

The effect of virtual reality experience quality on hotel booking intention: A Technology Acceptance Model perspective

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ARTICLE INFO

Article history:

Received 18 April 2026

Revised 4 June 2026

Accepted 30 June 2026

Online first

Published 31 July 2026

Keywords:

Booking Intention
Digital Marketing
Navigation Control
Sound Quality
Virtual Reality
Visual Design

DOI:

10.24191/ji.v21i2.11364

ABSTRACT

This study examines the impact of hotel websites' virtual reality experience quality (VREQ) on guests' booking intention, focusing on the role of immersive technology in digital marketing. As hotels increasingly adopt virtual reality to allow potential guests to explore environments before making reservations, identifying the specific dimensions of the user experience that drive behavior has become essential. This research investigates three key dimensions of VREQ: navigation control, sound quality, and visual design. A quantitative research approach was employed using a structured questionnaire distributed to individuals aged 18 and above with prior experience in hotel VR or 360-degree virtual tours. A total of 232 participants were involved in the study, and data were analyzed using multiple regression analysis via the Statistical Package for the Social Sciences (SPSS). The findings reveal that visual design characterized by high-quality graphics and aesthetic realism has a significant and positive effect on booking intention. In contrast, navigation control and sound quality were found to have no significant influence, suggesting these elements are perceived as basic functional requirements rather than decisive drivers of consumer choice. These results contribute theoretically by extending the Technology Acceptance Model (TAM) into the Virtual Reality (VR) hospitality context and practically by advising hotel managers and developers to prioritize visual fidelity to enhance telepresence and consumer confidence.

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1. INTRODUCTION

1.1 Background

The rapid advancement of digital technologies has fundamentally transformed the hospitality industry, particularly regarding strategic communication between hotels and potential guests via online platforms. Modern hotel websites have evolved beyond simple information portals into sophisticated, interactive marketing channels that significantly influence consumer perceptions and booking behavior (Law et al., 2009). Within this digital transformation, many hotels have begun integrating virtual reality (VR) features to provide immersive experiences, enabling users to explore hotel environments virtually before committing to a reservation.

Virtual reality allows potential guests to visualize hotel rooms, facilities, and surroundings in a realistic and interactive manner, which serves to reduce perceived risk and increase confidence in online booking decisions (Guttentag, 2010; Tussyadiah et al., 2018). However, the effectiveness of VR implementation depends not merely on the presence of the technology, but on the qualitative nature of the virtual experience delivered. Virtual Reality Experience Quality (VREQ) is defined as a user's evaluation of how effectively a VR system provides an immersive, realistic, and user-friendly experience (Flavián et al., 2019).

Key dimensions of VREQ include navigation control, sound quality, and visual design. Navigation control determines the ease with which users move and interact within the virtual environment; sound quality enhances sensory realism and emotional involvement; and visual design influences perceived authenticity and aesthetic appeal (Radianti et al., 2020). Deficiencies in these elements can result in a suboptimal VR experience, negatively affecting user perceptions, reducing trust, and weakening the intention to book (Shaputra et al., 2023; Wu et al., 2024).

The adoption of VR technology in this context can be theoretically framed through the Technology Acceptance Model (TAM), which posits that behavioral intention is driven by perceived usefulness and perceived ease of use (Davis, 1989). In the context of hotel VR interfaces, dimensions such as navigation control, sound quality, and visual design contribute directly to perceptions of system usability and utility, thereby influencing booking intention. Despite the growing adoption of VR or 360-degree virtual tours to encourage direct bookings, empirical research examining how specific VREQ dimensions influence guest booking intention remains limited—particularly from the perspective of actual hotel website users. Therefore, this study investigates the impact of navigation control, sound quality, and visual design on guests' booking intention within the specialized context of hotel websites.

1.2 Problem Statement

The intensifying digitalization of the global hospitality sector has compelled hotels to integrate advanced technologies to bolster their digital footprint and strategically influence consumer booking behavior. Within this landscape, hotel websites have transitioned into pivotal marketing platforms where immersive technologies, such as virtual reality (VR), are increasingly deployed to heighten user engagement and offer authentic previews of hotel environments (Buhalis & Law, 2008; Guttentag, 2010). Despite substantial investments in these VR features, many hospitality stakeholders remain uncertain regarding which specific dimensions of the virtual reality experience quality (VREQ) effectively drive a guest's intention to book. Current literature has predominantly focused on the generalized advantages of VR applications within the broader tourism industry, such as destination marketing and the enhancement

of experiential value (Tussyadiah et al., 2018). However, there is a notable scarcity of empirical research examining how distinct dimensions of a hotel website's VREQ specifically navigation control, sound quality, and visual design directly contribute to the complex decision-making processes of users. Consequently, hotel managers and digital developers lack the data-driven guidance necessary to prioritize the experiential elements that maximize VR implementation effectiveness.

Furthermore, while the Technology Acceptance Model (TAM) posits that behavioral intention is predicated on perceived usefulness and perceived ease of use (Davis, 1989), empirical evidence remains insufficient in explaining how these perceptions are specifically molded by the quality of VR experiences on hotel websites. In the absence of such nuanced insights, hotels risk investing in immersive technologies that may only serve as supplementary website features rather than genuine catalysts for booking intention.

Accordingly, this study addresses this critical research gap by investigating the impact of hotel websites' virtual reality experience quality on guest booking intention. By isolating and examining navigation control, sound quality, and visual design, this research seeks to provide the empirical evidence required to clarify the role of experiential quality in shaping consumer behavior, thereby supporting more robust and effective digital marketing strategies within the hospitality industry.

2. LITERATURE REVIEW

2.1 Virtual Reality Experience Quality (VREQ)

Virtual Reality Experience Quality (VREQ) represents a comprehensive multidimensional assessment by consumers regarding a system's capacity to deliver an immersive, realistic, and engaging digital environment. Within the hospitality sector, VR has been increasingly integrated into digital marketing strategies to heighten customer involvement and provide robust decision-making support during the critical pre-booking phase (Tussyadiah et al., 2017; Israel et al., 2019). Unlike static traditional media, VR facilitates a vivid interaction with hotel environments, which serves to diminish perceived uncertainty and bolster consumer confidence in their final booking decisions (Shaputra et al., 2023).

Academic discourse suggests that the utility of VR on hotel platforms is dictated by the experiential quality rather than the mere presence of the technology (Mariani & Borghi, 2021). Grounded in the Technology Acceptance Model (TAM), high-quality VREQ enhances both perceived usefulness and perceived ease of use, which are foundational to technology adoption (Davis, 1989). Sophisticated VR design fosters perceptions of reliability and trustworthiness, directly exerting a positive influence on reservation intentions (Wu et al., 2024). VREQ is considered a holistic construct where navigation control, sound quality, and visual design serve as the primary dimensions governing user behavioral responses (Huang et al., 2013; Shaputra et al., 2023).

2.2 Navigation Control

Navigation control signifies the degree to which a user can move through a virtual space intuitively and with agency. In the context of hotel VR interfaces, seamless navigation allows potential guests to inspect facilities and rooms with minimal cognitive effort or spatial confusion (Kim & Lee, 2020). Such fluidity enhances the "perceived ease of use" component of TAM, providing a sense of control that is vital for satisfying interactions in immersive settings (Faiola et al., 2013). Conversely, system deficiencies such

as high latency, complex interfaces, or ambiguous directional cues often result in user frustration and disengagement (Nielsen Norman Group, 2021). When navigation barriers impede the exploration of a hotel tour, the resultant decline in website evaluation can erode trust and significantly weaken booking intentions (Mariani & Borghi, 2021).

2.3 Sound Quality

Sound quality is a critical sensory driver of immersion and emotional resonance within virtual environments. In hospitality VR applications, auditory elements including ambient environmental sounds and synchronized audio cues bolster sensory realism and the user's sense of "presence" (Huang et al., 2013). High-fidelity audio that aligns with visual stimuli reinforces the perceived authenticity of the hotel, leading to more favorable evaluations (Lu & Wang, 2022). In contrast, asynchronous or low-quality audio can break the "illusion of presence" and diminish the overall credibility of the virtual experience (Huang et al., 2013). If audio elements are perceived as artificial, users may experience a decrease in confidence, which negatively impacts their subsequent booking intention (Wang et al., 2002).

2.4 Visual Design

Visual design is arguably the most dominant dimension of VREQ, as it dictates the user's initial impression and their perception of environmental realism. This dimension encompasses image resolution, spatial accuracy, lighting, and aesthetic appeal (Tussyadiah et al., 2018). Superior visual fidelity allows users to construct accurate mental models of the hotel, thereby enhancing the perceived credibility of the information provided (Shaputra et al., 2023). Research indicates that aesthetically pleasing and realistic VR environments trigger positive emotional triggers that significantly drive the intention to book (Wu et al., 2024). However, a disconnect between exaggerated virtual visuals and the actual physical hotel environment can lead to skepticism and long-term consumer dissatisfaction (Wang et al., 2002). Consequently, visual design remains a cornerstone of effective VR marketing on hotel websites.

2.5 Booking Intention

Booking intention reflects the probability that a consumer will complete a hotel reservation following their interaction with a digital platform (Ajzen, 1991). In the digital hospitality marketplace, this intention is heavily mediated by trust, perceived usefulness, and the quality of information provided. Trust is particularly vital in mitigating the perceived risks inherent in online transactions (Gefen et al., 2003). By providing immersive, transparent, and realistic previews, VR features strengthen booking intentions by reducing consumer uncertainty and building a foundation of trust (Tussyadiah et al., 2017). This increased clarity allows users to proceed with confidence, ultimately converting a virtual visit into a tangible booking.

2.6 Research Framework

The conceptual framework of this study is grounded in the Technology Acceptance Model (TAM) proposed by Davis (1989), which explains how perceived usefulness and perceived ease of use influence behavioural intention toward technology adoption. In the context of hotel websites' virtual reality experience, navigation control reflects perceived ease of use, while sound quality and visual design contribute to perceived usefulness and experiential value. The framework is further adapted from previous virtual reality and tourism studies by Kim, J., & Lee, C. (2020), Flavián, C., Ibáñez-Sánchez, S., & Orús,

C. (2019) and McLean, G., & Barhorst, J. B. (2022), which highlight that experiential quality dimensions significantly influence user behavioural intention in immersive digital environments. Therefore, this study integrates TAM with Virtual Reality Experience Quality (VREQ) to examine its impact on guests' booking intention.

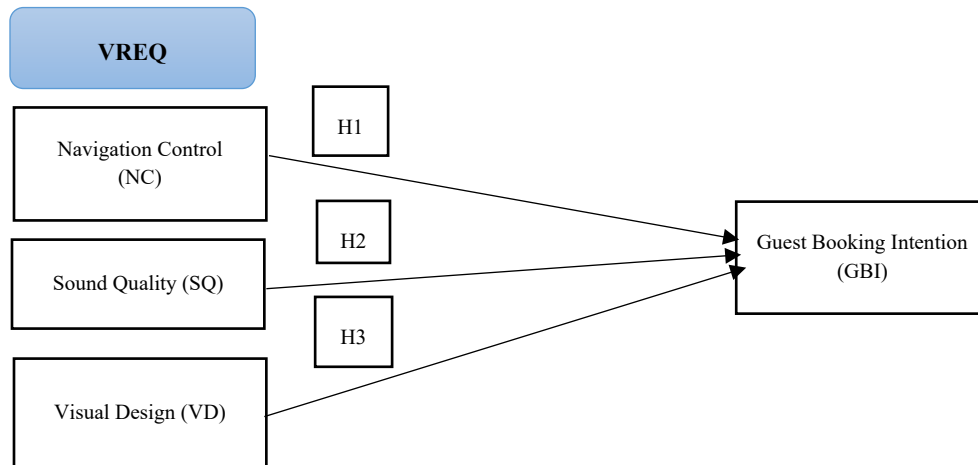


Figure 1: The conceptual framework of VREQ is represented by three key dimensions, namely Navigation Control (NC), Sound Quality (SQ), and Visual Design (VD).

Source: Adapted from Kim, J., & Lee, C. (2020), Flavián, C., Ibáñez-Sánchez, S., & Orús, C. (2019) and McLean, G., & Barhorst, J. B. (2022).

2.7 Hypothesis Development

Navigation Control and Booking Intention

Navigation control is a crucial determinant of user interaction within virtual hotel environments. Effective navigation enables users to explore hotel spaces effortlessly, thereby enhancing perceived ease of use and overall user satisfaction (Kim et al., 2020). When navigation systems are intuitive and responsive, users are more likely to feel in control of their virtual exploration, which positively influences trust and booking intention (Faiola et al., 2013). Empirical studies suggest that smooth navigation reduces cognitive load and allows users to focus on evaluating hotel attributes rather than struggling with system functionality (Huang et al., 2013). In contrast, complex or poorly designed navigation systems may result in confusion and frustration, negatively affecting users' perceptions of the hotel website and lowering their intention to book (Nielsen Norman Group, 2021). Therefore, navigation control is expected to have a positive relationship with guest booking intention in VR-enabled hotel websites.

Sound Quality and Booking Intention

Sound quality contributes significantly to sensory immersion and emotional engagement in virtual reality environments. In hotel VR experiences, high-quality audio enhances realism by complementing visual elements and creating a coherent virtual atmosphere (Huang et al., 2013). When sound is synchronized with visual content, users are more likely to perceive the virtual environment as authentic, which strengthens emotional responses and booking intention (Lu & Wang, 2022). Poor sound quality, such

as distorted audio or inappropriate background noise, can disrupt immersion and reduce the perceived credibility of the virtual experience (Wang et al., 2002). This sensory disruption may lead users to question the reliability of the hotel website, resulting in lower trust and reduced intention to book. Accordingly, sound quality is regarded as an important dimension of VREQ that positively influences guest booking intention.

Visual Design and Booking Intention

Visual design is often considered the most influential dimension of virtual reality experience quality due to its direct impact on users' first impressions. High-quality visuals enhance perceived realism, aesthetic appeal, and spatial understanding, enabling users to form accurate mental images of hotel environments (Tussyadiah et al., 2018). These visual cues play a critical role in reducing uncertainty and increasing confidence in booking decisions (Shaputra et al., 2023). Studies have shown that realistic and visually appealing VR environments evoke positive emotional responses and strengthen users' intention to book (Wu et al., 2024). Conversely, low-resolution visuals, outdated imagery, or excessive visual enhancement may undermine credibility and negatively affect booking intention (Wang et al., 2002). As a result, visual design is widely recognized as a key predictor of guest booking intention in VR-enabled hotel websites.

3. RESEARCH METHODOLOGY

3.1 Research Design

This study adopts a quantitative research design to examine the relationship between Virtual Reality Experience Quality (VREQ) and guest booking intention through hotel websites. A quantitative approach is appropriate because it allows relationships between variables to be measured using statistical techniques and enables the findings to be generalized to a wider population (Creswell, 2014). The study employs a cross-sectional survey design, in which data were collected at a single point in time from respondents who had prior experience using virtual reality experience on hotel websites. The use of a cross-sectional survey design is suitable for research that aims to examine perceptions, attitudes, and behavioural intentions within a specific group at a particular time (Malhotra, 2010). This approach has also been widely applied in previous VR and hospitality studies to investigate users' experiences and behavioural intentions (Tussyadiah et al., 2018; Wu et al., 2024).

3.2 Research Approach

This study adopts a deductive research approach to examine the impact of Virtual Reality Experience Quality (VREQ) on guest booking intention through hotel websites. The deductive approach is suitable because it is grounded in established theories and allows hypotheses to be formulated and tested empirically using quantitative data. The Technology Acceptance Model (TAM) serves as the main theoretical foundation of this study, which explains that users' behavioural intention toward a technology is influenced by perceived usefulness and perceived ease of use (Davis, 1989). In line with the title of this study, navigation control, sound quality, and visual design are treated as the key dimensions of VREQ that shape users' perceptions of usability and effectiveness of VR hotel websites. These dimensions influence how guests evaluate the VR experience and subsequently affect their intention to make a booking. Previous studies have highlighted that experience quality, rather than the mere presence of VR technology, plays a

significant role in shaping users' attitudes and behavioural intentions (Tussyadiah et al., 2018; Mariani & Borghi, 2021).

3.3 Population and Sampling

The target population of this study consists of individuals aged 18 years and above who have experience using hotel websites that provide virtual reality experiences. This population was selected because it represents digitally active users who are familiar with online hotel booking platforms and immersive technologies, making them suitable for evaluating Virtual Reality Experience Quality (VREQ) and its influence on guest booking intention. This study employed a purposive sampling technique to ensure that individuals who met the respondents' criteria were selected for the study. The survey link was distributed through online platforms to reach diverse respondents who had experience using hotel websites offering virtual reality or 360-degree virtual tours.

3.4 Sample Size

The sample size for this research was calculated using the G*Power software, which could easily determine the minimum required number of samples for regression analysis, as pointed out by Faul et al. (2009). For this research, with three independent variables, the minimum required number of samples was calculated to be around 50 samples for a medium effect size ($f^2 = 0.15$), significance level of 0.05, with a power of 0.80. For this study, a successful number of 232 valid surveys had been gathered. The number of samples for this study is above the minimum requirements, therefore enough for good statistical power. In addition, Hair et al. (2019) suggested that an adequate sample size is essential in multiple regression analysis to ensure stability and reliability of statistical estimates. A statistical power level of 0.80 is commonly recommended in behavioural research to minimize Type II errors and strengthen the validity of findings (Cohen, 1992). Therefore, the achieved sample size of 232 respondents exceeds the minimum requirement and provides sufficient statistical power for hypothesis testing. The higher the number of samples, the better the stability of the regression coefficients, along with the generalizability of the results. To enhance the reliability and generalizability of the findings, data were collected from a total of 232 respondents, which provides strong statistical power and increases the robustness and accuracy of the regression analysis results.

3.5 Instrumentation

Data were collected using a structured self-administered questionnaire distributed via an online platform. The questionnaire was adapted from established measurement scales in previous studies to ensure content validity and reliability. It consisted of five sections designed to measure the research variables. Section A captured respondents' demographic information, including age, gender, educational background, frequency of hotel bookings, and prior experience with virtual reality technology. Section B measured navigation control, focusing on ease of movement, responsiveness, and user control within VR hotel environments (Kim & Lee, 2020). Section C assessed sound quality, including audio clarity, synchronization, and realism (Lu & Wang, 2022). Section D evaluated visual design, covering image quality, realism, lighting, and aesthetic appeal (Shaputra et al., 2023). Section E measured guest booking intention, reflecting respondents' likelihood and confidence in booking a hotel after experiencing VR features (Tussyadiah et al., 2018; Wu et al., 2024). All items in Sections B to E were measured using a six-point Likert scale ranging from 1 (Strongly Disagree) to 6 (Strongly Agree).

3.6 Data Collection Procedures

Data collection was carried out using an online survey administered through Google Forms. The survey link was distributed via various online communication platforms, including social media and messaging applications, to reach a diverse group of respondents who met the sampling criteria of having experience with hotel websites that offer VR or 360-degree virtual tours. This approach enabled efficient data gathering and wider accessibility to potential participants. Before completing the questionnaire, respondents were provided with an informed consent statement that explained the purpose of the study and assured them of confidentiality and anonymity. Participation was entirely voluntary, and respondents were informed that they could withdraw from the study at any time. Ensuring anonymity is important as it helps reduce response bias and increases the accuracy and honesty of self-reported data (Bryman, 2016). After data collection, the responses were downloaded and systematically prepared for analysis using the Statistical Package for the Social Sciences (SPSS).

4. DATA ANALYSIS AND RESULTS

The data analysis covers the demographic profile of respondents, the results of the reliability test, and regression analysis results in testing the hypotheses of the study.

4.1 Demographics of the respondents

A total of 232 participants were involved in this research study. More than half of the respondents were male (60.8%), while 39.2% were female. In terms of age, the largest proportion of respondents belonged to the 25–34 years age group (41.4%), followed by those aged 18–24 years (28.4%) and 35–44 years (25.9%). A smaller number of respondents were aged 45–59 years (2.6%), while only 0.9% were aged 45 years and above and 60 years and above, respectively. Regarding employment status, the majority of respondents were employed in the private sector (46.6%). This was followed by respondents working in the government sector (18.5%) and students (18.5%). Meanwhile, 12.9% were self-employed, and 3.4% were unemployed. With respect to educational background, the highest proportion of respondents possessed a degree qualification (47.0%), followed by diploma holders (25.0%). Respondents with SPM qualifications accounted for 9.9%, while those holding a master's degree represented 8.6%. A smaller proportion consisted of respondents with other qualifications (5.6%) and PhD qualifications (3.9%).

Table 1: Demographic Profile of Respondents (N=232)

	Variable	N	%
Gender	Female	91	39.2
	Male	141	60.8
Age	18–24 years	66	28.4
	25–34 years	96	41.4
	35–44 years	60	25.9
	45–59 years	6	2.6
	45 years and above	2	0.9
	60 years and above	2	0.9

Employment Status	Government	43	18.5
	Private Sector	108	46.6
	Self-employed	30	12.9
	Student	43	18.5
	Unemployed	8	3.4
Highest Education	Degree	109	47.0
	Diploma	58	25.0
	Master	20	8.6
	PhD	9	3.9
	SPM	23	9.9
	Others	13	5.6

The reliability analysis was conducted using Cronbach's Alpha in order to check whether the items measuring each of the constructs were reliable to be used in this study. The results, as indicated in Table 2, show that all constructs had Cronbach's Alpha values exceeding the recommended threshold of 0.70, thereby showing good to excellent reliability. The Cronbach's Alpha values of 0.923 and 0.927 were recorded for Navigation Control, showing excellent reliability level using standardized items in measuring the proposed construct using only four items. Visual Design recorded values of 0.882 and 0.884, showing good reliability in measuring the proposed construct using standardized items in only five statements. Cronbach's Alpha values of 0.799 and 0.798 recorded by Sound Quality showed values falling under the category of "very good." This indicated good reliability in using five statements to measure this proposed construct in this study. The results showed excellent reliability values of 0.904 and 0.907 for Guest Booking Intention using standardized items in measuring this proposed construct using only five statements.

4.2 Reliability test

Cronbach's Alpha was used to assess the internal consistency of the constructs. Table 2 shows that all variables exceeded the recommended threshold of 0.70, indicating excellent reliability.

Table 2: Reliability Test (Cronbach's Alpha)

Navigation Control	.923	.927	4	Excellent
Visual Design	.882	.884	5	Good
Sound Quality	.799	.798	5	Very Good
Guest Booking Intentions	.904	.907	5	Excellent

4.3 Multiple Linear Regression Analysis

Table 3: Model Summary

Model	R	R-Square	Column B (T)	Adjusted R-Square	Std. Error of the Estimate
1	.830a	.689		.657	.43433
a.	Dependent Variable: GBI				
b.	Predictors: (Constant), VD, SQ, NC				

Table 3 above is the model summary for multiple linear regression analysis performed with Guest Booking Intention (GBI) as the dependent variable and Visual Design (VD), Sound Quality (SQ), and Navigation Control (NC) as the independent variables. The strength and positive linear relationship between the independent variables and the guest booking intention are indicated by the magnitude of $R = 0.830$. The R Square of 0.689 indicates that approximately 68.9% of the variations in guest booking intention are explained by the three independent variables, which indicates that there is high explanatory power for this model. Additionally, the Adjusted R Square of 0.657 confirms further the strength and adequacy of this model, despite having adjusted for the number of independent variables used. Also, the Standard Error of Estimate of 0.43433 indicates relatively small error in terms of prediction, which indicates that this model predicts guest booking intention quite well. Overall, these results confirm that this model is strong and effective for explaining guest booking intention, with respect to the dimensions of Virtual Reality Experience Quality.

Table 4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	12.115	3	4.038	21.407	.000b
Residual	5.471	29	.189		
Total	17.585	32			

a. Dependent Variable: GBI

b. Predictors: (Constant), VD, SQ, NC

The ANOVA results of the multiple linear regression analysis are presented in Table 4. This analysis was designed to explore the relation between the independent variables: Visual Design (VD), Sound Quality (SQ), and Navigation Control (NC), and the dependent variable: Guest Booking Intention (GBI). The ANOVA test is employed to inform the analysis of whether the overall equation is significant. This further helps in ascertaining whether the overall combination of the independent elements exerts a significant influence on the dependent element. From the table, the regression sum of squares is 12.115 and the degrees of freedom are 3, while for the residual sum of squares, it is 5.471 and the degrees of freedom are 29. The total sum of squares, which measures the total variation for guest booking intention, is 17.585. The mean square for regression and the mean square for residual is 4.038 and 0.189, respectively.

The F-value of 21.407 reveals that the regression model is highly significant. The significance value (Sig.) is 0.000, which is well within the acceptable level of significance of 0.05. This reveals that the regression model is statistically significant and that the independent variables taken together significantly influence the guest booking intention. This means that ANOVA result verifies that Combined Visual Design, Sound Quality, and Navigation Control factors influence the variation in the guest booking intention through hotel websites jointly. This indicates that the model is fit for further analysis of the result of regression coefficients because it can predict the value of guest booking intention based on Virtual Reality Experience Quality dimensions.

Table 5 presents the results of the multiple regression analysis showing the individual contribution of Navigation Control, Sound Quality, and Visual Design to Guest Booking Intention (GBI). Visual design is the only variable that has a significant influence on Guest Booking Intention with $\beta = 0.882$, $p = 0.000$. The very high value of beta indicates a strong positive relationship, and therefore, the better visual design in VR

hotel websites greatly increases guests' intention to book. This suggests that realistic graphics, high image quality, and attractive visual presentation are the most vital features that shape users' decisions to make a booking. Navigation Control has a negative and extremely small beta value, $\beta = -0.039$, with a very high p-value at $p = 0.827$. This portrays that navigation control is insignificant in influencing booking intention. In other terms, how users navigate around in the VR environment does not strongly affect their decision to book, probably because users consider navigation as a 'default' function that is already expected. Sound Quality has a small, positive beta value ($\beta = 0.051$) but is not significant ($P = 0.747$) either. This implies that the quality of the audio does not have any significant effect on the booking intention either. While audio elements can make the process enjoyable, audio factors are not a significant consideration in the decision of whether or not to make a booking.

Table 5: Multiple Regression Analysis (Coefficients ^a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.018	.516		.035	.972
Navigation Control	-.035	.160	-.039	-.221	.827
Sound Quality	.058	.179	.051	.325	.747
Visual Design	.953	.226	.882	4.219	.000

a. Dependent Variable: TRI

Table 6: Summary of hypotheses testing

Hypothesis	Statement	Beta (β)	Sig. (p)	Result
H1	Navigation Control has a significant positive effect on Guest Booking Intention	-0.039	0.827	Not Supported
H2	Sound Quality has a significant positive effect on Guest Booking Intention	0.051	0.747	Not Supported
H3	Visual Design has a significant positive effect on Guest Booking Intention	0.882	0.000	Supported

The findings reveal that there is only a significant impact from Visual Design on Guest Booking Intention. Visual Design is very much associated with booking intention ($\beta = 0.882$, $p = 0.000$), and therefore hypothesis 3 is verified, indicating that enhanced visuals on VR hotel websites elevate booking confidence and intentions among hotel guests. However, for Navigation Control, Beta = -0.039, p-value = 0.827, and Sound Quality, Beta = 0.051, p-value = 0.747, which are insignificant, and hence, there is no support for H1 and H2. This implies that these two factors do not affect the booking choice in the hotel by the guests. These two are considered basic requirements that should work when used, but they do not drive the user to make a booking. In summary, guests care most about how the hotel looks in VR. Clear, realistic, and attractive visuals make them trust the hotel and want to book, while sound and navigation only play supporting roles.

Table 7. Correlations

		Navigation Control	Sound Quality	Visual Design
Navigation Control	Pearson Correlation	1	.668**	.800**
	Sig. (2-tailed)		.000	.000
	N	232	232	232
Sound Quality	Pearson Correlation	.668**	1	.742**
	Sig. (2-tailed)	.000		.000
	N	232	232	232
Visual Design	Pearson Correlation	.800**	.742**	1
	Sig. (2-tailed)	.000	.000	
	N	232	232	232

Note: Correlation is significant at the 0.01 level (2-tailed)

The correlation analysis showed that strong and positive correlations exist between all the dimensions of Virtual Reality Experience Quality (VREQ), such as Navigation Control, Sound Quality, and Visual Design, which are all significant at the 0.01 level. The strong positive correlation obtained between Navigation Control and Sound Quality ($r = 0.668$, $p < 0.01$) suggests that respondents who find navigation control in the VR system smooth and intuitive tend to find their overall audio quality in the virtual world better as well. Further, the very strong positive correlation found between Navigation Control and Visual Design ($r = 0.800$, $p < 0.01$) suggests that there exists a strong relationship between navigation control and perception of better visuals in the virtual world. Likewise, Sound Quality had a strong correlation with Visual Design ($r = 0.742$, $p < 0.01$), indicating that a respondent with a high appreciation for visual design also had a positive perspective on sound quality. Collectively, these results suggest that all three dimensions of VREQ remain highly interrelated and that all three elements work towards creating a well-defined and integrated experience of VR with a strong conceptual viability for a regression analysis for guest booking intention regarding VREQ as a holistic construct.

5. FINDINGS

This section discusses the findings of the study in relation to research objectives and hypotheses. The discussion focuses on the influence of navigation control, sound quality, and visual design on guest booking intention in the context of virtual reality hotel websites.

5.1 Navigation Control and Booking Intention

The findings revealed that navigation control did not have a significant effect on guest booking intention. This indicates that although users were able to navigate the virtual reality hotel website effectively, navigation features alone were not sufficient to influence their decision to make a booking. One possible explanation is that users may perceive navigation control as a basic or expected function of virtual reality systems rather than a determining factor in their booking decisions. When navigation operates smoothly, users tend to take it for granted and place greater emphasis on more experiential elements of the virtual environment, such as visual appeal and realism. This finding is consistent with previous studies which suggested that functional system features, including ease of navigation, may not directly influence behavioural intention unless they significantly enhance the overall experiential value of the system (Kim et al., 2020; Radianti et al., 2020). This finding may indicate that users today are already highly familiar with

digital interfaces, and therefore navigation functionality is perceived as a basic requirement rather than a unique feature that drives booking decisions. From a TAM perspective, navigation control represents perceived ease of use, which may indirectly influence behavioural intention but does not necessarily act as a direct predictor when experiential elements such as visual realism become more dominant. This finding suggests that navigation control may be perceived as a basic system requirement rather than a distinctive factor influencing booking decisions. From a TAM perspective, navigation control represents perceived ease of use, which may indirectly support behavioural intention but does not necessarily function as a direct predictor when experiential elements such as visual realism are more dominant.

5.2 Sound Quality and Booking Intention

The results showed that sound quality did not significantly influence guest booking intention. This suggests that audio elements in virtual reality hotel experiences may not be a primary factor considered by users when making booking decisions. Users tend to prioritise visual clarity and realistic representations of hotel rooms and facilities over auditory features, especially since virtual tours are mainly used for visual evaluation. This finding is consistent with previous studies which indicated that sound effects generally play a supplementary role and may not strongly affect behavioural intention unless they substantially enhance overall immersion (Tussyadiah et al., 2018; Flavián et al., 2019). Therefore, sound quality on its own may be insufficient to drive guest booking intention on virtual reality hotel websites. Another possible explanation is that many users explore VR hotel tours without actively engaging with audio features, which reduces the overall impact of sound quality on decision-making. This suggests that visual stimuli remain the primary source of cognitive evaluation when users assess hotel environments through virtual reality websites. The insignificant effect of sound quality may be attributed to users' browsing behaviour, where many users explore VR hotel tours without activating audio features. This indicates that visual stimuli remain the primary determinant in shaping users' evaluation of hotel websites' virtual reality experiences.

5.3 Visual Design and Booking Intention

In contrast, visual design was found to have a significant and positive effect on guest booking intention. This indicates that visually appealing and realistic virtual reality presentations, including high-quality graphics, clear imagery, and aesthetically pleasing layouts, play a crucial role in influencing guests' booking decisions. A well-designed visual experience enables users to better imagine their stay at the hotel, thereby increasing their confidence and intention to make a reservation. This finding is consistent with previous studies which emphasized that visual realism and aesthetic quality enhance users' sense of presence and positively influence behavioral intention in virtual environments (Flavián et al., 2019; Tussyadiah et al., 2018). The result highlights the importance of investing in strong visual design when implementing virtual reality features on hotel websites. From a theoretical perspective, visual design enhances perceived usefulness and emotional engagement, which aligns with TAM and presence theory. High visual realism increases users' sense of telepresence, allowing them to mentally simulate their stay at the hotel, thereby strengthening booking intention.

5.4 Contributions of the Study

There are a few key contributions made by this research to both theory and practice associated with the use of virtual reality marketing within the hospitality industry. From a theoretical point of view, this research contributes by expanding beyond existing VREQ literature and exploring its relationship with

Guest Booking Intention for hotel websites. Through assessing three key areas of VREQ: Navigation Control, Sound Quality, and Visual Design, there has been a deeper understanding achieved of consumer behavior and how key areas of a quality experience within VR affect this. Through this research, it is clear that a key area within a quality experience of VR that has a dramatic effect (in a positive sense) on Guest Booking Intention is that of Visual Design.

Methodologically, this research makes its contribution through proposing a confirmed model for the measurement of VREQ and Guest Booking Intention with high levels of reliability, as confirmed using Cronbach's Alpha. Finally, multiple regression analysis adds further evidence as to how it is possible to assess the relative importance of different dimensions of VREQ with implications for future research.

In practical terms, this study provides important implications for managers of hotels and VR application developers. Hotels must give importance to visual design in their VR application, such as having good graphics and images, since it came out as having the most influence over users' booking intentions. Though it was found that factors such as Navigation Control and Sound Quality were non-significant variables, it is important to state here that it would be a good supportive element of a VR application. Hence, it is possible for managers to effectively allocate their resources based on this finding.

In addition, this research can be seen to be contributing to the increasing usage trends of VR technology in the digital marketing of the hospitality industry, as it provides empirical proof that well-designed VR technology can be used to affect the decision-making processes of customers. It also aptly justified the assertion that VR is not simply a new technology, but rather a tool that can be used to improve customer engagement.

6. CONCLUSION

This study examined the influence of Virtual Reality Experience Quality (VREQ) on guest booking intentions through hotel websites, with a focus on navigation control, sound quality, and visual design. The findings revealed that visual design had a significant and positive effect on guest booking intention, indicating that visually appealing and realistic virtual reality presentations play a crucial role in influencing consumers' booking decisions. In contrast, navigation control and sound quality were found to have no significant influence on guest booking intention, suggesting that these elements may be perceived as basic system features rather than decisive factors in the booking process.

Overall, the results suggest that visual aspects of virtual reality experiences are more influential than functional or auditory elements in shaping users' intention to book hotels online. This highlights the importance of prioritizing high-quality visual design when implementing virtual reality features on hotel websites. By providing immersive and visually engaging virtual tours, hotels can enhance users' confidence and encourage booking decisions. In conclusion, this study contributes to a better understanding of how specific dimensions of virtual reality experience quality influence guest booking intention within the hospitality industry. The findings provide valuable insights for hotel managers and digital marketers in designing effective virtual reality hotel websites that align with consumer expectations and support informed booking decisions.

7. ACKNOWLEDGEMENTS/FUNDING

The authors would like to acknowledge the support of the Faculty of Hotel and Tourism Management, Universiti Teknologi MARA (UiTM) Cawangan Pulau Pinang, Permatang Pauh Campus, Malaysia, for providing the facilities and financial support for this research.

8. CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefit, commercial or financial conflicts, and declare the absence of conflicting interests with the funders.

9. AUTHORS' CONTRIBUTIONS

Anderson Ngelambong: Conceptualisation of the study; **Nurul Aziera Farhana Aziz and Nur Farah Izzati Binti Irwan:** methodology, data collection, and formal analysis; **Dian Aszyanti Atirah Mohd. Asri:** Conceptualisation, supervision, writing, review and editing, and validation.

10. DECLARATION OF GENERATIVE AI IN THE WRITING PROCESS

During the preparation of this manuscript, the author(s) used the generative AI tool Google Gemini to assist with language refinement, grammar checking, and improving clarity of expression. The AI tool was not used to generate original research content, data analysis, or scientific interpretations. All intellectual contributions, including study design, data analysis, and conclusions, were developed solely by the author(s). The author(s) critically reviewed, verified, and edited all outputs and took full responsibility for the content of this publication.

11. DATA AVAILABILITY/SUPPLEMENTARY MATERIALS

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

12. ETHICS STATEMENT

This study was reviewed and approved by the Institutional Ethics Committee of UITM BRANCH ETHICS COMMITTEE (Approval No: BERC/01/2026 (UG/MR/426). All procedures involving human participants/animal subjects were in fulfilment of the ethical standards of the 1964 Helsinki Declaration. Informed consent was obtained from all participants, and data anonymity was strictly maintained throughout the study.

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