

From Technology to Experience: How Smart Tourism and Attraction Attributes Shape Visitor Satisfaction

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ABSTRACT

This study investigates the influence of smart tourism technologies (STTs) and attraction attributes (ATTs) on the creation of memorable tourism experiences (MTEs) and their subsequent impact on visitor satisfaction in Jakarta's urban tourism context. The research was conducted using data collected from 408 respondents through structured questionnaires, the study employs structural equation modeling (SEM) to examine the relationships between these variables. The findings reveal that while both STTs and ATTs significantly contribute to MTEs, attraction attributes have a stronger impact on enhancing visitor experiences. Furthermore, MTEs serve as a key determinant of visitor satisfaction, highlighting the importance of well-maintained attractions, high-quality visitor services, and cultural preservation. The study underscores that although smart tourism technologies enhance engagement and convenience, their effectiveness depends on their integration with core attraction attributes. These findings provide practical implications for destination managers and policymakers, emphasizing the need to balance technological advancements with fundamental aspects of attraction management to enhance visitor experiences and satisfaction. This research contributes to the growing body of literature on smart tourism by offering empirical insights into how technology and destination attributes interact to shape memorable experiences in an urban tourism setting.

Keywords: Smart Tourism Technologies, Attraction Attributes, Memorable Tourism Experiences, Tourist Satisfaction, Urban Tourism

INTRODUCTION

The rapid advancement of digital technologies has transformed the tourism industry, particularly in urban destinations where smart tourism technologies (STTs) have been widely adopted to enhance visitor experiences. STTs, including mobile applications, augmented reality (AR), artificial intelligence (AI)-powered guides, and interactive information systems, offer tourists real-time information, navigation assistance, and personalized experiences[1]. These technologies aim to create seamless and engaging tourism experiences, ultimately influencing visitor satisfaction. However, while digital innovations facilitate convenience and interactivity, the intrinsic attributes of an attraction—such as its cultural heritage, infrastructure, accessibility, and service quality—remain fundamental in shaping visitor experiences[2].

Jakarta, as Indonesia's capital and a key urban tourism hub, has embraced smart tourism initiatives to modernize its attractions, particularly museums and cultural heritage sites. Despite these efforts, there remains limited understanding of how STTs contribute to memorable tourism experiences (MTEs) compared to the core

attributes of an attraction. Prior studies have suggested that memorable experiences play a crucial role in enhancing visitor satisfaction and shaping destination loyalty[3, 4]. However, the extent to which smart technologies complement or substitute traditional attraction attributes in creating these experiences remains unclear, especially in the context of urban tourism in developing countries like Indonesia.

This study aims to address this gap by examining the combined influence of STTs and attraction attributes (ATTs) on MTEs and their subsequent effect on visitor satisfaction. Specifically, the research is guided by the following key questions:

- How do smart tourism technologies affect memorable tourism experiences?
- How do attraction attributes influence memorable tourism experiences?
- Do memorable tourism experiences enhance tourist satisfaction?

By investigating these relationships, this study provides empirical insights into the interplay between digital innovation and traditional tourism elements in shaping visitor experiences. The findings will offer valuable guidance for tourism managers, policymakers, and urban planners seeking to optimize visitor satisfaction through a balanced integration of technology and cultural heritage. Additionally, the research contributes to the broader discussion on smart tourism, shedding light on how urban attractions can leverage digital transformation while preserving their intrinsic value.

LITERATURE REVIEW

Tourism experiences are increasingly shaped by both physical and digital elements, making it essential to examine how smart tourism technologies (STTs) and attraction attributes (ATTs) interact to create memorable tourism experiences (MTEs) and enhance visitor satisfaction. This section reviews key theoretical foundations and empirical findings, leading to the formulation of research hypotheses.

Memorable Tourism Experiences and Visitor Satisfaction

Memorable tourism experiences (MTEs) refer to distinct, emotionally engaging experiences that leave a lasting impression on visitors[3]. These experiences are crucial in shaping post-visit evaluations, including satisfaction and destination loyalty[4]. Scholars argue that the memorability of an experience is influenced by several dimensions, such as novelty, meaningfulness, and emotional intensity[5].

Visitor satisfaction is a key outcome of tourism experiences and is often regarded as an antecedent to behavioral intentions, including repeat visitation and positive word-of-mouth[6]. Research suggests that memorable experiences significantly enhance satisfaction because they foster emotional connections and increase perceived value[7]. Given that both smart tourism technologies and attraction attributes contribute to the visitor experience, understanding their respective roles in shaping MTEs is essential for tourism destination management.

Smart Tourism Technologies and Their Impact on Memorable Experiences

Smart tourism technologies refer to digital tools that enhance tourist engagement, convenience, and personalization[1]. These include augmented reality (AR), virtual reality (VR), mobile applications, AI-powered recommendation systems, and interactive information platforms. Previous studies highlight that smart technologies can significantly improve tourist immersion, convenience, and interaction, ultimately contributing to more memorable experiences[8, 9].

The adoption of STTs allows visitors to access real-time information, navigate attractions with ease, and engage with digital storytelling, thereby enhancing their cognitive and affective experiences[2]. However, the effectiveness of these technologies in generating MTEs depends on usability, accessibility, and perceived relevance[10]. Some studies suggest that an overreliance on digital tools may diminish the authenticity of experiences, particularly in cultural and heritage tourism settings[11].

H1: The perceived value of smart tourism technologies positively influences memorable tourism experiences.

Attraction Attributes as Drivers of Memorable Experiences

Attraction attributes refer to the intrinsic qualities of a destination, including infrastructure, cultural significance, accessibility, and service quality[12]. Well-maintained attractions with rich cultural heritage, strong aesthetic appeal, and high visitor engagement tend to generate more memorable experiences[13]. Unlike STTs, which enhance digital engagement, attraction attributes provide the physical and cultural foundations of an experience.

Previous research suggests that destination authenticity, historical preservation, and architectural uniqueness are key drivers of memorability in urban and cultural tourism[14, 15]. Visitors tend to recall destinations that offer unique narratives, immersive environments, and a strong sense of place. Accessibility, service quality, and visitor

comfort also play significant roles in shaping perceptions of an attraction[16]. Given that attraction attributes form the core of visitor engagement, they are expected to exert a stronger influence on MTEs compared to smart technologies.

H2: The perceived value of attraction attributes positively influences memorable tourism experiences.

The Mediating Role of Memorable Tourism Experiences in Tourist Satisfaction

While both STTs and ATTs contribute to MTEs, the ultimate goal of destination managers is to enhance visitor satisfaction. Research has consistently shown that MTEs act as a mediator between various experiential factors and overall satisfaction[4]. This is because visitors who have meaningful, engaging, and emotionally rich experiences tend to evaluate their trips more positively[5].

Visitor satisfaction is also linked to behavioral outcomes, such as recommendations, revisits, and destination loyalty[17]. Given that memorable experiences enhance emotional attachment to a destination, they are expected to have a direct and significant impact on satisfaction.

H3: Memorable tourism experiences positively influence tourist satisfaction.

Based on the literature review and the hypothesis development, the conceptual framework for this study is presented below, as seen in Figure 1.

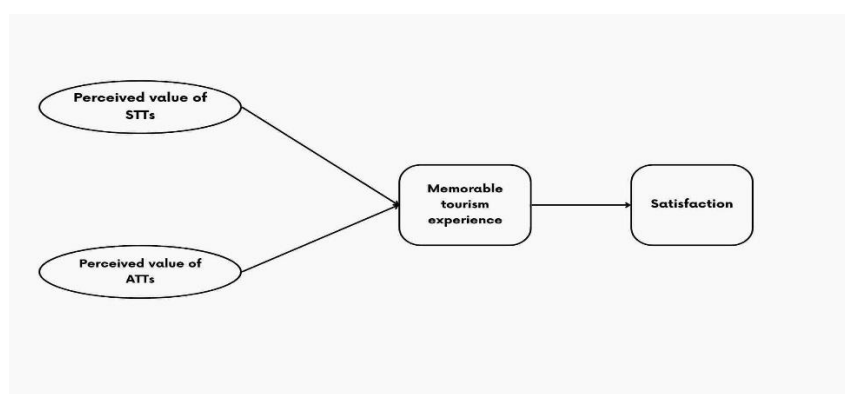


Figure 1. Conceptual Framework

RESEARCH METHODOLOGY AND DATA COLLECTION

Research Design and Measurement Development

The research adopts a positivist paradigm, using a survey-based method to test the causal relationships between STTs, ATTs, MTEs, and visitor satisfaction. The questionnaire was developed based on validated scales from prior studies, ensuring construct reliability and validity. The key constructs and their measurement sources are as follows:

- **Smart Tourism Technologies (STTs)** – Measured based on tourists' perceptions of the usefulness, accessibility, and effectiveness of digital tools [18, 19]
- **Attraction Attributes (ATTs)** – Assessed using items related to accessibility, historical preservation, infrastructure quality, and service excellence[20, 21, 22]
- **Memorable Tourism Experiences (MTEs)** – Measured using dimensions such as novelty, engagement, and emotional impact[23, 24].
- **Tourist Satisfaction** – Evaluated through visitor contentment and likelihood of recommending or revisiting the attraction[18, 19].

Each construct was measured using a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) to capture respondents' perceptions accurately.

Table 1. Measurement of Variables

Variables	Statement	Source
Perceived Smart Tourism Technogy Experience (STTs)	STTs is important to increase my experience in the attraction	Jeong and Shin, 2020[18]; Yang and Zhang, 2022[19]
	STTs were easily find in the museum	
	STTs provided at the attraction met my need	
	STTs assisted me in touring the attraction	

	STTs in the museum were useful	
Perceived Attraction Attributes (ATTs)	The attraction has preserved its cultural and historical values well	Gursoy et al., 2021[20]; Su and Teng, 2018[21]; Widyawati et al.,2021[22]
	The attraction has provided modern facility without losing its cultural and historical values	
	The attraction is easily accessed	
	The staffs are helpful	
	The attraction is affordable	
	The attraction is aesthetic	
	The attraction offers learning experience	
	The ambiance is good	
	The facilities are well maintained	
Memorable Experience	I had wonderful experience in the museum	Azis et al., 2020[23]; Um and Chung 2021[24]
	I experienced something new during this museum tourism experience	
	I learned something new about cultural and experiences that is offered by this museum	
	I had a chance to closely experience the local culture of a destination area	
Satisfaction	I am satisfied with this travel experience	Shin et al., 2021[25]; Yang and Zhang, 2022[19]; Zhang et al., 2022
	I feel enjoyable about this travel experience	
	I feel pleased about this travel experience	
	I want to visit the museum again.	
	I would recommend the museum to family and friends.	
	I would say positive things about the museum to other people.	

Sampling and Data Collection

The target population consists of domestic visitors who have recently visited urban attractions in Jakarta. A purposive sampling method was employed, ensuring respondents had firsthand experience with smart tourism technologies at their chosen attraction. A total of 408 valid responses were collected, exceeding the minimum threshold for SEM analysis, which typically requires a sample size of at least 10 times the number of indicators[26]. Given that this study includes multiple latent constructs, the sample size ensures statistical robustness. The questionnaire was distributed through both online and offline channels to reach a diverse sample. Data collection took place over a four-week period, with surveys administered in Indonesian, from May to June 2024. Participation was voluntary, and respondents were assured of data confidentiality.

RESULTS AND DATA ANALYSIS

Descriptive Analysis

The survey resulted in 408 complete responses. As shown in Table 2, the majority of respondents are female (70.10%) and under the age of 25 (79.41%). Most respondents have visited the attraction once (50.98%), and a significant portion traveled with friends (52.45%). The majority of visitors come from the Jabodetabek region (86.76%), indicating the museum primarily attracts local visitors. Social media is the most used source of information (68.18%), reflecting the influence of digital platforms in promoting the museum.

Table 2. Demographic Profile

Respondent characteristics		Frequency	(%)
Gender	Female	286	70.10
	Male	122	29.90
Age (year)	< 25	324	79.41
	25 - 44	58	14.22

	45 - 60	24	5.88
	> 60	2	0.49
Frequency of Visitation	Once	208	50.98
	2-4 times	144	35.29
	Five times and more	56	13.73
Travel Companion	Friends	214	52.45
	Couple	64	15.69
	Alone	34	8.33
	Family	96	23.53
Origin	Jakarta	354	86.76
	Outside Jakarta	52	12.75
Information Sources	Social media	278	68.14
	Friends or family	114	27.94
	Travel agent	6	1.47
	Online review site	10	2.45

Table 3 highlights how tourists use smart technologies during their visits to attractions. A majority of respondents (66.18%) used the attraction's website or social media to find information, indicating that digital platforms play a crucial role in trip planning. On-site smart technology provided by attractions was widely used, with 66.67% of respondents taking advantage of these offerings. However, only 39.22% of tourists checked online platforms or social media to verify the attraction's reputation before visiting, showing that digital reviews and online credibility influence visitors' decisions, and even fewer tourists (27.45%) used smart navigation apps to guide them through the attraction.

Table 3. Tourists' Use of Technology when Visiting Attractions

The Use of Technology During the Visit			Gender (%)		Age (%)				Origin (%)	
			Female	Male	< 25	25 - 44	45 - 60	> 60	Jakarta	Outside Jakarta
Attraction's website or social media to find information	Yes	66,18	45,10	21,08	51,96	10,78	2,94	0,49	57,14	8,87
	No	33,82	25,00	8,82	27,45	3,43	2,94	0,00	30,05	3,94
Smart technology app to navigate	Yes	27,45	20,10	7,35	21,57	2,94	2,45	0,49	25,62	1,97
	No	72,55	50,00	22,55	57,84	11,27	3,43	0,00	61,58	10,84
Smart technology provided at the attraction	Yes	66,67	47,55	19,12	53,43	9,31	3,43	0,49	58,62	7,88
	No	33,33	22,55	10,78	25,98	4,90	2,45	0,00	28,57	4,93
Online platform or media social to find the attraction' reputation	Yes	39,22	27,46	11,76	30,39	4,41	3,92	0,49	36,95	1,97
	No	60,78	42,64	18,14	49,02	9,80	1,96	0,00	50,25	10,84

Measurement and Structural Equation Modeling

The data analysis for structural equation modeling (SEM) was conducted using SmartPLS software. To evaluate the convergent validity of each construct, standardized factor loadings were examined to ensure the accuracy of the constructs, following the guidelines of Hair et al. (2010). Convergent validity is established when factor loadings exceed 0.5, composite reliability (CR) surpasses 0.7, and the average variance extracted (AVE) is greater than 0.5[27, 28]. As presented in Table 4, all constructs exhibit strong internal consistency, with CR and Cronbach's alpha values above 0.85. Additionally, the AVE values surpass the 0.50 threshold, confirming that the constructs explain more variance from their indicators than from error. These findings confirm that the constructs are both valid and reliable, providing evidence of strong convergent validity within the SEM model.

Table 4. Results of the Measurement Model

Construct	Measurement Items	Mean*	Standard Deviation	Factor Loadings
Smart Tourism Technology Experience (<i>composite reliability</i> =0.918; <i>Cronbach a</i> = 0.883; <i>AVE</i> = 0.697)	STTs assisted me in touring the attraction	3,75	1,03	0.914
	STTs were easily find in the museum	3,75	0,97	0.880
	STTs provided at the attraction met my need	3,77	1,06	0.907
	STTs is important to increase my experience in the attraction	4,11	0,96	0.538
	STTs in the museum were useful	3,77	1,02	0.874
Attraction Attributes (<i>composite reliability</i> =0.922; <i>Cronbach a</i> = 0.905; <i>AVE</i> = 0.573)	The attraction has preserved its cultural and historical values well	4,04	1,09	0.786
	The attraction has provided modern facility without losing its cultural and historical values	3,92	1,02	0.813
	The attraction is easily accessed	4,23	0,88	0.708
	The staffs are helpful	4,11	0,85	0.650
	The attraction is affordable	4,34	0,87	0.552
	The attraction is aesthetic	4,19	0,87	0.838
	The attraction offers learning experience	4,08	0,96	0.831
	The ambiance is good	4,15	0,88	0.808
	The facilities are well maintained	4,08	0,88	0.776
Memorable Experience (<i>composite reliability</i> =0.902; <i>Cronbach a</i> = 0.856; <i>AVE</i> = 0.698)	I had wonderful experience in the museum	4,05	0,90	0.788
	I experienced something new during this museum tourism experience	3,96	1,02	0.857
	I learned something new about cultural and experience that is offered by this museum	4,06	1,00	0.826
	I had a chance to closely experience the local culture of a destination area	3,96	1,06	0.870
Satisfaction (<i>composite reliability</i> =0.938; <i>Cronbach a</i> = 0.938; <i>AVE</i> = 0.763)	I am satisfied with this travel experience	4,11	0,83	0.834
	I feel enjoyable about this travel experience	4,13	0,85	0.891
	I feel pleased about this travel experience	4,08	0,92	0.865
	I want to visit the museum again.	3,90	1,00	0.845
	I would recommend the museum to family and friends.	4,10	0,84	0.909
	I would say positive things about the museum to other people.	4,11	0,85	0.896

Note: AVE = average variance extracted.

*A 5-point Likert-type scale from 1 being strongly disagree to 5 being strongly agree.

Following Fornell and Larcker (1981), discriminant validity was assessed by comparing the square root of the average variance extracted (AVE) for each construct, shown along the diagonal, with the inter-construct correlations in the off-diagonal cells. The square root of the AVE for each construct is higher than its corresponding correlation values, confirming that the measurement model demonstrates adequate discriminant validity. As can be seen in Table 5, the goodness-of-fit statistics indicate that the model achieves an acceptable fit. The SRMR value of 0.075 meets the threshold of less than 0.08, and the RMS_theta value of 0.167 is close to zero, indicating minimal residuals. However, the NFI value of 0.728 is below the recommended threshold of 0.90, suggesting room for improvement in model fit. Despite this, the combination of fit indices indicates that the model is appropriate for explaining the relationships between the constructs, with sufficient evidence of discriminant validity.

Table 5. Discriminant Assessment

	Memorable experience	STTs	ATTs	Satisfaction
Memorable experience	0.786	0.123	0.145	0.156
STTs	0.123	0.698	0.134	0.145
ATTs	0.145	0.134	0.812	0.156
Satisfaction	0.156	0.145	0.156	0.896

Memorable experience	0.836			
Smart tourism technologies (STTs)	0.689	0.835		
Attraction attributes (ATTs)	0.709	0.731	0.757	
Satisfaction	0.721	0.752	0.774	0.874

Note: Goodness-of-fit statistics for the measurement model: $\chi^2 = 1290.56$; NFI = 0.728; SRMR = 0.075; RMS_theta = 0.167

Another method used to assess discriminant validity is through cross-loadings. In this approach, the factor loading of each indicator should be higher on its designated construct compared to its loadings on other constructs. Additionally, the factor loading must exceed the threshold of 0.50 to be considered acceptable. Table 6 demonstrates the cross-loadings comparison between constructs, showing that each indicator's loading on its intended construct is greater than its loadings on other constructs, with all values exceeding 0.50. These results provide further evidence supporting the discriminant validity of the measurement model.

Table 6. Cross Loadings

	Perceived value of attraction attributes (ATTs)	Memorable experience (ME)	Perceived value of STTs	Satisfaction
ATTs1	0.786	0.749	0.502	0.457
ATTs2	0.813	0.706	0.698	0.564
ATTs3	0.708	0.500	0.452	0.577
ATTs4	0.750	0.464	0.468	0.552
ATTs5	0.752	0.377	0.294	0.473
ATTs6	0.838	0.630	0.658	0.716
ATTs7	0.831	0.751	0.628	0.611
ATTs8	0.808	0.633	0.588	0.687
ATTs9	0.776	0.551	0.594	0.686
ME1	0.698	0.788	0.654	0.748
ME2	0.726	0.857	0.637	0.574
ME3	0.610	0.826	0.453	0.511
ME4	0.648	0.870	0.518	0.533
STTs1	0.303	0.357	0.538	0.308
STTs2	0.691	0.584	0.880	0.671
STTs3	0.683	0.659	0.907	0.685
STTs4	0.615	0.611	0.914	0.658
STTs5	0.677	0.613	0.874	0.732
Satis1	0.709	0.693	0.681	0.834
Satis2	0.713	0.662	0.628	0.891
Satis3	0.729	0.650	0.690	0.865
Satis4	0.542	0.532	0.646	0.845
Satis5	0.680	0.608	0.638	0.909
Satis6	0.651	0.606	0.653	0.896

Table 7 presents the results of the hypotheses testing, demonstrating that all proposed relationships between constructs are statistically significant. The perceived value of STTs and ATTs positively influence memorable experiences, with the latter showing a stronger effect (Estimate = 0.657) compared to the former one (Estimate = 0.208). Furthermore, memorable experience exerted significant positive effect on satisfaction (Estimate = 0.721), emphasizing its critical role in shaping overall visitor satisfaction.

Squared multiple correlations indicated that the measurement items extracted 65% variance of tourists' memorable experience and 52% of their satisfaction, indicating substantial explanatory power. The goodness-of-fit indicators suggest an acceptable model fit, with the SRMR value of 0.067 meeting the recommended threshold and the RMS_theta value of 0.169 being close to zero. However, the Normed Fit Index (NFI) of 0.76 falls slightly below the ideal threshold of 0.90, suggesting room for improvement. Overall, the results confirm that both STTs and ATTs are essential for creating memorable experiences, which in turn drive visitor satisfaction, highlighting the importance of integrating technology and well-preserved attraction attributes to enhance tourist experiences.

Table 7. Hypotheses Testing

No	Hypotheses	Estimate	t Value	p-values	Results
1	Perceived value of STTs → Memorable_experience	0.208	2.577	0.010	Supported
2	Perceived value of attraction attributes (ATTs) → Memorable_experience	0.657	9.443	0.000	Supported

3	Memorable_experience → Satisfaction	0.721	17.786	0.000	Supported
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R^2 for memorable experience = .65; R^2 for satisfaction = .52.

$\chi^2 = 1086.81$, $df = 171$, $NFI = 0.76$, $SRMR = 0.067$, $rms\ Theta = 0.169$

* $p < .01$, ** $p < .001$.

DISCUSSION AND CONCLUSION

This study provides empirical insights into the interplay between smart tourism technologies (STTs), attraction attributes (ATTs), memorable tourism experiences (MTEs), and visitor satisfaction in Jakarta's urban tourism context. The results confirm that both STTs and ATTs significantly enhance MTEs, but ATTs exert a stronger influence on visitors' overall experience. Additionally, MTEs serve as a critical mediator, reinforcing their role in driving visitor satisfaction. These findings contribute to three key discussions: (1) the role of smart tourism technologies in shaping experiences, (2) the dominance of attraction attributes in creating memorable moments, and (3) the mediating function of MTEs in enhancing visitor satisfaction.

Related to the first result, the role of smart tourism technologies in shaping experiences, the finding support H1 shows that STTs positively influence MTEs, but the effect is relatively weaker than that of ATTs. This is consistent with previous studies[1, 8], which highlight the ability of STTs to increase accessibility, interactivity, and personalization. STTs, such as mobile applications, augmented reality (AR), and digital wayfinding systems, play a crucial role in providing visitors with real-time information, navigation support, and immersive storytelling.

The findings, nevertheless, suggest that technology alone does not create deeply memorable experiences. This aligns with Tussyadiah and Wang (2016), who argue that while digital innovations enhance convenience, they do not necessarily evoke emotional engagement. Moreover, an over-reliance on STTs may lead to a reduction in authentic interactions, particularly in cultural and heritage tourism contexts[11]. This highlights the need for a balanced approach where STTs serve as a facilitator of experience rather than the primary driver.

Furthermore, the strong support for H2 confirms that attraction attributes play a more significant role in creating MTEs compared to STTs. This finding is consistent with prior research emphasizing destination authenticity, cultural significance, and environmental aesthetics as key determinants of tourism experiences[3, 13]. Attractions that offer aesthetic appeal, historical richness, and high-quality visitor services tend to create more profound and emotionally engaging experiences. This finding reinforces the experience economy framework, which suggests that highly engaging, sensory-rich environments contribute more to memorability than mere functional enhancements[29]. The results also support the service-dominant logic, suggesting that the value of an attraction is co-created through visitor engagement rather than technology alone[30].

The last finding strongly support H3, demonstrating that MTEs serve as a critical determinant of visitor satisfaction. This aligns with Tung and Ritchie (2011) and Kim and Ritchie (2014), who emphasize that emotionally engaging and novel experiences lead to higher satisfaction and destination loyalty. The high explanatory power of MTEs suggests that memorable experiences act as a bridge between destination features (STTs and ATTs) and visitor satisfaction. This finding contributes to the destination loyalty model[17], reinforcing the argument that tourists' emotional connections with a destination play a more significant role in satisfaction than functional factors.

IMPLICATIONS

This study contributes to the smart tourism literature by empirically validating the interaction between STTs, ATTs, MTEs, and satisfaction within an urban tourism context. The results challenge the assumption that smart technologies alone are sufficient to create memorable experiences and instead emphasize the dominance of traditional attraction attributes in enhancing visitor engagement. By integrating these theoretical perspectives, this study advances our understanding of how digital and traditional tourism attributes interact to shape visitor experiences and satisfaction. The findings suggest that future research should explore how STTs can be designed to enhance, rather than replace, traditional attraction attributes.

The study findings demonstrate that destination managers should prioritize maintaining physical infrastructure, improving service quality, and preserving cultural authenticity while using technology as a supporting tool. Investments in restoration of historical sites, interactive guided tours, and on-site interpretation programs may yield greater long-term benefits than technology-centric solutions alone. Moreover, the strong impact of MTEs on satisfaction has managerial implications. Attractions should incorporate interactive storytelling, hands-on cultural activities, and personalized experiences to create long-lasting emotional connections. Instead of focusing solely on technological upgrades, destination managers should integrate human-centered elements such as personalized hospitality, thematic exhibits, and participatory experiences. Since satisfaction is a strong predictor

of destination loyalty, policymakers should leverage MTEs to encourage return visits and positive word-of-mouth recommendations.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Authors' Contributions

All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

REFERENCES

- U. Gretzel, M. Sigala, Z. Xiang, and C. Koo, "Smart tourism: Foundations and developments," *Electronic Markets*, vol. 25, no. 3, pp. 179–188, 2015, doi: DOI10.1007/s12525-015-0196-8.
- B. Neuhofer, D. Buhalis, and A. Ladkin, "A Typology of Technology-Enhanced Tourism Experiences," *International Journal of Tourism Research*, vol. 16, no. 4, pp. 340–350, Jul. 2014, doi: 10.1002/jtr.1958.
- J.-H. Kim, J. R. B. Ritchie, and B. McCormick, "Development of a Scale to Measure Memorable Tourism Experiences," *J Travel Res*, vol. 51, no. 1, pp. 12–25, Jan. 2012, doi: 10.1177/0047287510385467.
- V. W. S. Tung and J. R. B. Ritchie, "Exploring the essence of memorable tourism experiences," *Ann Tour Res*, vol. 38, no. 4, pp. 1367–1386, Oct. 2011, doi: 10.1016/j.annals.2011.03.009.
- J.-H. Kim and J. R. B. Ritchie, "Cross-Cultural Validation of a Memorable Tourism Experience Scale (MTES)," *J Travel Res*, vol. 53, no. 3, pp. 323–335, May 2014, doi: 10.1177/0047287513496468.
- R. L. Oliver, *Satisfaction: A behavioral perspective on the consumer*. McGraw-Hill, 1997. doi: 10.1016/j.tourman.2014.03.011.
- F. Ali, K. Ryu, and K. Hussain, "Influence of Experiences on Memories, Satisfaction and Behavioral Intentions: A Study of Creative Tourism," *Journal of Travel & Tourism Marketing*, vol. 33, no. 1, pp. 85–100, Jan. 2016, doi: 10.1080/10548408.2015.1038418.
- D. Wang, X. R. Li, and Y. Li, "China's 'smart tourism destination' initiative: A taste of the service-dominant logic," *Journal of Destination Marketing & Management*, vol. 5, no. 2, pp. 105–115, 2016, doi: 10.1016/j.jdmm.2016.03.002.
- D. Buhalis and Y. Sinarta, "Real-time co-creation and nowness service: lessons from tourism and hospitality," *Journal of Travel & Tourism Marketing*, vol. 36, no. 5, pp. 563–582, Jun. 2019, doi: 10.1080/10548408.2019.1592059.
- I. P. Tussyadiah and D. Wang, "Tourists' Attitudes toward Proactive Smartphone Systems," *J Travel Res*, vol. 55, no. 4, pp. 493–508, Apr. 2016, doi: 10.1177/0047287514563168.
- U. Gretzel and T. Jamal, "Conceptualizing the Creative Tourist Class: Technology, Mobility, and Tourism Experiences," *Tourism Analysis*, vol. 14, no. 4, pp. 471–481, Dec. 2009, doi: 10.3727/108354209X12596287114219.
- J. Alegre and M. Cladera, "Repeat Visitation in Mature Sun and Sand Holiday Destinations," *J Travel Res*, vol. 44, no. 3, pp. 288–297, Feb. 2006, doi: 10.1177/0047287505279005.
- G. Prayag, S. Hosany, B. Muskat, and G. Del Chiappa, "Understanding the Relationships between Tourists' Emotional Experiences, Perceived Overall Image, Satisfaction, and Intention to Recommend," *J Travel Res*, vol. 56, no. 1, pp. 41–54, Jan. 2017, doi: 10.1177/0047287515620567.
- T. Kolar and V. Zabkar, "A consumer-based model of authenticity: An oxymoron or the foundation of cultural heritage marketing?," *Tour Manag*, vol. 31, no. 5, pp. 652–664, Oct. 2010, doi: 10.1016/j.tourman.2009.07.010.
- Y. Poria, R. Butler, and D. Airey, "The core of heritage tourism," *Ann Tour Res*, vol. 30, no. 1, pp. 238–254, Jan. 2003, doi: 10.1016/S0160-7383(02)00064-6.
- J. Lee and Gerard T. Kyle, "Recollection consistency of festival consumption emotions," *J Travel Res*, vol. 51, no. 2, pp. 178–190, 2012.
- C. G.-Q. Chi and H. Qu, "Examining the structural relationships of destination image, tourist satisfaction and destination loyalty: An integrated approach," *Tour Manag*, vol. 29, no. 4, pp. 624–636, Aug. 2008, doi: 10.1016/j.tourman.2007.06.007.
- M. Jeong and H. H. Shin, "Tourists' Experiences with Smart Tourism Technology at Smart Destinations and Their Behavior Intentions," *J Travel Res*, vol. 59, no. 8, pp. 1464–1477, Nov. 2020, doi: 10.1177/0047287519883034.
- T. Yang and X. Zhang, "FinTech adoption and financial inclusion: Evidence from household consumption in China," *J Bank Financ*, vol. 145, p. 106668, Dec. 2022, doi: 10.1016/j.jbankfin.2022.106668.

- D. Gursoy, A. S. Can, N. Williams, and Y. Ekinici, "Evolving impacts of COVID-19 vaccination intentions on travel intentions," *The Service Industries Journal*, vol. 41, no. 11–12, pp. 719–733, Sep. 2021, doi: 10.1080/02642069.2021.1938555.
- Y. Su and W. Teng, "Contemplating museums' service failure: Extracting the service quality dimensions of museums from negative on-line reviews," *Tour Manag*, vol. 69, pp. 214–222, Dec. 2018, doi: 10.1016/j.tourman.2018.06.020.
- H. N. Santoso, C. Widyawati, and R. Adityaji, "THE ROLE OF THE PROMOTIONAL VIDEO 'WONDERFUL INDONESIA: A VISUAL JOURNEY' ON BRAND IMAGE AND TOURIST VISITING INTEREST TO WAKATOBI," *JOURNAL OF TOURISM, CULINARY AND ENTREPRENEURSHIP (JTCE)*, vol. 1, no. 1, pp. 48–60, Mar. 2021, doi: 10.37715/jtce.v1i1.1799.
- N. Azis, M. Amin, S. Chan, and C. Aprilia, "How smart tourism technologies affect tourist destination loyalty," *Journal of Hospitality and Tourism Technology*, vol. 11, no. 4, pp. 603–625, Oct. 2020, doi: 10.1108/JHTT-01-2020-0005.
- T. Um and N. Chung, "Does smart tourism technology matter? Lessons from three smart tourism cities in South Korea," *Asia Pacific Journal of Tourism Research*, vol. 26, no. 4, pp. 396–414, Apr. 2021, doi: 10.1080/10941665.2019.1595691.
- M. Jeong and H. H. Shin, "Tourists' Experiences with Smart Tourism Technology at Smart Destinations and Their Behavior Intentions," *J Travel Res*, vol. 59, no. 8, pp. 1464–1477, Nov. 2020, doi: 10.1177/0047287519883034.
- J. F. Hair, W. C. Black, B. J. Babin, and R. E. Anderson, *Multivariate data analysis*, 7th ed. Pearson, 2010.
- C. Fornell and D. F. Larcker, "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, vol. 18, no. 1, pp. 39–50, Feb. 1981, doi: 10.1177/002224378101800104.
- D. Gefen, D. Straub, and M.-C. Boudreau, "Structural Equation Modeling and Regression: Guidelines for Research Practice," *Communications of the Association for Information Systems*, vol. 4, 2000, doi: 10.17705/1CAIS.00407.
- J. Pine and J. Gilmore, *The Experience Economy*. Harvard Business Press, 1999.
- S. L. Vargo and R. F. Lusch, "Evolving to a New Dominant Logic for Marketing," *J Mark*, vol. 68, no. 1, pp. 1–17, Jan. 2004, doi: 10.1509/jmkg.68.1.1.24036.