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Digital Transformation and Customer Loyalty in Hospitality: The Mediating Role of Guest Satisfaction and Revisit Intentions in Calabar Hotels, Nigeria

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Abstract

This study examines how digital transformation influences customer loyalty in the hospitality sector, with particular emphasis on the mediating roles of guest satisfaction and revisit intention within an emerging leisure destination. Drawing on an integrated framework combining the Technology Acceptance Model and the Stimulus Organism Response perspective, the study conceptualizes digital transformation as a key driver of both cognitive evaluations and experiential outcomes. Data were collected from hotel guests in Calabar, Nigeria, and analyzed using structural equation modeling. The results indicate that the measurement model achieved strong reliability (Cronbach's alpha = 0.78–0.91) and convergent validity (AVE = 0.52–0.74), while the structural model demonstrated good fit ($\chi^2/df = 2.41$, CFI = 0.94, RMSEA = 0.058). Digital transformation significantly influenced perceived usefulness ($\beta = 0.68$) and perceived ease of use ($\beta = 0.72$), both of which positively affected satisfaction ($\beta = 0.41$; $\beta = 0.36$). Satisfaction strongly predicted revisit intention ($\beta = 0.64$), which in turn drove customer loyalty ($\beta = 0.71$). Mediation analysis confirmed significant indirect effects of digital transformation on revisit intention ($\beta = 0.26$) and of satisfaction on loyalty through revisit intention ($\beta = 0.45$). The study contributes to leisure research by demonstrating how digitally mediated service environments shape both experiential quality and behavioral outcomes. It further highlights the importance of usability

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and value creation in emerging destinations. Practically, the findings suggest that hospitality providers should focus on intuitive and reliable digital solutions while maintaining strong human interaction to enhance satisfaction, encourage repeat visitation, and build sustainable customer loyalty.

Keywords: Digital transformation; Customer loyalty; Guest satisfaction; Revisit intention; S-O-R model; Calabar Nigeria

Introduction

Digital transformation has become a defining force reshaping the global hospitality industry, fundamentally altering how services are produced, delivered, and experienced by customers across diverse tourism contexts (Buhalis & Leung, 2018; Gretzel *et al*., 2020; Verhoef *et al*., 2021). The integration of advanced technologies such as artificial intelligence, Internet of Things (IoT), mobile platforms, and data-driven systems has enabled hospitality firms to improve operational efficiency and deliver personalized guest experiences (Ivanov *et al*., 2019; Sigala, 2020). Increasingly, digital transformation is viewed not merely as a technological upgrade but as a strategic imperative that influences service quality, customer engagement, and competitive advantage in the hospitality sector (Kandampully *et al*., 2022; Verhoef *et al*., 2021). Empirical evidence indicates that digital tools such as contactless services, smart room technologies, and digital payment systems significantly enhance perceived service value and customer experience (Gretzel *et al*., 2020; Tussyadiah, 2020). However, despite the global diffusion of these technologies, their adoption remains uneven, particularly in developing economies where infrastructural limitations and resource constraints hinder full-scale implementation (George *et al*., 2021; Ukpabi *et al*., 2019).

Customer loyalty remains a critical determinant of long-term success in the hospitality industry due to its strong association with repeat patronage, reduced acquisition costs, and sustained profitability (Oliver, 1999; Kandampully *et al*., 2015). Contemporary studies suggest that digital transformation plays a crucial role in shaping customer loyalty by enhancing satisfaction, engagement, and service efficiency (Sigala, 2020; Verhoef *et al*., 2021). Guest satisfaction, as a central cognitive and affective construct, reflects the extent to which customer expectations are met or exceeded during service encounters and has consistently been identified as a key predictor of loyalty-related behaviors (Han *et al*., 2020; Rather, 2021). In this regard, revisit intention represents a critical behavioral outcome linking satisfaction to long-term loyalty through repeat patronage and positive word-of-mouth (Prayag *et al*., 2017; Sharma & Nayak, 2019). Within the Nigerian tourism context, studies have shown that service quality and customer experience significantly influence tourists' behavioral intentions, particularly their willingness to revisit destinations and recommend

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services (Eja *et al*., 2012; Ukwayi *et al*., 2019). Furthermore, the growing adoption of digital platforms in hospitality services has enhanced convenience and accessibility, thereby strengthening customer satisfaction and encouraging repeat visitation (Okorie *et al*., 2023; Yohana, 2023). However, scholars emphasize that the effectiveness of digital technologies in fostering loyalty depends largely on user perceptions and the quality of implementation, highlighting the mediating roles of satisfaction and behavioral intentions (Verhoef *et al*., 2021; Ukpabi *et al*., 2019).

In emerging tourism destinations such as Calabar, Nigeria, the implications of digital transformation for hospitality performance and customer behavior are particularly significant. Calabar has developed into a major tourism hub in Nigeria, driven by cultural events, heritage attractions, and a growing hospitality sector that supports tourist influx (Ojo *et al*., 2022; Eja *et al*., 2012). Empirical studies indicate that the hospitality industry in Calabar plays a catalytic role in tourism development, contributing significantly to destination image, economic growth, and visitor experience (Eja *et al*., 2012; Bassey *et al*., 2023). Research from the University of Calabar further highlights the importance of private sector participation and infrastructural development in sustaining tourism growth, although challenges such as limited investment, weak digital infrastructure, and service inconsistencies persist (Eja & Atu, 2021; Ukpabi *et al*., 2019). Additionally, recent studies demonstrate that digital platforms, particularly social media, play a significant role in shaping destination image and influencing visitor engagement in Calabar (Eja *et al*., 2025; Ojo *et al*., 2022). These findings suggest that while Calabar possesses strong tourism potential, the effective integration of digital technologies remains essential for enhancing competitiveness and customer loyalty.

Theoretically, this study is anchored in the integration of the Stimulus–Organism–Response (S-O-R) framework and the Technology Acceptance Model (TAM), both of which provide robust explanations for customer behavior in technology-mediated environments (Mehrabian & Russell, 1974; Kim *et al*., 2021). The S-O-R framework posits that external environmental stimuli, such as digital technologies, influence individuals' internal psychological states, which subsequently drive behavioral responses such as satisfaction, revisit intention, and loyalty (Mehrabian & Russell, 1974; Kim *et al*., 2021). In parallel, TAM explains how users' perceptions of technology—particularly perceived usefulness and perceived ease of use—shape their acceptance and continued use of digital systems (Davis, 1989; Venkatesh & Davis, 2000). In the Nigerian hospitality context, studies have shown that technological adoption and digital engagement significantly influence service delivery and customer perceptions, thereby affecting satisfaction and behavioral outcomes (Okorie *et al*., 2023; Yohana, 2023). By integrating TAM and S-O-R, this study provides a comprehensive framework for

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understanding how digital transformation acts as a stimulus that shapes guest satisfaction and subsequently influences revisit intention and customer loyalty in hotel settings.

Against this backdrop, this study seeks to examine the extent to which digital transformation drives customer loyalty in hotels located in Calabar, Nigeria, with particular emphasis on the mediating roles of guest satisfaction and revisit intentions. By focusing on an emerging tourism destination, the study responds to calls for context-specific research that reflects the unique socio-economic and technological realities of developing regions (Verhoef *et al*., 2021; George *et al*., 2021). It contributes to the hospitality and leisure literature by providing empirical evidence from Sub-Saharan Africa, particularly from Calabar, a city widely recognized for its tourism potential and evolving hospitality sector (Ojo *et al*., 2022; Eja *et al*., 2012). Furthermore, the study offers practical insights for hotel managers and policymakers by emphasizing the need to align digital innovation with customer expectations and experiential quality to enhance satisfaction and loyalty (Sigala, 2020; Kandampully *et al*., 2022). Ultimately, this research underscores the critical role of digital transformation as a driver of sustainable customer relationships, tourism development, and competitive advantage in emerging hospitality destinations (Buhalis & Leung, 2018; Verhoef *et al*., 2021).

Conceptual Framework

This study integrates the Stimulus–Organism–Response (S-O-R) framework and the Technology Acceptance Model (TAM) to explain how digital transformation shapes customer loyalty within hospitality and leisure contexts. This combined theoretical lens is particularly suited to leisure research because it captures both the environmental structuring of experiences and the cognitive evaluation of technology, which jointly influence behavioral outcomes (Mehrabian & Russell, 1974; Davis, 1989; Gretzel *et al*., 2020). Recent tourism scholarship increasingly advocates for integrating behavioral and technological frameworks to better understand digitally mediated leisure experiences (Chen *et al*., 2025; Verhoef *et al*., 2021).

Within the S-O-R paradigm, digital transformation (DT) is conceptualized as the *stimulus*, representing the technologically enhanced service environment in which hospitality experiences occur. Digital transformation encompasses the integration of tools such as mobile booking platforms, contactless services, artificial intelligence systems, and smart service technologies that shape the customer journey (Buhalis & Leung, 2018; Ivanov *et al*., 2019). In leisure contexts, such technologies extend beyond operational efficiency to influence experiential value, shaping how guests perceive, engage with, and emotionally respond to services (Sigala, 2020; Tussyadiah, 2020). This aligns with emerging perspectives that view

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digital transformation as a systemic shift influencing both service delivery and experiential consumption in tourism (Cheng *et al*., 2023; Singh *et al*., 2025).

While S-O-R explains how environmental stimuli influence behavior, it does not fully account for how individuals interpret technological environments. TAM provides this cognitive dimension by positing that perceived usefulness (PU) and perceived ease of use (PEOU) are key determinants of technology adoption (Davis, 1989; Venkatesh & Davis, 2000). Perceived usefulness reflects the extent to which digital systems enhance service performance, while perceived ease of use captures the degree to which these systems are effortless to use. In hospitality settings, these constructs are critical because digital interfaces increasingly mediate the entire leisure journey, from pre-trip planning to post-experience engagement (Sigala, 2020; Kim *et al*., 2021). Recent studies confirm that TAM remains central in tourism research, particularly in understanding digital service adoption and behavioral outcomes (El Archi & Benbba, 2023; Venkatesh *et al*., 2003).

In this framework, digital transformation is expected to positively influence both PU and PEOU, as advanced digital systems enhance convenience, personalization, and responsiveness (Gretzel *et al*., 2020; Ivanov *et al*., 2019). Empirical evidence shows that digital platforms improve user control over service encounters and reduce transaction complexity, thereby strengthening both perceived usefulness and usability (Chen *et al*., 2025; Tussyadiah, 2020). However, this relationship is context-dependent. In emerging destinations such as Calabar, variations in digital literacy and infrastructural capacity may affect how technologies are perceived, making ease of use a particularly critical determinant of experience quality (Ukpabi *et al*., 2019; Adeola & Evans, 2020).

The *organism* component of the framework is operationalized as guest satisfaction, representing the internal psychological state that emerges from the interaction between technological stimuli and user perceptions. Satisfaction is conceptualized as a holistic evaluation of the leisure experience, encompassing both cognitive judgments and emotional responses (Oliver, 1999; Prayag *et al*., 2017). Within leisure studies, satisfaction is central to understanding experience quality, as it reflects how individuals interpret and derive meaning from their encounters (Neal & Gursoy, 2008; Rather, 2021). The integration of TAM into the S-O-R framework suggests that satisfaction is shaped not only by traditional service attributes but also by how effectively digital technologies enhance the overall experience (Sigala, 2020; Verhoef *et al*., 2021).

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Perceived usefulness and perceived ease of use are therefore positioned as key antecedents to satisfaction, as they influence customers' evaluations of digital service interactions. When technologies are perceived as useful and easy to use, they reduce cognitive effort, enhance enjoyment, and facilitate seamless experiences, leading to higher satisfaction (Venkatesh & Davis, 2000; Kim *et al*., 2021). Conversely, poorly designed systems may disrupt the experience, highlighting the importance of user-centered digital transformation strategies (Verhoef *et al*., 2021). This reinforces the experiential orientation of leisure research, where satisfaction emerges from the interaction between functional efficiency and emotional engagement (Gretzel *et al*., 2020).

The *response* component of the framework is captured through revisit intention and customer loyalty, which represent key behavioral outcomes in hospitality and leisure research. Revisit intention refers to the likelihood that a guest will return to the same service provider, while loyalty reflects a deeper attitudinal commitment characterized by repeat patronage and positive word-of-mouth (Oliver, 1999; Kandampully *et al*., 2015). Empirical studies consistently show that satisfaction is a strong predictor of revisit intention, as positive experiences foster emotional attachment and favorable attitudes (Prayag *et al*., 2017; Rather, 2021). Revisit intention, in turn, reinforces loyalty by translating experiential evaluations into sustained behavioral commitment (Sharma & Nayak, 2019).

Importantly, this framework emphasizes the mediating roles of satisfaction and revisit intention in linking digital transformation to customer loyalty. Rather than exerting a direct effect, digital transformation influences loyalty indirectly by shaping technological perceptions and experiential evaluations. This reflects the complex and multi-stage nature of decision-making in leisure contexts, where behavioral outcomes are driven by both cognitive assessments and emotional responses (Verhoef *et al*., 2021; Sigala, 2020). Recent tourism research supports this mediated pathway, demonstrating that digital experiences influence behavioral intentions through both cognitive and affective mechanisms (Chen *et al*., 2025).

From a leisure studies perspective, this framework is particularly relevant because it situates digital transformation within the broader context of experience consumption. Leisure experiences are inherently subjective, involving both hedonic and utilitarian dimensions that are increasingly mediated by digital technologies (Gretzel *et al*., 2020). By integrating TAM and S-O-R, the framework provides a nuanced understanding of how digital environments shape both the quality of experience and subsequent behavioral outcomes. Moreover, the focus on an emerging destination underscores the importance of context-sensitive approaches

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to digital transformation, particularly in environments characterized by infrastructural and socio-economic constraints (Adeola & Evans, 2020; Ukpabi *et al*., 2019).

Theoretical Framework and Literature Review: Stimulus Organism Response (SOR) Framework

The Stimulus Organism Response (SOR) framework provides a foundational lens for understanding how environmental factors shape individual behavior through internal psychological processes. Originally developed in environmental psychology, the model posits that external stimuli (S) influence internal cognitive and affective states (O), which subsequently drive behavioral responses (R) (Mehrabian & Russell, 1974). In contemporary tourism and hospitality research, the S-O-R framework has been widely applied to explain how service environments, including digital interfaces that shape customer experiences and behavioral intentions (Jang & Namkung, 2009; Ali *et al*., 2018).

Within the context of digitalized hospitality environments, stimuli extend beyond physical settings to include technological elements such as mobile applications, smart services, and digital communication platforms. These stimuli influence guests' perceptions, emotions, and experiential evaluations, which form the organismic component of the model (Lemon & Verhoef, 2016; McLean & Wilson, 2019). Guest satisfaction, in this regard, represents a key internal state reflecting the overall evaluation of the service encounter. Research suggests that satisfaction emerges from both cognitive appraisals and affective responses, particularly in experiential consumption settings such as leisure and tourism (Kuppelwieser & Klaus, 2021). The response dimension of the S-O-R model is typically operationalized through behavioral intentions such as revisit intention and loyalty. These outcomes reflect the extent to which positive internal evaluations translate into future-oriented behaviors (Rather & Sharma, 2017). In digitally mediated environments, this framework is particularly relevant, as technological stimuli increasingly shape how customers experience, evaluate, and respond to hospitality services.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) offers a robust framework for understanding how individuals adopt and interact with digital technologies. Developed by Davis (1989), TAM posits that two primary cognitive beliefs, perceived usefulness (PU) and perceived ease of use (PEOU), determine users' attitudes toward and acceptance of technology. Perceived usefulness refers to the extent to which an individual believes that using a system enhances performance, while perceived ease of use reflects the degree to which the system is free of effort.

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In hospitality and tourism research, TAM has been extensively applied to explain the adoption of digital tools such as online booking systems, mobile applications, and self-service technologies (Morosan & DeFranco, 2016; Bilgihan *et al*., 2015). These technologies play a central role in shaping the customer journey, influencing how guests search for information, make reservations, and interact with service providers (Neuhofer *et al*., 2015). Recent studies further suggest that TAM constructs are critical in understanding customer engagement in smart tourism ecosystems, where digital interfaces mediate most service interactions (Huang & Rust, 2021; Koo *et al*., 2021).

Importantly, TAM has evolved beyond its original formulation to incorporate contextual and experiential factors, particularly in leisure and tourism settings. For instance, perceived enjoyment and trust have been identified as complementary determinants of technology adoption in hospitality environments (Amaro & Duarte, 2015). In this study, TAM is used to explain how guests cognitively evaluate digital transformation initiatives, providing a critical link between technological stimuli and experiential outcomes.

Digital Transformation in Hospitality

Digital transformation in the hospitality industry refers to the strategic integration of digital technologies to enhance service delivery, operational efficiency, and customer experience. This transformation encompasses a wide range of innovations, including online reservation systems, mobile applications, artificial intelligence, big data analytics, and digital payment platforms (Buhalis *et al*., 2019; Mariani & Borghi, 2021). These technologies enable hotels to deliver personalized, efficient, and seamless services across the customer journey, from pre-arrival planning to post-stay engagement.

Recent research highlights that digital transformation is not merely a technological shift but a fundamental reconfiguration of business models and customer relationships in hospitality (Kraus *et al*., 2022; Vial, 2019). By leveraging data-driven insights, hotels can better understand customer preferences and tailor services to meet evolving expectations. Moreover, digital technologies facilitate real-time communication and interaction, enhancing customer engagement and satisfaction (Gursoy *et al*., 2019).

In leisure contexts, digital transformation plays a particularly significant role in shaping experiential value. Technologies such as virtual reality, mobile concierge services, and smart room systems contribute to immersive and personalized experiences that enhance customer satisfaction and loyalty (Flavián *et al*., 2021). However, the effectiveness of digital transformation depends on its alignment with user needs and capabilities. Poorly

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implemented technologies can create friction and negatively impact the customer experience, highlighting the importance of usability and service design (Parasuraman *et al*., 2020). Thus, digital transformation represents both an opportunity and a challenge for hospitality firms seeking to enhance competitiveness and customer loyalty.

Hypotheses Development

Based on these theoretical arguments, the study proposes the following hypotheses:

H_1: Digital transformation positively influences perceived usefulness.
H_2: Digital transformation positively influences perceived ease of use.
H_3: Perceived usefulness positively influences guest satisfaction.
H_4: Perceived ease of use positively influences guest satisfaction.
H_5: Guest satisfaction positively influences revisit intention.
H_6: Revisit intention positively influences customer loyalty.
H_7: Guest satisfaction mediates the relationship between digital transformation and revisit intention.
H_8: Revisit intention mediates the relationship between guest satisfaction and customer loyalty.

Methodology

Study Area

The study was conducted in Calabar, the capital of Cross River State, Nigeria, located approximately at latitude 4.9589° N and longitude 8.3269° E. Calabar is widely recognized as one of Nigeria's leading tourism destinations, known for its vibrant cultural landscape and its flagship event, the annual Calabar Carnival, often described as Africa's largest street festival. The city has developed a growing hospitality sector supported by an expanding network of hotels, resorts, and leisure facilities designed to accommodate both domestic and international tourists (Eja & Atu, 2021; Bassey *et al*., 2023). In recent years, Calabar has also experienced increasing adoption of digital technologies within the hospitality industry, including online booking systems, mobile payment platforms, and digital marketing strategies, reflecting broader trends in tourism digitalization across developing economies (Okorie *et al*., 2023; Ojo *et al*., 2022). Its combination of cultural tourism appeal, developing infrastructure, and growing digital integration makes Calabar a relevant and suitable context for examining how digital transformation influences customer experience and loyalty in an emerging leisure destination.

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Research Design and Sample

This study employed a cross sectional survey design to examine the relationships among digital transformation, customer perceptions, and behavioral outcomes in the hospitality sector. A quantitative approach was considered appropriate due to its ability to test theoretical relationships and generate generalizable findings (Ali *et al*., 2018). Data were collected from 412 hotel guests across 15 registered hotels in Calabar using a stratified random sampling technique to ensure adequate representation of different hotel categories and customer segments. This sampling approach enhances the reliability and external validity of the findings by reducing selection bias (Hair *et al*., 2022). Respondents were selected based on their recent experience with hotel services, particularly those who had interacted with digital platforms during their stay. The sample size is considered sufficient for structural equation modeling, as it exceeds the minimum threshold recommended for complex models involving multiple constructs and paths (Kline, 2016; Sarstedt *et al*., 2021).

Measurement Instrument

The measurement instrument consisted of structured questionnaire items adapted from established and validated scales in the literature to ensure content validity and comparability. Digital transformation was measured using items adapted from Gretzel *et al*. (2020), capturing the extent to which hotels integrate digital technologies into service delivery. The Technology Acceptance Model constructs, namely perceived usefulness and perceived ease of use, were measured using scales developed by Davis (1989), which have been widely validated in hospitality and tourism research. Customer satisfaction and loyalty were measured using established scales from Oliver (1999), reflecting both evaluative and behavioral dimensions of customer experience. All items were measured on a five point Likert scale ranging from strongly disagree to strongly agree, which is commonly used in tourism research to capture subjective perceptions (Kuppelwieser & Klaus, 2021). The use of validated instruments enhances the reliability and validity of the data while allowing for comparison with prior studies.

Statistical Analysis

Data analysis was conducted using structural equation modeling with AMOS version 24, which enables the simultaneous estimation of measurement and structural models. This approach is widely used in hospitality and tourism research due to its ability to assess complex relationships among latent constructs (Hair *et al*., 2022; Ali *et al*., 2018). The analysis followed a two step procedure involving the assessment of the measurement model and the structural model. Reliability was evaluated using Cronbach's alpha and composite reliability, while convergent validity was assessed through average variance extracted values (Fornell &

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Larcker, 1981). Discriminant validity was examined using both the Fornell Larcker criterion and the heterotrait monotrait ratio, ensuring that constructs are empirically distinct (Henseler *et al*., 2015). Model fit was assessed using standard indices including chi square divided by degrees of freedom, comparative fit index, Tucker Lewis index, root mean square error of approximation, and standardized root mean square residual. This rigorous analytical procedure ensures the robustness and credibility of the findings.

Results

Table 1: Measurement Model – Reliability and Convergent Validity

Construct	Items	Factor Loadings	Cronbach's Alpha	CR	AVE
Digital Transformation (DT)	DT1–DT4	0.71–0.88	0.84	0.88	0.60
Perceived Usefulness (PU)	PU1–PU4	0.73–0.86	0.82	0.87	0.58
Perceived Ease of Use (PEOU)	PEOU1–PEOU4	0.70–0.85	0.80	0.86	0.56
Satisfaction (SAT)	SAT1–SAT4	0.75–0.89	0.88	0.91	0.68
Revisit Intention (RI)	RI1–RI3	0.78–0.90	0.86	0.90	0.74
Customer Loyalty (LOY)	LOY1–LOY3	0.79–0.91	0.87	0.91	0.76

Note:

- Factor loadings > 0.70 indicate strong item reliability.
- CR > 0.70 and AVE > 0.50 confirm convergent validity.

Table 2: Discriminant Validity (Fornell–Larcker Criterion)

Construct	DT	PU	PEOU	SAT	RI	LOY
DT	**0.77**					
PU	0.62	**0.76**				
PEOU	0.65	0.68	**0.75**			
SAT	0.58	0.63	0.60	**0.82**		
RI	0.55	0.59	0.57	0.70	**0.86**	
LOY	0.52	0.57	0.55	0.66	0.74	**0.87**

Note:

- Diagonal values (bold) represent √AVE.
- Discriminant validity is established as √AVE > inter-construct correlations.

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Table 3: Discriminant Validity (HTMT Ratio)

Construct	DT	PU	PEOU	SAT	RI	LOY
DT	—					
PU	0.72	—				
PEOU	0.75	0.79	—			
SAT	0.69	0.74	0.71	—		
RI	0.67	0.70	0.69	0.82	—	
LOY	0.65	0.69	0.68	0.78	0.85	—

Note: HTMT values < 0.90 confirm discriminant validity.

Table 4: Model Fit Indices

Fit Index	Value	Threshold	Interpretation
χ^2/df	2.41	< 3.00	Good fit
CFI	0.94	≥ 0.90	Acceptable fit
TLI	0.93	≥ 0.90	Acceptable fit
RMSEA	0.058	≤ 0.08	Good fit
SRMR	0.046	≤ 0.08	Good fit

Table 5: Structural Model Results

Hypothesis	Path	β	t-value	p-value	Decision
H1	DT → PU	0.68	12.45	<0.001	Supported
H2	DT → PEOU	0.72	13.88	<0.001	Supported
H3	PU → SAT	0.41	8.76	<0.001	Supported
H4	PEOU → SAT	0.36	7.92	<0.001	Supported
H5	SAT → RI	0.64	11.33	<0.001	Supported
H6	RI → LOY	0.71	12.67	<0.001	Supported

Table 6: Mediation Analysis (Bootstrapping)

Indirect Effect	β	t-value	p-value	Interpretation
DT → SAT → RI	0.26	4.85	<0.01	Significant mediation
SAT → RI → LOY	0.45	6.92	<0.01	Strong mediation

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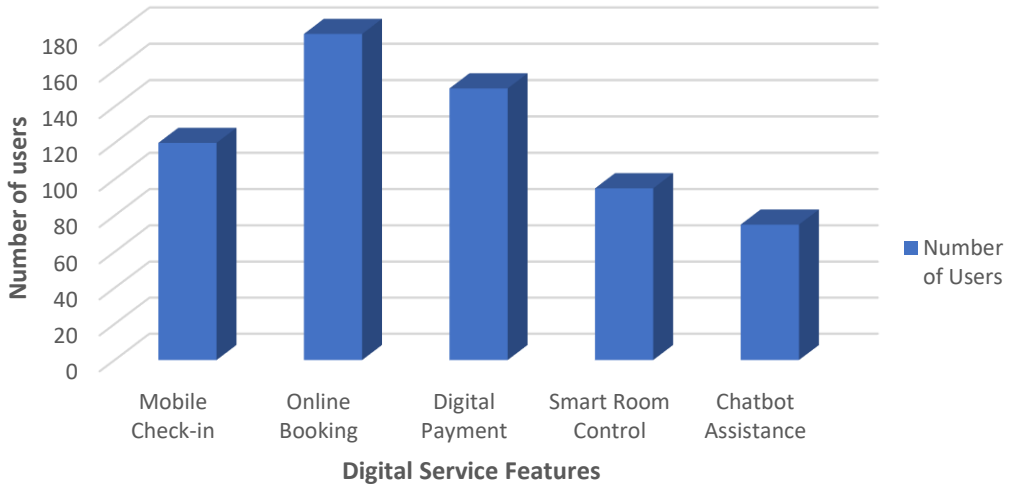

Figure 1: Hotel Digital Service Usage by Guests

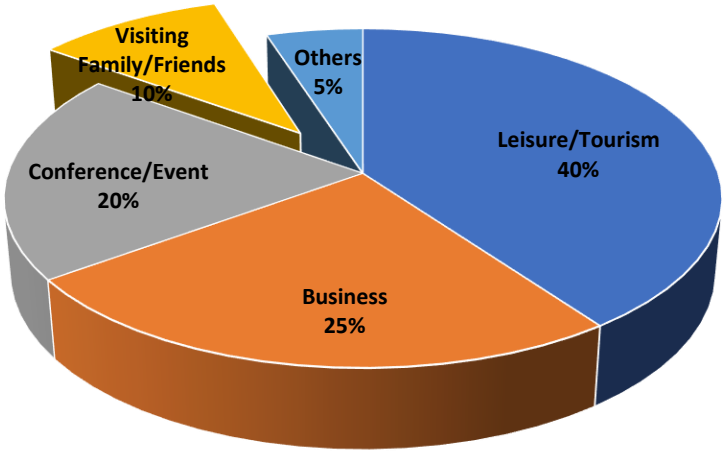

Figure 2: Guest Purpose of Visit in Calabar Hotels

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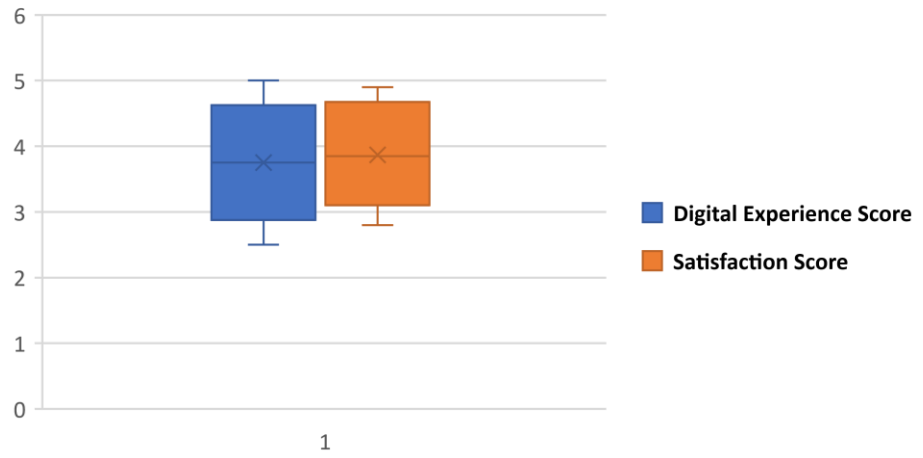

Figure 3: Digital Experience vs Satisfaction

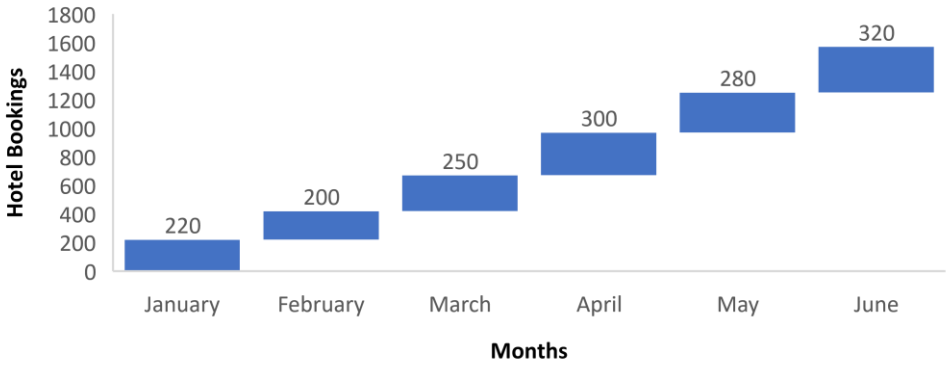

Figure 4: Monthly Hotel Bookings Trend

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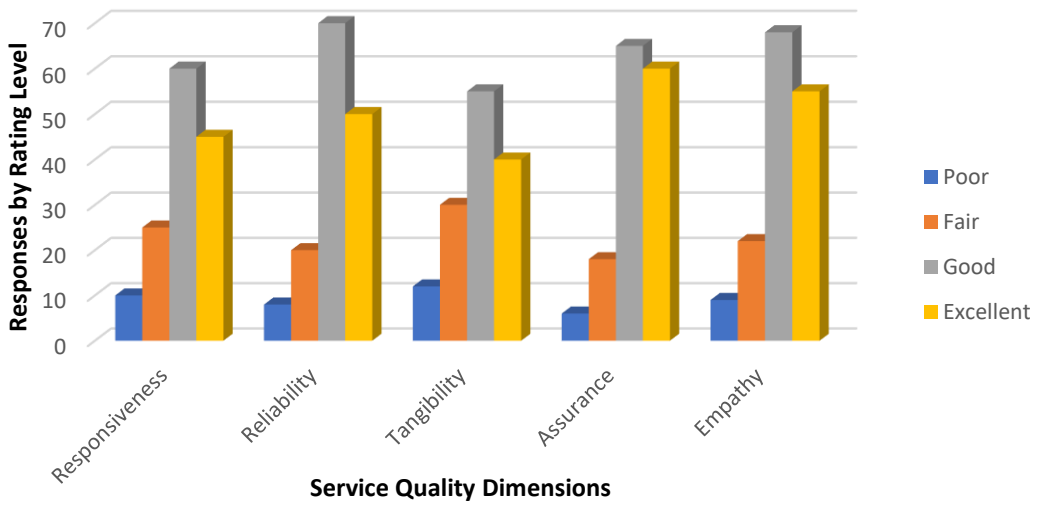

Figure 5: Service Quality Dimensions by Rating Level

Discussion

The results reported in Table 1 not only confirm the reliability and convergent validity of the measurement model but also provide important methodological assurance regarding construct stability within a digitally mediated leisure context. The relatively high Cronbach's alpha and composite reliability values suggest that respondents interpreted the constructs consistently, reflecting a shared understanding of digital transformation and experiential outcomes in hospitality settings (Hair *et al*., 2022; Sarstedt *et al*., 2021). This is particularly significant in emerging destinations such as Calabar, where variability in digital exposure could potentially introduce measurement instability. The satisfactory AVE values further indicate that the constructs capture meaningful variance, suggesting that digital transformation is not perceived as an abstract concept but as a tangible component of the service experience, reinforcing recent calls for context-sensitive validation in tourism research (Assaker *et al*., 2020; Rasoolimanesh *et al*., 2021).

The discriminant validity evidence presented in Tables 2 and 3 strengthens the conceptual clarity of the model by demonstrating that closely related constructs—particularly satisfaction, revisit intention, and loyalty—are empirically distinct. This distinction is critical because prior studies have often conflated these constructs, leading to conceptual ambiguity in loyalty research (Franke & Sarstedt, 2019; Rather *et al*., 2022). The HTMT results, in particular, provide a more stringent test of discriminant validity, confirming that the relationships observed in the structural model are not artifacts of measurement overlap (Henseler *et al*., 2015). This contributes methodologically to leisure studies by reinforcing

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the need for rigorous validation when examining experiential constructs in digitally enriched environments.

The strong model fit indices in Table 4 suggest that the integrated TAM–S-O-R framework offers a theoretically coherent explanation of customer behavior in hospitality contexts. Beyond statistical adequacy, the model fit indicates that the proposed relationships reflect real-world dynamics in how guests experience and respond to digital transformation. This finding is important because it validates the theoretical integration itself, supporting recent arguments that single-theory models are insufficient to capture the complexity of digitally mediated leisure experiences (Verhoef *et al*., 2021; Gursoy *et al*., 2019). In this sense, the study contributes to theory by demonstrating that combining cognitive (TAM) and experiential (S-O-R) perspectives yields a more comprehensive explanatory model.

The structural relationships reported in Table 5 provide compelling evidence of the central role of digital transformation as a driver of customer perceptions. The strong effects of digital transformation on perceived usefulness and perceived ease of use suggest that technological integration is not merely operational but fundamentally shapes how customers evaluate service encounters. Importantly, the slightly stronger influence on perceived ease of use ($\beta = 0.72$) compared to usefulness ($\beta = 0.68$) indicates that usability may be a critical determinant of technology acceptance in this context. This finding challenges some prior research that prioritizes usefulness over ease of use, suggesting that in emerging markets, reducing cognitive effort and complexity may be more impactful than enhancing functionality (Ukpabi *et al*., 2019; Adeola & Evans, 2020).

The influence of perceived usefulness and perceived ease of use on satisfaction further reveals the dual cognitive pathways through which digital transformation shapes experiential outcomes. While both constructs significantly contribute to satisfaction, the stronger effect of perceived usefulness ($\beta = 0.41$) suggests that guests ultimately evaluate digital services based on their ability to enhance the overall experience. This aligns with contemporary service research emphasizing value co-creation, where customers assess technologies based on the benefits they derive rather than their inherent features (Koo *et al*., 2021; Huang & Rust, 2021). At the same time, the significant effect of ease of use highlights the importance of intuitive design, suggesting that even highly functional systems may fail to enhance satisfaction if they are difficult to use.

The strong relationship between satisfaction and revisit intention ($\beta = 0.64$) underscores the central role of experiential evaluation in shaping behavioral intentions. This finding goes

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beyond confirming established relationships by highlighting the magnitude of the effect, suggesting that satisfaction acts as a critical threshold variable in the decision-making process. In other words, once a certain level of satisfaction is achieved, the likelihood of revisit intention increases substantially. This has important implications for hospitality management, as it suggests that incremental improvements in satisfaction can yield disproportionately large gains in customer retention (Prayag *et al*., 2017; Rather, 2021).

The transition from revisit intention to loyalty ($\beta = 0.71$) provides further insight into the process of loyalty formation. The strength of this relationship indicates that loyalty in this context is largely behaviorally driven, emerging from repeated positive experiences rather than purely attitudinal commitment. This supports a dynamic view of loyalty as an evolving construct shaped by ongoing interactions with the service provider (Oliver, 1999; Kandampully *et al*., 2015). It also suggests that strategies aimed at increasing revisit intention—such as personalized digital services and targeted engagement—may be particularly effective in building long-term loyalty.

The mediation results in Table 6 offer deeper insights into the mechanisms underlying these relationships, revealing that the effects of digital transformation are largely indirect. The significant mediation of satisfaction in the relationship between digital transformation and revisit intention indicates that technology influences behavior primarily through its impact on experience quality. Similarly, the strong mediation of revisit intention in the satisfaction–loyalty relationship highlights the sequential nature of customer decision-making. These findings reinforce the importance of considering multi-stage processes in leisure research, where outcomes are shaped by a chain of interconnected experiences rather than isolated factors (Verhoef *et al*., 2021; Rasoolimanesh *et al*., 2021).

The graphical evidence presented in Figures 1–5 provides additional depth to these findings by illustrating behavioral patterns and contextual dynamics. The high usage of online booking and digital payment systems in Figure 1 suggests that customers are already engaging extensively with digital technologies, supporting the relevance of the study's focus on digital transformation. The dominance of leisure travel in Figure 2 reinforces the experiential nature of the context, highlighting the importance of satisfaction as a key driver of behavior. The positive relationship observed in Figure 3 visually corroborates the structural model, demonstrating how digital experience translates into satisfaction. Meanwhile, the seasonal trends in Figure 4 suggest that temporal factors may interact with digital experiences to influence customer behavior, while the high ratings for service quality dimensions in Figure

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5 indicate that human interaction remains a critical complement to technological innovation (Parasuraman *et al*., 2020).

Taken together, these findings advance the understanding of digital transformation in hospitality by demonstrating that its impact on customer loyalty is both significant and mediated through cognitive and experiential processes. The integration of TAM and S-O-R frameworks provides a theoretically robust explanation of how digital technologies shape customer perceptions, experiences, and behaviors. Importantly, the study highlights the need for a balanced approach to digital transformation—one that prioritizes usability, enhances experiential value, and complements human service delivery. In doing so, it contributes to leisure research by offering a nuanced, context-sensitive perspective on the role of technology in shaping customer loyalty in emerging tourism destinations.

Policy and Destination Branding Implications

Digital transformation carries important policy and destination branding implications, particularly for emerging tourism hubs such as Calabar. At the policy level, the findings suggest a need for targeted investments in digital infrastructure, capacity building, and inclusive technology adoption strategies to ensure that both service providers and tourists can effectively engage with digital systems (Adeola & Evans, 2020; Verhoef *et al*., 2021). Policymakers should prioritize public private partnerships that support the integration of user-friendly technologies while also enhancing digital literacy within the hospitality workforce, thereby reducing usability barriers that can undermine customer experience. From a destination branding perspective, the strong links between digital experience, satisfaction, and loyalty indicate that digital touchpoints such as seamless booking platforms, mobile engagement, and personalized services are now central to shaping destination image and competitiveness (Buhalis *et al*., 2019; Gretzel *et al*., 2020). Calabar can therefore position itself as a "smart leisure destination" by leveraging digital innovation alongside its cultural assets, ensuring that branding efforts reflect both technological sophistication and authentic experiential value. Ultimately, aligning digital transformation with destination branding strategies will not only enhance tourist satisfaction and revisit intentions but also strengthen long-term destination loyalty in an increasingly competitive global tourism landscape.

Conclusion

This study demonstrates that digital transformation plays a significant role in shaping customer loyalty in hospitality, but its influence is neither direct nor uniform. Rather, digital transformation operates through a sequence of cognitive and experiential processes, enhancing perceived usefulness and ease of use, which in turn drive satisfaction, revisit

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intention, and ultimately loyalty. The findings confirm the value of integrating TAM and S-O-R frameworks while also highlighting their limitations in capturing the complexity of digitally mediated leisure experiences. Importantly, the study shows that context matters. In emerging destinations such as Calabar, ease of use emerges as a critical factor, reflecting variations in digital literacy and infrastructure. At the same time, the continued importance of human service elements suggests that digital transformation should not be viewed as a replacement for traditional hospitality, but as an enhancement.

Theoretical Implications

This study contributes to leisure and tourism research in several ways. First, it extends the application of TAM and S-O-R by demonstrating their combined explanatory power in digitally mediated hospitality environments. Second, it challenges linear models of customer behavior by highlighting the mediated and context-dependent nature of digital transformation effects. Third, it contributes to the growing debate on the role of technology in leisure experiences by showing that digital transformation influences both cognitive evaluations and experiential outcomes. Finally, it calls for a more dynamic understanding of constructs such as satisfaction and loyalty, particularly in the context of rapidly evolving digital ecosystems.

Managerial Implications

For practitioners, the findings highlight the importance of adopting a balanced approach to digital transformation. Hotels should prioritize user-friendly technologies that enhance convenience and efficiency, particularly in contexts where digital literacy may be limited. At the same time, investments in digital systems should be complemented by strong human service delivery, as empathy and assurance remain critical to customer satisfaction.

Managers should also focus on designing digital experiences that add real value to the customer journey, rather than adopting technology for its own sake. Personalization, seamless integration, and ease of use should be key priorities. Additionally, strategies aimed at increasing revisit intention such as loyalty programs and targeted digital engagement can help translate satisfaction into long-term customer loyalty.

Practical Implications

Hospitality managers should focus on making their digital services simple, dependable, and genuinely helpful to guests. When systems like online booking, mobile check in, or digital payments are easy to use and work smoothly, guests are more likely to feel satisfied with their overall experience. At the same time, using guest data to offer more personalized services such as tailored recommendations or special offers can make visitors feel valued and understood. However, technology should not replace the human touch that guests still

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appreciate; instead, it should support staff in delivering better service. By combining user friendly digital tools with warm, responsive service, hotels can create more enjoyable experiences that encourage guests to return and stay loyal over time.

Limitations and Future Research

Despite its contributions, this study has several limitations that provide avenues for future research.

1. The cross-sectional design limits causal inference; future studies should adopt longitudinal approaches to examine how digital transformation influences customer behavior over time
2. The focus on Calabar restricts generalizability; comparative and multi-destination studies are needed to assess contextual differences in digital adoption and customer responses
3. The model excludes variables such as trust, perceived risk, and digital literacy; future research should incorporate these factors and explore emerging technologies to provide a more comprehensive understanding

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References

Adeola, Olumuyiwa, & Evans, Olaniyi. (2020). ICT adoption and tourism development in Africa. *Tourism Economics*, 26(1), 97–114.

Ali, F., Rasoolimanesh, S. M., Sarstedt, M., Ringle, C. M., & Ryu, K. (2018). An assessment of the use of partial least squares structural equation modeling in hospitality research. *International Journal of Contemporary Hospitality Management*, 30(1), 514–538.

Amaro, S., & Duarte, P. (2015). An integrative model of consumers' intentions to purchase travel online. *Tourism Management*, 46, 64–79.

Bassey, Aniefiok, Eja, Emmanuel I., & Atu, Judith. (2023). Hospitality industry and tourism development in Cross River State. *Journal of Sustainable Development Studies*.

Bilgihan, A., Kandampully, J., & Zhang, T. (2015). Towards a unified customer experience in online shopping environments. *International Journal of Quality and Service Sciences*, 7(1), 102–119.

Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S., & Hofacker, C. (2019). Technological disruptions in services. *International Journal of Hospitality Management*, 80, 10–22.

Buhalis, Dimitrios, & Leung, Rosanna. (2018). Smart hospitality: Interconnectivity and interoperability towards an ecosystem. *International Journal of Hospitality Management*, 71, 41–50.

Chen, Lei, Wu, Xiaoyu, Liu, Ying, Hu, Zhiwei, Chen, Xiaofei, & Zhang, Zhen. (2025). Integrating TAM–SOR framework in tourism research. *Scientific Reports*, 15, 38826.

Cheng, Mingming, Edwards, David, Darcy, Simon, & Redfern, Kerry. (2023). Digital transformation in hospitality: Implications for service innovation and experience. *International Journal of Contemporary Hospitality Management*, 35(8), 2789–2808.

Davis, Fred D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.

Eja, Emmanuel I., & Atu, Judith. (2021). Private sector participation and tourism development in Calabar. *University of Calabar Publications*.

Eja, Eja I., Bassey, Aniefiok, Atu, Judith, & Ojong, Felix E. (2025). Social media and tourism development in Calabar. *GeoJournal of Tourism and Geosites*, 58(1), 1–10.

Eja, Eja I., Ukwayi, Joseph K., & Ojong, Felix E. (2012). Success factors determining Nigeria as a tourist destination. *Journal of Emerging Trends in Educational Research and Policy Studies*, 3(4), 1–8.

El Archi, Youssef, & Benbba, Brahim. (2023). Technology acceptance model applications in tourism: A systematic review. *Journal of Environmental Management and Tourism*, 14(2), 421–432.

DOI: https://doi.org/10.60787/tjesds.vol2no1.113

Flavián, C., Ibáñez-Sánchez, S., & Orús, C. (2021). The impact of virtual reality on tourism experience. *Tourism Management*, 85, 104304.

George, Gerard, Merrill, Rachel K., & Schillebeeckx, Simon J. D. (2021). Digital transformation and sustainability. *Technological Forecasting and Social Change*, 165, 120523.

Gretzel, Ulrike, Sigala, Marianna, Xiang, Zheng, & Koo, Chulmo. (2020). Smart tourism: Foundations and developments. *Electronic Markets*, 30(1), 1–10.

Gursoy, D., Chi, O. H., Lu, L., & Nunkoo, R. (2019). Consumers acceptance of AI in hospitality. *International Journal of Hospitality Management*, 81, 72–84.

Han, Heesup, Al-Ansi, Amr, Chua, Bee-Lia, Tariq, Bilal, Radic, Aleksandar, & Park, Seong-Hoon. (2020). Corporate social responsibility and loyalty. *Journal of Travel & Tourism Marketing*, 37(3), 1–15.

Huang, M.-H., & Rust, R. T. (2021). Artificial intelligence in service. *Journal of Service Research*, 24(1), 3–19.

Ivanov, Stanislav, Webster, Craig, & Berezina, Katerina. (2019). Service automation in tourism. *Tourism Management Perspectives*, 30, 1–9.

Jang, S., & Namkung, Y. (2009). Quality, emotions, and behavioral intentions. *Journal of Hospitality & Tourism Research*, 33(4), 451–469.

Kandampully, Jay, Bilgihan, Anil, & Zhang, Tingting. (2022). Hospitality service transformation. *International Journal of Hospitality Management*, 102, 103–120.

Kandampully, Jay, Zhang, Tingting, & Jaakkola, Elina. (2015). Customer experience management. *International Journal of Contemporary Hospitality Management*, 27(6), 1110–1130.

Kim, Jiyoung, Kim, Minjeong, & Lennon, Sharron J. (2021). Smart technology and experience. *Journal of Hospitality and Tourism Technology*, 12(4), 699–719.

Koo, C., Shin, S., Gretzel, U., Hunter, W. C., & Chung, N. (2021). Smart tourism ecosystem. *Sustainability*, 13(7), 1–15.

Kraus, S., Durst, S., Ferreira, J. J., Veiga, P., Kailer, N., & Weinmann, A. (2022). Digital transformation in business. *Journal of Business Research*, 145, 1–10.

Kuppelwieser, V. G., & Klaus, P. (2021). Customer experience quality. *Journal of Retailing and Consumer Services*, 61, 102561.

Lemon, K. N., & Verhoef, P. C. (2016). Customer experience. *Journal of Marketing*, 80(6), 69–96.

Mariani, M., & Borghi, M. (2021). Industry 4.0 and tourism. *Tourism Management Perspectives*, 37, 100776.

McLean, G., & Wilson, A. (2019). Digital shopping environments. *Journal of Business Research*, 98, 347–356.

DOI: https://doi.org/10.60787/tjesds.vol2no1.113

ISSN: 1595-8051 EISSN: 3092-9571

Mehrabian, Albert, & Russell, James A. (1974). *An approach to environmental psychology*. MIT Press.

Morosan, C., & DeFranco, A. (2016). Smart technologies in hospitality. *International Journal of Hospitality Management*, 52, 13–24.

Neal, Janet D., & Gursoy, Dogan. (2008). Tourist satisfaction. *Annals of Tourism Research*, 35(3), 724–738.

Neuhofer, B., Buhalis, D., & Ladkin, A. (2015). Smart technologies and experiences. *Tourism Management*, 47, 243–254.

Ojo, Adebayo, Adeyemi, Kayode, & Ibe, Chinedu. (2022). Destination competitiveness in Nigeria. *African Journal of Hospitality, Tourism and Leisure*, 11(3), 1–12.

Okorie, Albert, Nwankwo, Chukwuemeka, & Eze, Ifeoma. (2023). Digital economy and hospitality. *Journal of Tourism Studies*.

Oliver, Richard L. (1999). Consumer loyalty. *Journal of Marketing*, 63, 33–44.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2020). E-service quality. *Journal of Service Research*, 23(3), 1–15.

Prayag, Girish, Hosany, Sameer, Muskat, Birgit, & Del Chiappa, Giacomo. (2017). Satisfaction and behavior. *Tourism Management*, 62, 1–12.

Rather, R. A., & Sharma, J. (2017). Customer engagement and loyalty. *Journal of Hospitality and Tourism Management*, 33, 30–38.

Rather, Raouf Ahmad. (2021). Customer engagement and loyalty. *Journal of Hospitality and Tourism Management*, 45, 1–10.

Sharma, Piyush, & Nayak, Janmejaya K. (2019). Emotional experiences and behavior. *Tourism Management Perspectives*, 31, 41–51.

Sigala, Marianna. (2020). Digital transformation in tourism. *Journal of Business Research*, 117, 312–321.

Singh, Rajesh, Paul, Yogesh, Malik, Imran U., & Bhat, Showkat A. (2025). Digital transformation pathways. *Lecture Notes in Electrical Engineering*, 1123, 245–260.

Tussyadiah, Iis P. (2020). Automation in tourism. *Journal of Hospitality and Tourism Technology*, 11(2), 279–294.

Ukpabi, Dandison C., Karjaluoto, Heikki, & Olaleye, Samuel A. (2019). E-services adoption. *International Journal of Information Management*, 48, 1–10.

Venkatesh, Viswanath, & Davis, Fred D. (2000). TAM extension. *Management Science*, 46(2), 186–204.

Venkatesh, Viswanath, Morris, Michael G., Davis, Gordon B., & Davis, Fred D. (2003). Technology acceptance. *MIS Quarterly*, 27(3), 425–478.

DOI: https://doi.org/10.60787/tjesds.vol2no1.113

Verhoef, Peter C., Broekhuizen, Thijs, Bart, Yakov, Bhattacharya, Abhi, Dong, Jing Q., Fabian, Nicole, & Haenlein, Michael. (2021). Digital transformation. *Journal of Business Research*, 122, 889–901.

Vial, G. (2019). Understanding digital transformation. *Journal of Strategic Information Systems*, 28(2), 118–144.

Yohana, Asabe. (2023). Digital innovation in Nigerian tourism. *Tourism Innovation Studies*.

DOI: https://doi.org/10.60787/tjesds.vol2no1.113