/7 customer support services, facilitated by advancements in information and communication technologies (ICTs), ensure travelers receive timely assistance, improving overall satisfaction [5]. Continuous customer support is increasingly demanded by modern travelers, contributing to a more personalized travel experience [2].

Bali, Indonesia, is leveraging technological innovations such as IoT, digital payment systems, and continuous customer support services to maintain its status as a premier tourist destination, enhancing the traveler experience in a highly competitive global tourism market. These advancements are crucial for providing a seamless and enriched travel experience, ensuring Bali remains attractive to both international and domestic tourists. Strategic infrastructure development plays a pivotal role in this effort, with investments expected to boost the Gross Regional Domestic Product (GRDP) by 9.71% [6]. The Bali Provincial Government's focus on infrastructure is essential for supporting technological innovations, which require robust systems to function effectively [6]. Economic diversification, driven by Information and Communication Technology (ICT), highlights the potential for new sectors such as e-commerce and technology-based services, improving the promotion of local products and integrating digital payment systems to facilitate transactions [7]. In transportation, Bali's development of autonomous transit buses reflects its commitment to modernizing tourist experiences and addressing transportation

challenges through technology, contributing to sustainable tourism planning [8], [9]. Digital marketing, especially via social media, plays a significant role in promoting Bali's offerings, such as spiritual tourism, and can be further enhanced by integrating IoT and digital payment systems to provide tourists with real-time information and seamless booking experiences [10].

This study explores the influence of IoT, digital payment systems, and 24/7 customer support services in improving travelers' experiences at tourism destinations in Bali. Although previous studies have examined these technologies individually in the context of tourism, there is limited research that explores their combined effect on traveler satisfaction. By addressing this gap, the study aims to provide a comprehensive understanding of how these technologies interact to enhance the overall tourist experience.

2. LITERATURE REVIEW

2.1 *Internet of Things (IoT) in Tourism*

The Internet of Things (IoT) connects devices equipped with sensors and software, enabling data exchange over the internet. In tourism, IoT plays a crucial role in enhancing service delivery and customer experiences. According to [11], [12], IoT creates smart tourism environments where travelers receive personalized services, real-time information, and location-based recommendations. In Bali, IoT improves interactions with transportation, accommodations, and attractions, making the experience more seamless. [13], [14] note that IoT enhances customer engagement through personalized services like smart hotel rooms and real-time

updates. This technology increases convenience and safety, offering automated check-ins and real-time guidance [15]. Bali's integration of IoT is key to creating smarter destinations that meet visitor needs in real-time.

2.2 *Digital Payment Systems in Tourism*

Digital payment systems have revolutionized tourism by providing fast, secure, and cashless transactions through platforms like mobile wallets, contactless cards, and cryptocurrency [16]. These systems simplify payments for accommodation, dining, and transportation, reducing currency exchange challenges. [17], [18] found that digital payments enhance customer satisfaction by minimizing friction, improving security, and enabling spending tracking [19], [20]. In destinations like Bali, digital payments have become essential, with e-wallets and mobile payments widely integrated into hotels, restaurants, and attractions. The rise of contactless payments, especially during COVID-19, has further boosted their importance in ensuring safety and offering personalized promotions.

2.3 *24/7 Customer Support Service in Tourism*

Customer support is crucial in the tourism industry, significantly impacting traveler satisfaction and loyalty. With the rise of digital technologies, offering 24/7 customer support has become essential, particularly in high-demand destinations like Bali. Continuous availability ensures tourists can resolve issues or

receive assistance anytime, enhancing their overall experience [21], [22]. [23] highlight that chatbots, mobile apps, and AI-driven platforms are vital for providing timely information and troubleshooting services, improving perceived service quality. In Bali, where tourism operates around the clock, especially for international travelers, continuous customer support is key to maintaining satisfaction and addressing challenges. Real-time support builds trust and reliability, essential for positive tourist experiences [24], [25], and AI integration enables personalized solutions and instant responses, increasing both efficiency and satisfaction.

2.4 *The Combined Impact of IoT, Digital Payment Systems, and 24/7 Customer Support*

While IoT, digital payment systems, and 24/7 customer support have been studied individually, research on their combined impact on the traveler experience is limited. The convergence of these technologies forms a holistic service ecosystem that enhances customer satisfaction, convenience, and overall experience. [15], [22], [26]–[28] suggest that this integration creates a seamless tourism experience, where travelers access real-time information, make secure payments, and receive assistance whenever needed. In Bali, the fusion of IoT, digital payments, and continuous support can greatly improve tourist satisfaction by offering a frictionless, safe, and responsive experience, addressing key traveler needs

from pre-arrival to post-departure. This is especially vital in a competitive tourism market, where traveler experience is a crucial differentiator.

Research Gap

Despite the growing body of literature on individual technologies in tourism, there is a gap in research that examines the combined effects of IoT, digital payment systems, and customer support on traveler satisfaction. This study addresses this gap by exploring how these three technological components work together to

enhance the traveler experience in Bali. By using Structural Equation Modeling-Partial Least Squares (SEM-PLS) to analyze the relationships between these variables, this research provides a comprehensive understanding of the integrated role of these technologies in the tourism industry. This study aims to contribute to the literature by providing empirical evidence on the synergistic effects of these technologies in improving traveler experiences, offering insights for both academics and practitioners in the tourism sector.

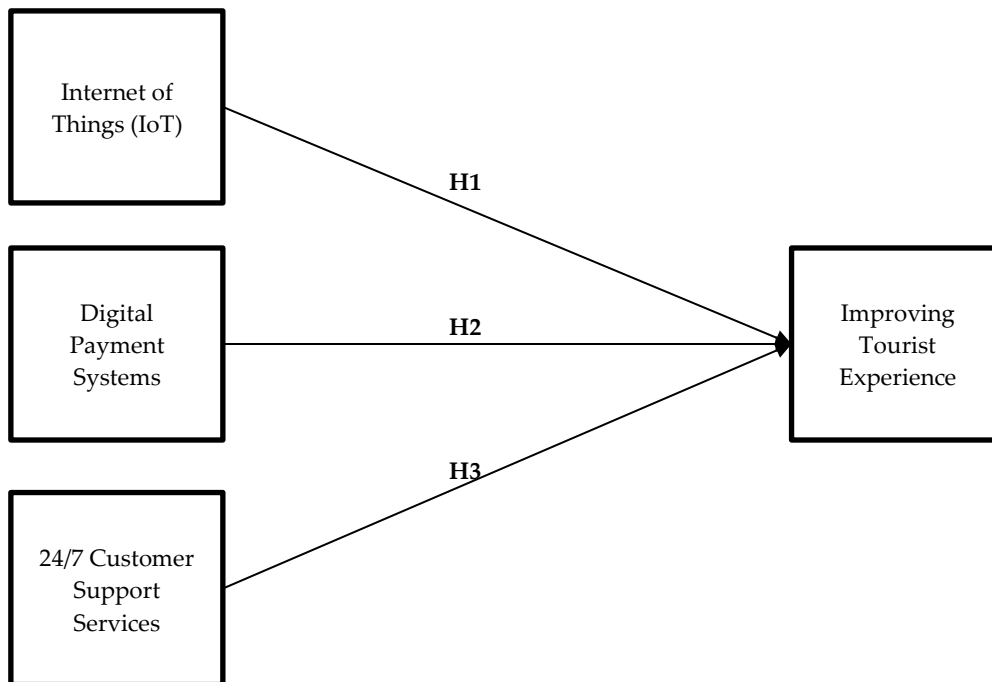


Figure 1. Conceptual Framework

3. METHODS

3.1 Research Design

The study employs a quantitative research design to explore the relationships between IoT, digital payment systems, 24/7 customer support services, and travelers' experiences in Bali. The quantitative approach is well-suited for this study as it allows for the examination of specific variables through

numerical data, enabling the researcher to quantify the effects of the independent variables (IoT, digital payment systems, and customer support) on the dependent variable (traveler experience). This approach facilitates hypothesis testing and provides a robust basis for drawing conclusions about the relationships between variables.

3.2 Sampling Method and Sample Size

The sample for this study consists of 200 respondents, who were selected using a purposive sampling technique. The participants were travelers who had recently visited tourism destinations in Bali, ensuring that they had direct experience with the technologies and services being examined. This sampling method was chosen to target individuals with relevant experience and knowledge, allowing for more accurate and insightful responses.

The sample size of 200 respondents was determined based on the requirements of the data analysis technique, SEM-PLS, which generally recommends a minimum sample size of 100-200 for robust and reliable analysis. The chosen sample size ensures sufficient statistical power to detect significant relationships between the variables while maintaining generalizability of the findings to the wider traveler population in Bali.

3.3 Data Collection

Data were collected through a structured questionnaire, which was distributed to the 200 respondents. The questionnaire was designed to gather information on the respondents' experiences with IoT, digital payment systems, and customer support services at tourism destinations in Bali. The questionnaire was divided into two sections: the first section gathered demographic data (age, gender, nationality, and travel frequency), while the second section focused on the independent and dependent variables.

To measure the key variables, the study utilized a 5-point Likert scale, with responses ranging from 1 (strongly disagree) to 5 (strongly agree). The scale was used to

assess the respondents' perceptions of the effectiveness of IoT, digital payment systems, and 24/7 customer support services in enhancing their travel experience. The Likert scale is commonly used in tourism and technology-related studies, as it provides a reliable measure of attitudes, perceptions, and satisfaction levels.

3.4 Data Analysis

The data were analyzed using Structural Equation Modeling-Partial Least Squares (SEM-PLS 3), a statistical technique that allows for simultaneous analysis of multiple relationships between independent and dependent variables. SEM-PLS was chosen for its suitability in examining complex models with latent variables and its ability to handle smaller sample sizes, offering flexibility over traditional techniques like multiple regression. The analysis followed three key steps: 1) Measurement Model Evaluation: Reliability and validity were assessed using Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) to ensure internal consistency, convergent validity, and discriminant validity through the Fornell-Larcker criterion. 2) Structural Model Evaluation: The structural model was evaluated to explore the relationships between independent variables (IoT, digital payment systems, and 24/7 customer support) and the dependent variable (traveler experience), with model fit assessed using R^2 and path coefficients for testing significance. 3) Hypothesis Testing: Hypotheses were tested by examining path coefficients and p-values, with significance determined by a p-value below 0.05. Bootstrapping (5000 resamples) was used to confirm the robustness of the results.

sample and its relevance to Bali's tourism context. The gender distribution was relatively balanced, with 52% male and 48% female respondents, ensuring representation of both perspectives. The age distribution showed that the majority of respondents were between 25 and 34 years old (40%), reflecting the growing trend of young, tech-savvy

4. RESULTS AND DISCUSSION

Demographic Profile of Respondents

The demographic variables analyzed in the study include gender, age, nationality, frequency of travel to Bali, and travel purpose, providing insights into the diversity of the

travelers. Nationality-wise, 60% of respondents were international tourists, consistent with Bali's status as a global tourist destination. Regarding travel frequency, 45% had visited Bali 2-3 times, indicating familiarity with the destination, while 35% were first-time visitors. As for travel purpose, 75% of respondents visited for leisure, aligning with Bali's appeal as a vacation hotspot. This demographic breakdown supports the study's focus on the role of IoT, digital payments, and 24/7 customer support in enhancing traveler experiences in Bali's tourism-driven environment.

4.1 Measurement Model Evaluation

The measurement model was evaluated to ensure the reliability and validity of the constructs used in the study. The evaluation included testing for factor loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE). Each of these tests provides insights into the internal consistency, reliability, and validity of the constructs. The results of the evaluation are presented below.

Table 1. Measurement Model Assessment

Variable	Code	Loading Factor	Cronbach's Alpha	Composite Reliability	Average Variant Extracted
Internet of Things (IoT)	IOT.1	0.876	0.913	0.938	0.792
	IOT.2	0.919			
	IOT.3	0.891			
	IOT.4	0.873			
Digital Payment Systems	DPS.1	0.793	0.844	0.904	0.760
	DPS.2	0.938			
	DPS.3	0.877			
24/7 Customer Support Services	CSS.1	0.828	0.896	0.924	0.710
	CSS.2	0.909			
	CSS.3	0.897			
	CSS.4	0.851			
	CSS.5	0.713			
Improving Tourist Experience	ITE.1	0.806	0.898	0.919	0.620
	ITE.2	0.801			
	ITE.3	0.731			
	ITE.4	0.829			
	ITE.5	0.789			
	ITE.6	0.751			
	ITE.7	0.799			

Source: Data Processing Results (2024)

The factor loadings, Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) were analyzed to assess the validity and reliability of the constructs. For factor loadings, all items exceeded the acceptable threshold of 0.70, with IoT, digital payment systems (DPS), 24/7 customer support services (CSS), and improving tourist experience (ITE) showing strong correlations, particularly with IoT.2 (0.919) and DPS.2 (0.938) having the highest loadings. Cronbach's alpha results indicated

excellent internal consistency, with values above 0.84 for all constructs, confirming high reliability. Composite reliability values ranged from 0.904 to 0.938, further demonstrating strong measurement consistency across constructs. The AVE values for IoT (0.792), DPS (0.760), CSS (0.710), and ITE (0.620) confirmed adequate convergent validity, indicating that each construct explains a significant portion of variance in the indicators. These results confirm the validity and reliability of the

measurement model, with all constructs demonstrating strong internal consistency and convergent validity.

4.2 Discriminant Validity

Discriminant validity ensures that each construct in the model is distinct from other constructs, meaning that the measures of different constructs should not be too

highly correlated. One commonly used method to assess discriminant validity is the Fornell-Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) for each construct with the correlations between that construct and others. For discriminant validity to be established, the square root of the AVE for each construct must be greater than the correlations between that construct and any other construct.

Table 2. Discriminant Validity

	24/7 Customer Support Services	Digital Payment Systems	Improving Tourist Experience	Internet of Things (IoT)
24/7 Customer Support Services	0.797			
Digital Payment Systems	0.717	0.883		
Improving Tourist Experience	0.788	0.713	0.836	
Internet of Things (IoT)	0.570	0.485	0.563	0.804

Source: Data Processing Results (2024)

Based on the Fornell-Larcker criterion, discriminant validity is successfully established for all constructs in this study. The square roots of the AVE for each construct are greater than the corresponding correlations with other constructs, demonstrating that each construct is sufficiently distinct from the

others. This finding confirms that the constructs used in this research (IoT, Digital Payment Systems, 24/7 Customer Support Services, and Improving Tourist Experience) measure unique concepts and do not overlap excessively.

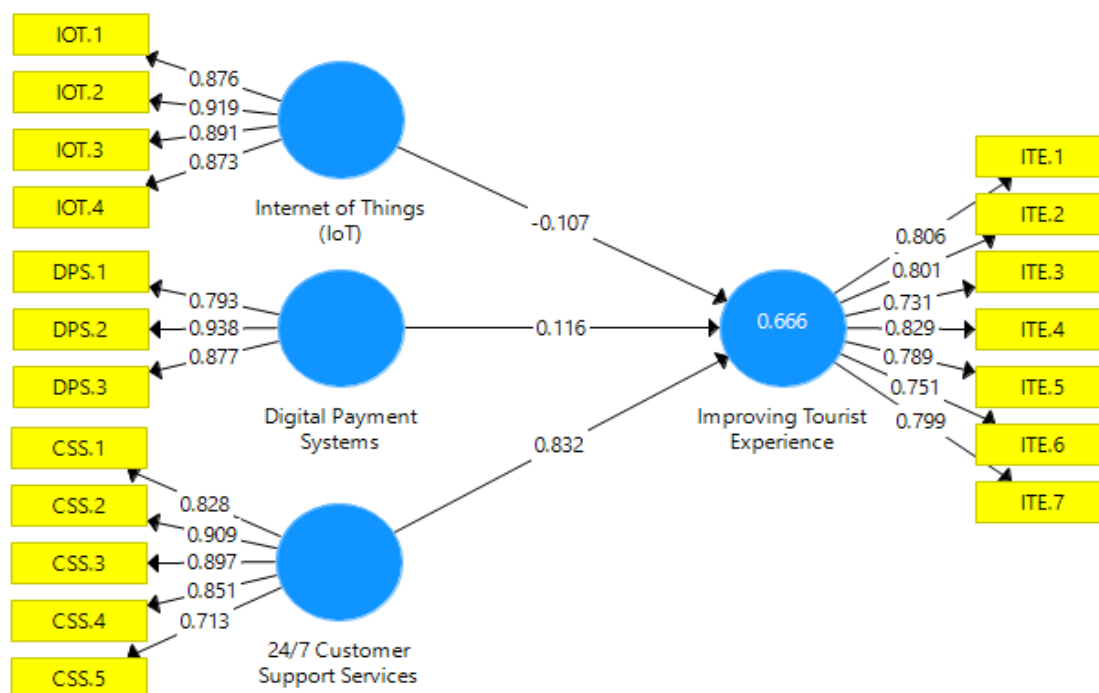


Figure 2. Model Results

Source: Data Processed by Researchers, 2024

In assessing the structural model's explanatory power, R^2 (R-Square) and Q^2 (Predictive Relevance) are key metrics. R^2 represents the proportion of variance in the dependent variable explained by the independent variables, while Q^2 evaluates the model's predictive accuracy for future data. In this study, the R^2 value for Improving Tourist Experience is 0.666, indicating that 66.6% of the variance in tourist experience is explained by the independent variables: Internet of Things (IoT), Digital Payment Systems, and 24/7 Customer Support Services. This demonstrates a strong explanatory power of the model.

4.3 Model Fit Evaluation

Model fit measures are used to evaluate how well the proposed structural model aligns with the observed data, including key indicators like SRMR, d_{ULS} , d_G , Chi-Square, and NFI. Both the Saturated and Estimated Models exhibited identical values, indicating consistent model fit. The SRMR, at 0.089, slightly exceeds the optimal threshold of 0.08 but is still acceptable for exploratory research. The d_{ULS} value of

1.517 and d_G value of 0.942 indicate a reasonable fit, with lower values being preferred. The Chi-Square value of 585.449, though large, is sensitive to sample size and should be interpreted cautiously, especially with 200 respondents. Lastly, the NFI of 0.710 suggests the model's fit is moderate, below the optimal range, but acceptable for foundational research in an exploratory context. Overall, while there is room for improvement, the model provides a reasonable basis for further analysis.

4.4 Hypothesis Testing

Hypothesis testing in this study was conducted to evaluate the relationships between the independent variables (Internet of Things (IoT), Digital Payment Systems, and 24/7 Customer Support Services) and the dependent variable (Improving Tourist Experience). The results of hypothesis testing are presented in terms of the Original Sample (O), Sample Mean (M), Standard Deviation (STDEV), T-statistics, and P-values. These metrics help determine the strength and significance of the relationships.

Table 5. Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values
24/7 Customer Support Services -> Improving Tourist Experience	0.832	0.836	0.048	17.158	0.000
Digital Payment Systems -> Improving Tourist Experience	0.716	0.721	0.068	8.706	0.000
Internet of Things (IoT) -> Improving Tourist Experience	0.407	0.411	0.074	4.434	0.002

Source: Process Data Analysis (2024)

The analysis of hypotheses revealed strong, positive relationships between 24/7 customer support services, digital payment systems, and the Internet of Things (IoT) with improving tourist experience. For Hypothesis 1, the path coefficient of 0.832, a T-statistic of 17.158, and a P-value of 0.000 indicate that 24/7 customer support services significantly enhance tourists' experiences, highlighting the importance of continuous support during their trips. Hypothesis 2 shows a path coefficient of 0.716, a T-statistic of 8.706, and a P-value of 0.000, confirming that digital payment systems contribute substantially to improving tourist satisfaction by offering convenience and security. Lastly, Hypothesis 3 demonstrates a moderate positive relationship between IoT and tourist experience, with a path coefficient of 0.407, a T-statistic of 4.434, and a P-value of 0.002, indicating that IoT implementation also plays a significant role in enhancing the overall travel experience. These findings emphasize the combined impact of these technologies in improving tourism services in destinations like Bali.

Discussion

The findings of this study provide important insights into the impact of the Internet of Things (IoT), digital payment systems, and 24/7 customer support services on improving the tourist experience in Bali, Indonesia. This section discusses the key results in relation to the research objectives and existing literature, providing a deeper understanding of the relationships between these variables and their practical implications for the tourism industry.

The Role of 24/7 Customer Support Services in Enhancing Tourist Experience

The results of this study show that 24/7 customer support services have the strongest positive impact on improving tourist experiences, with a path coefficient of 0.832 and a highly significant T-statistic of 17.158. This confirms that tourists highly value the availability of support services that can address their needs in real time, particularly in a destination like Bali, where tourists may face unfamiliar environments, cultural differences, and language barriers.

The findings align with previous research by Gretzel et al. (2021), who emphasized the importance of immediate, reliable customer support in enhancing service quality and overall satisfaction in tourism. In this study, the availability of round-the-clock support services was found to significantly enhance tourists' experiences by offering assistance in resolving issues related to bookings, navigation, and other travel-related concerns.

In practical terms, these results suggest that tourism operators and service providers in Bali should prioritize the development of responsive customer support systems, particularly by leveraging digital platforms such as chatbots, mobile apps, and social media. The strong positive relationship between 24/7 customer support and tourist experience underscores the need for continuous availability of services to meet the demands of international and domestic travelers. Bali's tourism industry can further benefit from multilingual support systems to cater to its diverse tourist base [21]–[23].

The Impact of Digital Payment Systems on Tourist Experience

The second strongest factor influencing tourist experience is the implementation of digital payment systems, with a path coefficient of 0.716 and a significant T-statistic of 8.706. This indicates that digital payment solutions contribute substantially to enhancing the convenience and security of tourist transactions, directly improving their satisfaction during travel.

This finding is consistent with research by Leong et al. (2020), who found that digital payment systems reduce transaction friction and eliminate the need for tourists to carry large amounts of cash or deal with complex currency exchanges. The availability of mobile wallets, contactless payment methods, and secure online transactions allows travelers to focus more on enjoying their experiences and less on logistical concerns. Additionally, digital payments provide travelers with increased confidence in making purchases at local businesses, further enhancing their overall experience.

In Bali, where tourism is a major economic driver, policymakers and tourism operators should continue to invest in the expansion of digital payment infrastructure. This includes ensuring that small and medium-sized enterprises (SMEs) in tourism-related sectors (e.g., restaurants, hotels, tour operators) adopt digital payment systems to meet the expectations of tech-savvy travelers. The widespread use of cashless payments will not only enhance convenience for tourists but also improve business efficiency, reduce transaction costs, and minimize the risks associated with handling cash [16]–[18].

The Contribution of IoT to Tourist Experience

The results indicate that Internet of Things (IoT) technologies have a moderate but significant positive impact on improving tourist experiences, with a path coefficient of 0.407 and a T-statistic of 4.434. Although IoT does not have as strong an influence as 24/7 customer support services or digital payment

systems, it still plays a key role in enhancing the convenience, connectivity, and personalization of travel experiences.

This finding is consistent with the work of Buhalis and Amaranggana (2015), who argue that IoT can create smart tourism environments where tourists can interact with real-time information, manage their travel itineraries, and receive personalized recommendations. In Bali, IoT-enabled services such as smart hotel rooms, real-time navigation apps, and location-based services help tourists explore the island more efficiently and comfortably.

The moderate strength of the relationship between IoT and tourist experience could be due to varying levels of IoT implementation across tourism services in Bali. While IoT technologies are present in some sectors, such as hotels and transportation, their full potential may not yet be realized in other areas. The findings suggest that tourism operators should continue to explore opportunities to integrate IoT technologies more comprehensively to enhance the connectivity and personalization of services.

In practical terms, destination managers and technology providers in Bali could invest in expanding IoT infrastructure to improve real-time communication between tourists and service providers. This may include enhancing public Wi-Fi access, developing more advanced mobile apps for real-time tourist information, and integrating IoT in tourist attractions to provide interactive and immersive experiences. As IoT adoption increases, its impact on tourist satisfaction is likely to grow stronger [11]–[13].

Combined Impact of IoT, Digital Payment Systems, and 24/7 Customer Support

The combined effects of IoT, digital payment systems, and 24/7 customer support services account for a significant portion of the variance in tourist experiences, with an R^2 value of 0.666. This indicates that 66.6% of the variation in tourist satisfaction can be explained by these three technological factors,

demonstrating their importance in shaping the modern travel experience.

The findings highlight that each of these technologies contributes to improving different aspects of the tourist experience. 24/7 customer support services are most effective in resolving issues and providing assistance, while digital payment systems enhance convenience and security in transactions, and IoT improves connectivity and access to real-time information. Together, these technologies create a holistic, technology-enhanced travel experience that aligns with the needs of modern tourists.

Practical Implications

The results of this study have significant practical implications for tourism operators, policymakers, and service providers in Bali. To stay competitive and boost tourist satisfaction, it is essential to focus on three key areas: 1) investing in 24/7 customer support systems to ensure timely assistance and improve service quality for both international and domestic tourists through digital platforms; 2) expanding digital payment infrastructure to offer convenient, seamless transactions and reduce the challenges associated with traditional payment methods; and 3) enhancing IoT integration in tourism services, allowing businesses to offer real-time information and personalized services that improve the overall tourist experience.

Limitations and Future Research

While this study provides valuable insights, it is important to recognize certain limitations. First, the study focuses on a specific geographic context (Bali), which may limit the generalizability of the findings to other destinations. Second, the study only considers three technological factors, while other factors such as cultural experiences,

environmental sustainability, and service quality may also significantly impact tourist experiences.

Future research could explore how these technological factors interact with other non-technological elements to provide a more comprehensive understanding of tourist satisfaction. Additionally, as technologies like artificial intelligence (AI) and augmented reality (AR) become more integrated into the tourism industry, future studies could examine their impact on tourist experiences.

5. CONCLUSION

This study confirms the significant role of technology in enhancing tourist experiences in Bali. Among the three factors examined, 24/7 customer support services had the greatest positive impact on tourists' satisfaction, emphasizing the need for responsive and always-available support to address travelers' needs. Digital payment systems were the second most influential factor, offering convenience and security that streamline transactions for both international and domestic tourists. The Internet of Things (IoT), though having a moderate influence, also contributed to the overall experience by improving connectivity and access to real-time information.

These findings underscore the importance of investing in technological infrastructure in the tourism industry, particularly in a competitive destination like Bali. Tourism operators and policymakers should focus on enhancing customer support services, expanding digital payment systems, and further integrating IoT technologies to meet the expectations of modern travelers. Future research should explore the integration of emerging technologies, such as artificial intelligence and augmented reality, to further optimize tourist experiences.

REFERENCES

- [1] I. Wahab, *Role of Technology in Sustainable Tourism Governance*. 2022.
- [2] T. Car, "Korisnička percepcija modernih tehnologija integriranih u hotelskoj industriji," *Zb. Rad. Veleučilišta u Šibeniku*, vol. 18, no. 1-2, pp. 7-24, 2024.
- [3] J. Rhena and K. Kraugusteliana, "Embracing Digitalization in Tourism: Strategic Approaches for Global

- Competitiveness in the Digital Economy Era," *Indo-Fintech Intellectuals J. Econ. Bus.*, vol. 4, no. 2, pp. 461–472, 2024.
- [4] S. Kumar and A. Sharma, "An Era Of Digital Transformation In The Hospitality & Tourism Sector," *Educ. Adm. Theory Pract.*, vol. 30, no. 4, pp. 9422–9427, 2024.
- [5] Š. Bojnc and Z. Kribel, "Information and communication technology in tourism," 2004.
- [6] I. G. P. Kawiana, P. Y. Wijaya, N. N. R. Suasih, and I. G. A. A. Anandari, "The impact of strategic infrastructure development of Bali on the economic growth," *J. Infrastructure, Policy Dev.*, vol. 8, no. 8, p. 4664, 2024.
- [7] V. K. Yuwono, F. Leoparjo, D. Irtanto, K. A. Nugraha, and O. H. Wibowo, "Diversifikasi Ekonomi di Pulau Bali dalam Perspektif Pariwisata," *Indo-Fintech Intellectuals J. Econ. Bus.*, vol. 4, no. 3, pp. 1128–1144, 2024.
- [8] A. D. Dwipayana, A. Pradana, R. R. O. Sasue, and I. W. Adiyasa, "Autonomous Bus Transit Simulation In The Bali Tourism Development Corporation (BTDC) Area," *J. Teknol. Transp. dan Logistik*, vol. 5, no. 1, pp. 31–46, 2024.
- [9] P. A. Aryasih, D. Ruhati, I. B. P. Puja, M. Darmiati, I. W. Widiana, and P. F. K. Mahendra, "Investigation of Tourist Satisfaction with the Public Transportation in Bali," *J. Kepariwisataaan Indones. J. Penelit. dan Pengemb. Kepariwisataaan Indones.*, vol. 18, no. 1, pp. 117–140, 2024.
- [10] I. K. A. Ariyadi and N. P. N. E. Lestari, "Implementation of Digital Marketing Strategy for the Development of Spiritual Tourism in Bali Province," *Kontigensi J. Ilm. Manaj.*, vol. 12, no. 1, pp. 471–476, 2024.
- [11] C. Lukita, G. A. Pangilinan, M. H. R. Chakim, and D. B. Saputra, "Examining the impact of artificial intelligence and internet of things on smart tourism destinations: A comprehensive study," *Aptisi Trans. Technopreneursh.*, vol. 5, no. 2sp, pp. 135–145, 2023.
- [12] P. Popova, K. Marinova, and V. Popov, "Internet of Things and Big Data Analytics for Risk Management in Digital Tourism Ecosystems," *Risks*, vol. 11, no. 10, p. 180, 2023.
- [13] A. Kaur, S. Goyal, and N. Batra, "Smart Hospitality Review: Using IoT and Machine Learning to Its Most Value in the Hotel Industry," in *2024 International Conference on Automation and Computation (AUTOCOM)*, IEEE, 2024, pp. 320–324.
- [14] M. Nematpour and M. Ghaffari, "Examining the Core Factors Influencing Sustainable IoT-Based Interactive Marketing in Smart Urban Tourism Destinations," in *Smart and Sustainable Interactive Marketing*, IGI Global, 2024, pp. 55–67.
- [15] A. J. Sudhakar, S. Saikrishnan, A. D. KG, and J. Ganesh, "Integrating IoT for Enhanced Safety and Hospitality in Smart Hotel Management," in *2024 2nd International Conference on Sustainable Computing and Smart Systems (ICSCSS)*, IEEE, 2024, pp. 391–399.
- [16] R. Khan, "Digital payments Impact on Indian Economy through Banking systems & Global Comparisons," *INTERANTIONAL J. Sci. Res. Eng. Manag.*, 2024, [Online]. Available: <https://api.semanticscholar.org/CorpusID:269608189>
- [17] J. Wen, "The Impact of Digital Payments on the Financial Services Industry," *Adv. Econ. Manag. Polit. Sci.*, 2024, [Online]. Available: <https://api.semanticscholar.org/CorpusID:270073921>
- [18] J. Putrevu and C. Mertzanis, "Adoption of Digital Payments in Emerging Economies: Challenges and Policy Responses," *SSRN Electron. J.*, Jan. 2023, doi: 10.2139/ssrn.4558978.
- [19] F. B. Maulana, S. Nazar, M. B. Ryando, and S. Ramdhan, "THE INFLUENCE OF DIGITAL PAYMENT SERVICE FEATURES ON CONSUMERS'EASE IN TRANSACTING IN E-COMMERCE," in *Proceeding of International Conference on Business, Economics, Social Sciences, and Humanities*, 2024, pp. 1218–1233.
- [20] W. Brown, G. Wilson, and O. Johnson, "Exploring the Adoption of Digital Payment Systems in Retail," 2024.
- [21] A. Jain, K. Singh, and P. Jain, "Understanding the Impact of Artificial Intelligence and Robotics in the Tourism and Hospitality Industry Through Customer Experience: A Systematic Literature Review," *Impact AI Tech-Driven Solut. Hosp. Tour.*, pp. 329–350, 2024.
- [22] A. Alamsyah, M. N. Fajriananda, and D. P. Ramadhani, "Digital Traces in Tourism: Leveraging NLP to Evaluate Tourist Experiences Across Southeast Asian Destinations," in *2024 IEEE International Conference on Industry 4.0, Artificial Intelligence, and Communications Technology (IAICT)*, IEEE, 2024, pp. 86–92.
- [23] M. Irfan, S. Dhanabagiyam, R. Pandit, and M. K. Majeed, "Challenges Faced When Utilizing Service Bots in the Hospitality and Tourism Industry," in *Special Interest Trends for Sustainable Tourism*, IGI Global, 2024, pp. 253–267.
- [24] C. N. Abiagom and T. I. Ijomah, "Enhancing customer experience through AI-driven language processing in service interactions," 2024.
- [25] C. C. NWOKEDI and C. A. NWAFOR, "Enhancing customer service and user experience through the use of machine learning powered intelligent chatbots," *World J. Adv. Res. Rev.*, vol. 23, no. 2, pp. 181–191, 2024.
- [26] M. Valeri, "Assessing the role of technology in enhancing the authentic tourist experience," *EuroMed J. Bus.*, 2024.
- [27] B. K. Nouhaila, M. Aarabe, and L. Alla, "The Impact of Digitalisation on the Customer Experience in Medical Tourism: A Systematic Review," *Impact AI Tech-Driven Solut. Hosp. Tour.*, pp. 408–428, 2024.
- [28] S. Mgoduka, I. Kaseeram, and S. Heeralal, "An Analysis of the Effectiveness of Information and Communication Technology Technologies in Providing Customer Feedback to Enhance B2C Value Co-creation: A Focus on the Tourism Industry," *Int. Rev. Manag. Mark.*, vol. 14, no. 4, pp. 83–91, 2024.