

Trusting the Virtual: How Virtual Reality Advertising Influences Customer Decisions

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ABSTRACT

This study aims to explore the impact of virtual reality, 360-degree video, static image advertisements on customer trust and their tendency to approach shared accommodation. A total of 306 questionnaires were collected through a within-subject field experiment and analysed using Smart PLS, to measure the effectiveness of each advertising method on customer decision making. The findings reveal that both VR and 360-degree video advertisements significantly enhance customer trust and approach tendency compared to static images. Furthermore, the interactivity and vividness of advertisements significantly impact trust in advertising directly while influencing brand trust indirectly. Brand trust has a stronger impact on behaviour in VR and 360-degree video advertising, while advertising trust is more influential in static image ads. For shared accommodation advertisers, enhancing the vividness and interactivity of advertisements - particularly through the development and use of virtual reality (VR) and 360-degree video ads - is key to building customer trust by creating more immersive user experiences. Managers should recognise that vividness and interactivity influence brand trust indirectly through advertising trust and thus should prioritise enhancing advertising trust as a key strategic objective.

KEYWORDS

Virtual Reality, Advertising Effectiveness, Trust, Airbnb, Approach Tendency.

ARTICLE HISTORY

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1. Introduction

The shared accommodation sector has grown rapidly with the rise of digital multilateral platforms that connect hosts and travellers for short-term stays (Gerwe, 2021). Prominent examples include Airbnb, HomeAway, Booking.com as well as regionally popular platforms such as Xiaozhu and Tujia in China. Among these, Airbnb has emerged as a leading example of the sharing accommodation model, owing to its extensive global reach and highly active user community (Bianco et al., 2024).

Trust is widely recognised as a crucial factor in the success of shared accommodations platforms, as guests often book stays with unfamiliar hosts based solely on online information (Ji et al., 2024). Perceived risk and lack of trust remain key concerns that can deter potential bookings (Lee & Deale, 2021). While existing research has examined trust in hosts and trust in platforms as intermediaries (Chua et al., 2020; Negi & Tripathi, 2023), there is limited understanding of how trust in advertising content – such as photos, videos, or virtual reality (VR) previews – shapes overall platform trust and booking intentions.

Advancements in information and communication technology (ICT) have expanded advertising formats from static images to 360-degree videos and VR experiences, which can enhance immersion and provide realistic previews of accommodation spaces (Beck et al., 2019; Lo & Cheng, 2020). Many international hotel brands now employ 360-degree videos and VR to showcase rooms and facilities (Leung et al., 2020). Similarly, some shared accommodations platforms are experimenting with these immersive technologies to increase transparency and reduce guests' uncertainty (Fan et al., 2023). However, evidence of the effectiveness of these formats in building guest trust in such platforms remains scarce.

Airbnb previously announced plans to develop VR and AR features to enhance guest trust and browsing (Airbnb, 2017); however, years later, VR functionality remains unimplemented. One possible reason for this delay is that adopting cutting-edge innovations can be challenging without clear evidence of their effectiveness (Kim et al., 2023). In contrast, Kaolahome, a Chinese shared accommodation platform, has recently introduced VR functionality to strengthen its market competitiveness (Fan et al., 2023). This contrast highlights Airbnb's cautious approach to technological adoption and underscores the need for further research into the effectiveness of VR advertising.

Prior studies in hospitality marketing have mainly focused on traditional hotels, leaving the rapidly expanding shared accommodation sector underexplored in this regard (Barhorst et al., 2021; Lyu et al., 2021). Most studies within the context of Airbnb examine trust in hosts (Godovykh et al., 2023), trust in brand (Chua et al., 2020), or both (Mao et al., 2020; Li & Tsai, 2022). Furthermore, few studies have compared trust formation across different advertising formats – static images, 360-degree videos, and VR – within the same context.

To address these gaps, this study investigates how trust in advertising content influences trust in the platform and guests' intention to book stays in the context of shared accommodation. Drawing on the Stimulus-Organism-Response (SOR) framework, it examines the psychological mechanisms through which different advertising formats shape user trust and behavioural intentions. Specifically, this study has two objectives:

- 1) To investigate how immersive advertising formats – specifically VR technology – influence guests' trust in advertising content and in the shared accommodation platform (Airbnb).
- 2) To compare the relative effectiveness of VR, 360-degree video, and static images in enhancing advertising trust, brand trust, and guests' intention to book accommodation.

This study offers several contributions by clarifying the critical role of trust in shaping consumer behaviour within the shared accommodation market, particularly regarding different advertising formats. First, drawing on the SOR framework, it enhances understanding of how trust in advertising and trust in the platform influence guests' approach tendencies and booking decisions. Second, it expands existing knowledge by providing a comparative analysis of the effectiveness of three preview modes (VR, 360-degree video, and static images) through within-subject and field experiments. This study also highlights the critical link between trust in advertising information and trust in the platform, suggesting that more engaging and realistic advertising formats can strengthen consumer trust. Finally, the findings can guide platform operators and individual hosts in designing effective advertising strategies. The demonstrated

potential of 360-degree videos and VR to build trust suggests that platforms like Airbnb should consider greater investment in these immersive technologies to maintain competitiveness.

2. Literature Review

2.1 Impact of Virtual Reality on Advertising and Marketing

With the advancement of ICT, traditional marketing techniques struggle to meet evolving customer needs (Akbari et al., 2023). These advancements have driven innovation in advertising, enabling businesses to create immersive brand experiences and build stronger consumer relationships (Kalyvaki et al., 2023). While VR in advertising is still in its early stages, with limited understanding of its effective use (Zhou et al., 2023), the continued maturation of technology is prompting advertisers to develop strategies for VR ad design and dissemination (Wu et al., 2022).

Virtual Reality (VR) technology encompasses the display of 360-degree videos and images using head-mounted devices or on flat screens (Wu et al., 2024). The most common VR advertising in recent years has been the use of traditional 2D advertisements on a virtual reality platform (Wu et al., 2022). In particular, 360-degree videos on flat screens allow users to control and adjust the viewing angle using a mouse or device. In contrast, head-mounted VR focuses more on customer experience and personal perception, enabling the video angle to change freely based on the user's physical movements.

Researchers have compared the effectiveness of various advertising formats in tourism and hospitality. While some studies focus on VR versus traditional advertisements (Lyu et al., 2021), others differentiate between head-mounted VR, 360-degree videos, and static images (McLean & Barhorst, 2021; Yung et al., 2021; Griffin et al., 2023). VR advertisements and 360-degree video advertisements are preferred over static images for their higher interactivity (Fan et al., 2023) and significant enhancement of customer behavioural intentions (Griffin et al., 2023). Additionally, Bogicevic et al. (2021) highlight that customers generally perceive VR advertisements as more engaging than 360-degree video and static image advertisements, often describing them as a "cooler" experience. However, these studies focus mainly on tourism destinations and hotels, overlooking the shared accommodation sector. Given the sector's rapid growth and influence on visitor experiences, examining the differential impact of advertising formats in this context is essential to bridging the research gap and helping platforms optimise their marketing strategies.

2.2 Theoretical Foundation

The SOR framework from environmental psychology (Mehrabian & Russell, 1974) serves as the theoretical foundation for this study. Recognised as a core model in virtual reality research in tourism, the SOR framework has been widely adopted to explain how immersive technologies influence consumer behaviour (Loureiro et al., 2020; Ying et al., 2021). According to this framework, an environmental stimulus (S) triggers an internal emotional or cognitive state (O), which subsequently shapes a behavioural response (R) (Zhu et al., 2020a). In this study, the different advertising formats (VR, 360-degree video, and static images) function as the stimuli, trust in advertising and brand trust represent the organism stage, and the customer's approach tendency corresponds to the response.

Within the social psychology literature, trust is often conceptualised as comprising both specific and general beliefs within an "antecedents-trust-outcomes" framework (Mao et al., 2020). This perspective positions trust as a mediator that channels the effects of informational cues on behavioural outcomes. In the context of immersive advertising, trust has been found to play a crucial mediating role, as interactivity and vividness enhance trust, which in turn shapes consumer engagement (Arghashi & Yuksel, 2022). Similarly, trust in advertising is typically treated as an antecedent to brand trust: consumers first evaluate whether the advertising message itself is credible and transparent, and this initial judgment then influences their overall trust in the advertised brand (Li & Miniard, 2006; Hussain et al., 2020). Therefore, in line with trust theory and the SOR paradigm, this study models trust in advertising as preceding brand trust rather than the reverse. This directional relationship reflects the typical sequence in consumer information processing: customers form trust judgements about the ad before extending that trust to the brand it

represents. Integrating this trust pathway into the SOR framework helps clarify how different advertising stimuli shape consumer approach tendencies through a sequential trust-building process.

2.3 Trust in Advertising and Brand

Trust is defined as “the willingness to rely on a confident exchange partner” (Moorman et al., 1992, p. 315) and is essential for building relationships between individuals and firms. It influences users’ willingness to exchange information (Bigné et al., 2023) and plays a vital role in fostering strong consumer-brand relationships (Samarah et al., 2022). In digital marketplaces, where physical interactions are absent, trust becomes even more critical, as consumers rely on the perceived credibility of online information (Cardoso et al., 2022). Customer trust in the information presented in online advertising is crucial to their decision-making process (Leong et al., 2020). This highlights the importance of fostering trust in advertising content to ensure a positive reception and to influence customer behaviour effectively. Since this study does not involve host information in the advertisements, only trust in brand and advertising is included.

Trust in brand further enhances online purchase intentions (Samarah et al., 2022), particularly on platforms like Airbnb (Wang et al., 2023), where it significantly influences customer decision-making (Mao et al., 2020). Del Chiappa et al. (2021) highlighted that travellers often refrain from using platforms like Airbnb due to distrust toward service providers, the platform itself, and other users. In particular, in a post-pandemic context, the ability of a brand like Airbnb to establish and maintain trust is vital for its continued success.

Customer trust in advertising, as a key factor influencing customer behaviour, has been acknowledged in some studies but has not received sufficient attention. Additionally, the mechanisms behind the formation of trust in advertising and its specific role remain underexplored. Moreover, the varying manifestations of advertising trust and brand across different types of advertisements have yet to be thoroughly investigated.

2.4 Hypotheses Development

The importance of interactivity has long been widely recognised in the fields of virtual reality (Steuer, 1992; Bogicevic et al., 2021; Lyu et al., 2021; Slevitch et al., 2022), media, advertising, and marketing (Kuo & Chen, 2023). Studies have shown that interactivity affects user-perceived behaviour in virtual shopping environments (Kim et al., 2023) and impacts individual’s cognitive load (Petersen et al., 2022). Recent research in tourism confirms that interactivity significantly enhances digital user experience (Henriques et al., 2024). Furthermore, expert insights suggest that brand experiences have become increasingly complex across online and offline channels that are seamlessly connected, reinforcing the need for cohesive and interactive design (Toniatti et al., 2023). These findings collectively highlight interactivity as a core factor for enhancing user experience and optimizing technology design.

In studies examining the relationship between interactivity and trust, researchers have found that higher levels of interactivity facilitate trust-building (Lee, 2005; Wu et al., 2010; Wang et al., 2013; Jun & Yi, 2020; Samarah et al., 2022). Additionally, Samarah et al. (2022) highlighted that interactivity not only enhances user experience but also strengthens the trust consumers place in digital platforms and services. Further research has revealed that varying levels of interactivity across media technologies influence the perceived credibility of advertisements (Logan et al., 2012), and interactivity has become a crucial prerequisite for brands to establish and maintain consumer trust (Wang et al., 2013). Jun and Yi (2020) also confirmed the positive impact of interactivity on brand trust.

Although existing studies have validated the relationship between interactivity and trust, there is still a lack of systematic research on how interactivity in different advertising contexts influences brand trust through the mediating role of advertising trust. Therefore, this study proposes the following hypotheses:

- H1.** Interactivity positively impacts customer trust in advertising.
- H2.** Interactivity positively impacts customer trust in brand.

Vividness, a critical characteristic of media technology, has been widely recognised across various fields. Vividness is defined as “the representational richness of a mediated environment as defined by its formal features, that is, the way in which an environment presents information to the senses” (Steuer, 1992, p. 11). Vividness is not only an essential component of virtual reality technology’s functional quality (Zhu et al., 2022) but is also regarded as a measure of realism or richness in media technologies (Yim et al., 2017). The richer and more vivid the information provided by the media, the more efficient the communication between the user and the media (Wu et al., 2021). Furthermore, the more vividly a product is presented to the customer through the advertisement, the richer the information conveyed to the customer (Jiang & Benbasat, 2007).

The impact of vividness on consumer perception is particularly evident in the realm of advertising. Research indicates that product information in image and video advertising is more vivid and attractive to customers than information in text advertising (Yeo et al., 2020). For instance, image and video advertisements are more vivid than text-based ads and are more effective in stimulating consumer interest. Sheng et al. (2020) advocate for firms to incorporate more vivid elements in their advertisements to stimulate customers’ imagination and inspiration. Further studies have demonstrated that the higher the quality of the information, the more consumers trust the information (Bao & Wang, 2021).

Vividness in VR environments plays a critical role in shaping user attitudes and potential trust responses (Kim et al., 2021). Existing research primarily focuses on the influence of vividness on consumer perceptions and behaviours while neglecting how vividness affects trust in advertisements and brands. Further research is also needed on how the vividness of different advertising formats—such as image, video, or VR ads—translates into consumer trust (Figure 1). Based on the discussion above, this study proposes the following hypotheses:

H3. Vividness positively impacts customer trust in advertising.

H4. Vividness positively impacts customer trust in brand.

The impact of advertising on brand trust has been extensively examined from various perspectives, including advertising credibility (Hussain et al., 2020), visual elements such as motion direction (Monahan & Romero, 2020), the speed of disclaimers (Herbst et al., 2012), and the appeal of social media advertising (Aisyah, 2023). Numerous traditional advertising models have demonstrated that the positive psychological responses elicited by advertisements translate into favourable attitudes towards the advertised products or brands (Yim et al., 2012). These findings highlight the critical role advertising plays in shaping consumer perceptions and fostering brand trust.

For example, Li and Miniard (2006) found that even simple trust-oriented appeals in advertisements can significantly enhance a brand’s perceived trustworthiness. Likewise, Hussain et al. (2020) showed that when advertisements communicate honest and transparent information, consumers are more likely to perceive the brand as credible and trustworthy. This suggests that trust in advertising often precedes and influences trust in the brand itself, as consumers typically assess the credibility of an advertisement before forming opinions about the brand it promotes.

In the context of shared accommodation platforms like Airbnb, this connection is particularly relevant. Users are more likely to trust the platform when they perceive that the information presented is accurate, complete, and clear (Li & Tsai, 2022). Therefore, fostering trust in advertising not only increases acceptance of the ad content but also strengthens overall brand trust. Based on this reasoning, we propose the following hypothesis:

H5. Customer trust in advertising has a positive influence on brand trust.

Behavioural responses (R) in the SOR model in environmental psychology are categorised into approach tendency and avoidance tendency. Approach behaviour is described as a customer’s intention to physically remain in an environment and actively explore it, indicating a tendency to approach (Moye & Giddings, 2002), while avoidance behaviour represents the opposite.

On the Airbnb platform, research shows that the stronger the trust customers have in Airbnb, the more likely they are to continue using the platform (Li & Tsai, 2022). Conversely, if customers develop negative attitudes towards advertising, their desire to purchase decreases (Dotson & Hyatt, 2000). This further underscores the importance of advertisement trust in the sharing economy.

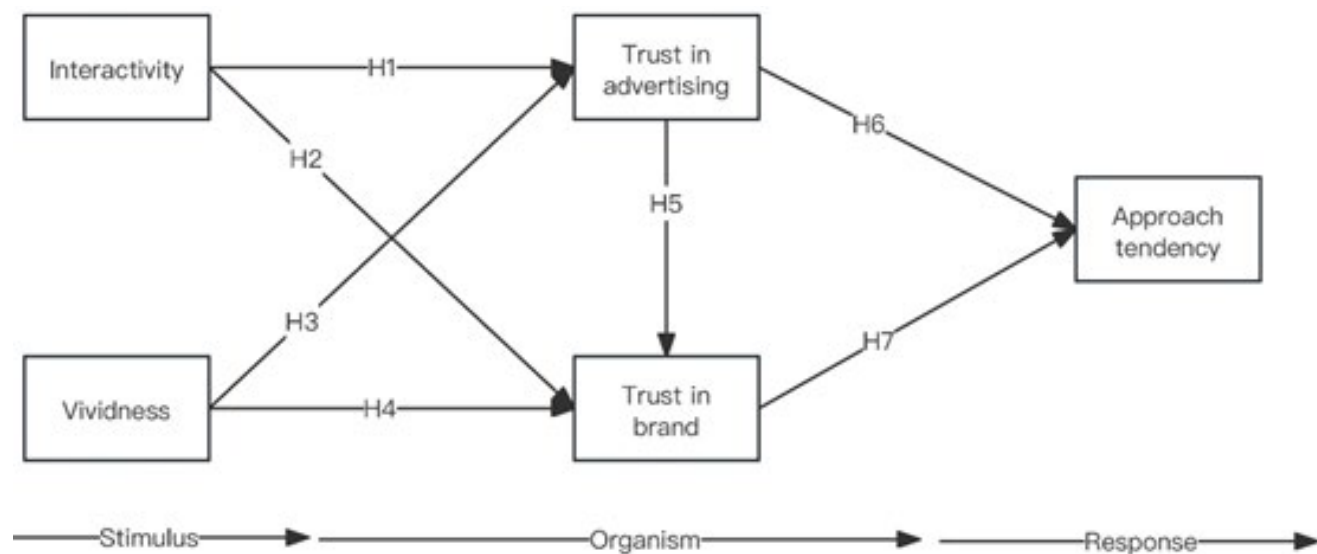
Trust, as an affective and cognitive response, influences people's value judgements and behaviours (Zhu et al., 2020b). In advertising research, the visual appeal of advertising impacts purchase intention by shaping attitudes towards the advertising and the brand (Weismueller et al., 2020). Thus, advertisements that effectively build trust can improve customer attitudes towards the brand and increase the likelihood of purchase, particularly on platforms like Airbnb.

By integrating the SOR framework and three behavioural theories, Yuen et al. (2023) demonstrated that customer trust significantly influences behavioural responses towards VR technology. Tan et al. (2023) leveraging the technology acceptance model (TAM) and SOR theory, revealed that trust in sellers significantly impacts behavioural responses towards VR tourism. Additionally, numerous studies (Lee & Min, 2021; Liu et al., 2022) have confirmed that trust significantly influences behavioural response based on the SOR framework. Hence, this study proposes the following hypotheses:

H6. Trust in advertising has a positive impact on approach tendency.

H7. Trust in brand has a positive impact on approach tendency.

Figure 1. Research Model



Source: Own Elaboration

3. Methodology

3.1 Research Design

According to Charness et al. (2012), the two most common types of experiments are within-subject and between-subject designs. In a within-subject experiment, each participant experiences all experimental treatments, which may include different preview formats (e.g., VR, video, images) (Yung et al., 2021). This design has several advantages: it requires a smaller sample sizes, increases the likelihood of detecting true differences among treatments, enhances statistical power, and aligns well with theoretical perspectives in marketing research (Viglia et al., 2021). Given these strengths, this study adopts a within-subject field experiment with three distinct preview modes: A) VR, B) 360-degree video, and C) static images. In this study, the term 'preview modes' specifically refers to these three advertising presentation formats, while 'conditions' refer to the different sequences in which these modes are experienced by participants.

While within-subject designs offer important benefits, they can be affected by carryover effects, where a participant's experience with one mode influences their perception of subsequent modes. To minimise this risk, we used two standard strategies: counterbalancing and rest intervals. First, participants were randomly assigned to one of six possible sequences (ABC, ACB, BAC, BCA, CAB, and CBA), ensuring that each preview mode appeared equally often in each position (Greenwald, 1976; Yung et al., 2021). Second a two-minute break was provided between each preview to allow participants to reset mentally and emotionally before viewing the next mode.

3.2 Study Setting and Advertising Materials

To ensure realism and comparability with prior research (Bogicevic et al., 2019; Lo & Cheng, 2020) a professionally produced 360-degree video advertisement of an Airbnb property was selected as the core material. Because Airbnb has not yet launched official VR viewing functions, the 360-degree video was sourced from YouTube (<https://www.youtube.com/watch?v=mAOa-KTOv1Y>), featuring the Airbnb logo and showcasing a modern apartment interior. This video was chosen based on clear quality, a stable camera position, and suitability for VR viewing using the PICO4 headset, to avoid discomfort or motion sickness. To maintain content consistency across all preview modes, the same apartment was shown in all three formats:

- VR Mode (A): Participants viewed the 360-degree video using a head-mounted display (HMD) and controllers, allowing natural head movement and a sense of presence.
- 360-Degree Video Mode (B): Participants watched the same 360-degree video on a standard 2D screen, with manual panning capability but without immersive depth.
- Static Image Mode (C): Following Bogicevic et al. (2021), 20 high-resolution screenshots were extracted from key scenes in the video, proportionally covering the living room, kitchen, master bedroom, second bedroom, and bathrooms. This provided a complete static visual representation equivalent to the video content.

By using the same underlying material across all preview modes, we ensured that any differences in participants' trust and booking intentions arise solely from the presentation format, not from differences in the property itself. To further address the reviewer's suggestions, we have included representative snapshots of the static images and screenshots from the 360-degree video and VR experience as an Appendix. Interactive VR files can be provided to the interested readers upon request, as embedding live VR within the manuscript is technically unfeasible.

3.3 Instruments and Data Collection

The Research was approved by the University Malaya Ethics Unit, and no personal data was collected from the respondents. The questionnaire design in this study was divided into two sections. Section A explored participants' understanding and perceptions of the advertisement content, while Section B collected socio-demographic data and participants' prior experiences. Since this study adopts a within-subject experimental design, each participant was required to answer the questionnaire three times under different conditions. To prevent participant fatigue or lapses in attention due to the prolonged experimental process, which could negatively impact data quality and validity, the number of questionnaire items was minimised. Reducing the number of items effectively improved participant engagement, enhanced data accuracy, and reduced potential biases from lengthy questionnaires (Zhong et al., 2021). The items measuring interactivity were adapted from Jiang et al. (2021) and Park and Yoo (2020). Four items were employed to measure vividness (Ho et al., 2022). Trust in advertising was measured with three items adapted from (Soh et al., 2009) and trust in brand was measured with three items adapted from Chuah et al. (2022) and Li and Tsai (2022). Approach tendency was measured using six items adapted from Deng and Poole (2010) and Lin (2022).

Before data collection, the questionnaire was distributed to 10 doctoral students and 20 university faculty members in relevant fields, who assessed its readability, grammatical accuracy, and overall validity.

Based on their feedback, necessary adjustments were made to improve the questionnaire. A pilot test with 30 participants confirmed that the questionnaire's reliability and validity were satisfactory.

3.4 Sampling and Experiment Procedure

Bogicevic et al. (2019) selected students, faculty, and staff as participants in a study comparing VR, 360-degree, and still images. Following this approach, this study recruited 102 students, staff and faculty members from a university in Malaysia. To mitigate potential order effects in this within-subject experimental design, data collection strictly followed the experimental protocol, using a counterbalancing technique that randomly assigned participants to six predefined sequences. Before each preview, the moderator set the scenario "You are travelling recently and planning to book a room on Airbnb. When you enter the website, you will see the following advertising". Each sequence was equally represented to ensure balanced exposure across participants. Participants viewed different types of advertisements in a specified order, completed a questionnaire after each viewing, and waited two minutes before proceeding to the next ad preview. Since each participant completed three questionnaires, this study ultimately collected 306 valid questionnaires.

3.5 Data Analysis

The research model was examined using partial least squares structural equation modelling (PLS-SEM) following the procedure outlined by Hair and Alamer (2022). There are two key assessments in the systematic methodological steps of PLS-SEM: measurement model evaluation and structural model evaluation. First, measurements model was assessed for composite reliability, item loading, average variance extracted (AVE), and discriminant validity. It is recommended that subsequent studies use the Heterotrait-monotrait ratio (HTMT) to assess the discriminant validity of the model. Then, the structural model was evaluated based on the coefficient of determination (R^2), path coefficient, and cross-validated redundancy (Q^2).

4. Results

4.1 Demographic Profile

Frequency analysis showed that there were similar numbers of male and female participants, 50 males (49.02%) and 52 females (50.98%). The age distribution was youthful, with 77.45% of participants aged 18-34 years. The participants consisted of postgraduate students (90.20%), staff (6.86%), and faculty (2.94%). More than half of the 102 participants had used Airbnb (64.71%), 78.43% indicated prior experience watching 360-degree videos, and close to half (49.02%) had experience with VR devices.

4.2 One-Way ANOVA

To evaluate whether VR and 360-degree video are more effective than static images in influencing customer trust and behavioural responses, an analysis of variance (ANOVA) was performed on trust in advertising, trust in brand, and approach tendency (Table 1). There were statistically significant differences in trust in advertising, trust in brand, and approach tendency across the three stimuli ($P < 0.01$).

Post-hoc analysis with Bonferroni adjustments demonstrated that trust in advertising was significantly higher for VR (Mean = 4.34) and 360-degree video (Mean = 4.13) compared to static images (Mean = 3.57). Similarly, trust in brand was significantly higher for VR (Mean = 4.09) compared to static images (Mean = 3.62). Furthermore, approach tendency was significantly higher for VR (Mean = 4.36) and 360-degree video (Mean = 4.09) than for static images (Mean = 3.65).

Table 1. Results of ANOVA

Dependent Variable	(I) Group	(J) Group	Mean Difference (I-J)	Sig.
Trust in advertising	SI	360	-0.56209*	<0.001
		VR	-0.76471*	<0.001
	360	SI	0.56209*	<0.001
		VR	-0.203	0.201
	VR	SI	0.76471*	<0.001
		360	0.203	0.201
Trust in brand	SI	360	-0.193	0.17
		VR	-0.46732*	<0.001
	360	SI	0.193	0.17
		VR	-0.27451*	0.021
	VR	SI	0.46732*	<0.001
		360	0.27451*	0.021
Approach tendency	SI	360	-0.44510*	<0.001
		VR	-0.71176*	<0.001
	360	SI	0.44510*	<0.001
		VR	-0.26667*	0.009
	VR	SI	0.71176*	<0.001
		360	0.26667*	0.009

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Own Elaboration

4.3 Measurements Model

Table 2 displayed the results for loading, composite reliability, and average variance extracted (AVE). The factor loadings of all measurement items exceed the recommended threshold of 0.70, indicating that each item strongly represents its corresponding latent construct. Composite reliability values are also above 0.70, reflecting high internal consistency and reliability within each construct. The AVE values were above the cut-off point of 0.50, demonstrating adequate convergent validity. Table 3 presents the HTMT ratio results used to assess discriminant validity. Hair and Alamer (2022) recommend using a threshold of < 0.90 for HTMT to verify discriminant validity. The HTMT values in this study were below 0.9, confirming good discriminant validity for all constructs.

Table 2. Results for the Measurement Model

Construct	Items	Outer Loading	Composite Reliability	AVE
Interactivity	Interactivity1	0.775	0.890	0.676
	Interactivity2	0.834		
	Interactivity3	0.795		
	Interactivity4	0.872		
	Interactivity5	0.831		
Vividness	Vividness1	0.728	0.881	0.710
	Vividness2	0.859		
	Vividness3	0.885		
	Vividness4	0.890		

Trust in advertising	TrustA1	0.930	0.920	0.862
	TrustA2	0.940		
	TrustA3	0.915		
Trust in brand	TrustB1	0.917	0.888	0.817
	TrustB2	0.888		
	TrustB3	0.907		
Approach tendency	AT1	0.822	0.903	0.720
	AT2	0.888		
	AT3	0.868		
	AT4	0.860		
	AT5	0.803		

Source: Own Elaboration

Table 3. Heterotrait-monotrait Ratio (HTMT) in Model

	AT	Interactivity	Trust A	Trust B	Vividness
Approach Tendency					
Interactivity	0.690				
Trust in advertising	0.799	0.710			
Trust in brand	0.802	0.536	0.741		
Vividness	0.723	0.855	0.721	0.525	

Source: Own Elaboration

4.4 Structural Model

The structural (inner) model specifies the relationships between the variables in the research model. The results indicated that 63.0% of the variance in approach tendency, 47.9% in trust in advertising, and 45.3% in trust in brand were explained by the model, all exceeding minimum threshold R-square value of 25% (Hair et al., 2011). The Q^2 values were 0.405 (trust in advertising), 0.362 (trust in brand), and 0.444 (approach tendency), all well above 0, indicating the model's predictive relevance (Hair et al., 2011).

Table 4 reveals the path coefficient results for the research model. Interactivity ($\beta=0.368$, $t=4.772$, $p<0.001$) and vividness ($\beta=0.372$, $t=4.912$, $p<0.001$) significantly influenced trust in advertising. However, interactivity and vividness have no significant effects on trust in brand. In other words, advertisements with higher interactivity and vividness increased trust in the advertising itself but did not directly enhance in brand.

Trust in advertising significantly impacts trust in brand ($\beta=0.618$, $t=10.676$, $p<0.001$) and approach tendency ($\beta=0.447$, $t=8.239$, $p<0.001$). Trust in brand had significant influence on approach tendency ($\beta=0.421$, $t=7.451$, $p<0.001$). Moreover, the results of indirect effect analysis showed that trust in advertising plays an important mediating role in the relationship between interactivity and trust in brand, interactivity and approach tendency, vividness and trust in brand, vividness and approach tendency, and trust in brand with approach tendency.

Table 4. Results of Path Analysis

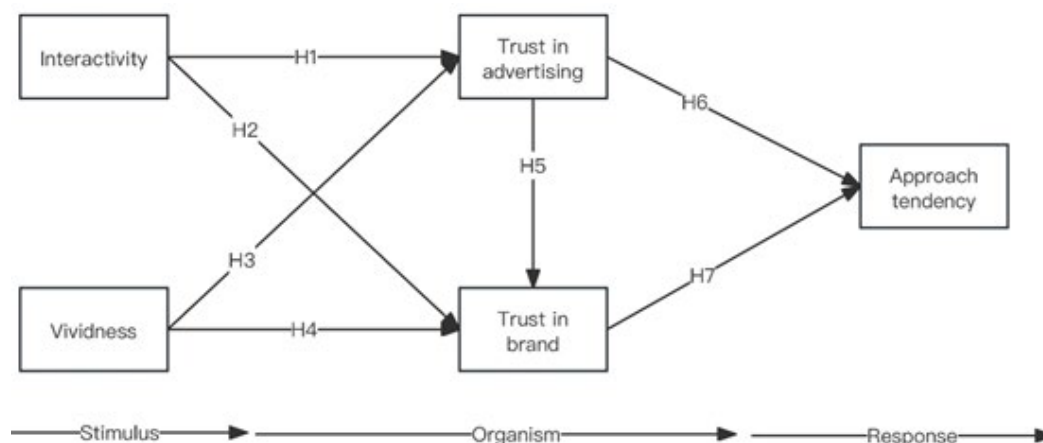
Path Relationship	Direct Effect	Indirect Effect
Interactivity -> Trust in advertising	0.369***	
Interactivity -> Trust in brand	0.066	
Vividness -> Trust in advertising	0.372***	
Vividness -> Trust in brand	0.016	
Trust in advertising -> Trust in brand	0.618***	
Trust in advertising -> Approach tendency	0.447***	
Trust in brand -> Approach tendency	0.421***	
Interactivity -> Trust in advertising -> Trust in brand		0.228***
Interactivity -> Trust in advertising -> Approach tendency		0.165***
Interactivity -> Trust in brand -> Approach tendency		0.028
Vividness -> Trust in advertising -> Trust in brand		0.230***
Vividness -> Trust in advertising -> Approach tendency		0.166***
Vividness -> Trust in brand -> Approach tendency		0.007
Trust in advertising -> Trust in brand -> Approach tendency		0.260***

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Own Elaboration

4.5 Multigroup Analysis

To examine whether the hypothesised relationships held consistently across different preview modes, a bootstrap multi-group analysis was conducted. This approach involves splitting the sample into sub-groups based on the preview mode and then estimating the structural equation model for each group separately. Bootstrap resampling with 5,000 iterations was used to obtain robust estimates of path coefficients and their confidence intervals within each group. The results of bootstrap multi-group analysis, displayed in Figure 2, demonstrated that H3 (vividness-->trust in advertising), H5 (trust in advertising-->trust in brand), H6 (trust in advertising-->approach tendency), and H7 (trust in brand-->approach tendency) were supported ($p < 0.01$) across all three conditions (static image, 360-degree video, VR). However, interactivity did not have a significant impact on trust in brand under any condition ($p > 0.01$), and vividness did not significantly impact trust in brand in the static image group or the VR group ($p > 0.01$).

Figure 2. Multi Group Path Relationship Test Results

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Own Elaboration

5. Conclusion

To achieve the first objective, “to explore how the use of VR technology in marketing influences customers’ trust in advertising and brand trust in the context of Airbnb.” This study assessed the data across the groups. The findings demonstrated that the more interactive (H1) and vivid (H3) the advertising was, the higher the customer’s trust in the advertising. These results align with previous research by Wang et al. (2013), and Bao and Wang (2021), which showed that the interactivity and vividness of information can enhance customers’ trust. However, the interactivity (H2) and vividness (H4) of advertising did not significantly and directly impact brand trust but had an indirect influence on brand trust through trust in advertising (H5). This finding is consistent with Samarah et al. (2022), who found that interactivity indirectly affects brand trust.

The lack of a direct effect of interactivity on brand trust in VR environments may be attributed to several factors. First, while interactivity enhances user engagement and trust in the immediate advertising content, its impact may not extend to the broader brand perception without repeated or prolonged exposure. In VR contexts, users may focus more on the immersive experience itself rather than associating it with the brand. Second, the novelty of VR technology might lead users to perceive interactivity as a feature of the medium rather than a characteristic of the brand, thereby diluting its direct influence on brand trust. Future research could explore longitudinal designs to examine how repeated VR interactions influence brand trust over time. Although previous studies have discussed the relationship between interactivity, vividness, and trust, this study further refines the categorization of trust. The results indicate that advertising stimuli serve as an antecedent of advertisement trust but do not directly impact brand trust. This nuanced understanding highlights the importance of considering mediating mechanisms when examining the impact of VR advertising on consumer perceptions.

The results of the multi-group analysis show that interactivity is the best predictor of advertising trust in both VR and static image advertising formats. However, in the case of 360-degree video, interactivity did not have a significant impact on advertising trust. This may be because, in this study, participants could adjust the video angle using two different methods: touchscreen controls and device tilting. The use of these two interaction methods may have led participants to feel a lack of consistency and smoothness when controlling the video perspective, thus weakening their sense of control over the interaction and, in turn, affecting the establishment of trust in the advertisement.

The second objective was to explore how VR and 360-degree video compare with static images in enhancing customers’ tendency to stay in Airbnb. The findings indicated that trust in advertising (H6) and trust in brand (H7) significantly impact customers’ approach tendency across all three conditions. The findings are consistent with previous studies (Zhu et al., 2020a; Lee & Min, 2021; Liu et al., 2022), which demonstrated that customer’s trust positively impacts behavioural responses based on the SOR framework. This consistency reinforces the importance of trust as a critical factor in customer decision-making.

However, this study further reveals that different types of trust exhibit varying levels of influence on approach tendency across different advertising formats. In VR and 360-degree video advertisements, brand trust has a more pronounced impact on customers’ behavioural response, whereas in static image advertisements, advertising trust plays a more prominent role. This discrepancy may be related to the depth of information and the mode of experience conveyed by each advertising format. VR and 360-degree video advertisements, characterised by immersive experiences and vividness, provide customers with a more realistic perception of the environment, thereby enhancing their trust in brand. In contrast, static images, with their straightforward and intuitive presentation of information, are more effective in fostering trust in the advertisement content. This finding underscores the differing roles of trust in various advertising formats.

5.1 Theoretical Implications

In the context of Airbnb, the antecedents of various dimensions of trust are critical areas for further exploration (Li & Tsai, 2022). Negi and Tripathi (2023) highlighted the pivotal role of trust in shared accommodations, emphasizing the need for future studies to conduct an in-depth analysis of this aspect independently. In response to their call, this research investigates the formation of customer trust, with

a particular focus on the distinct roles of advertising trust and brand trust. Unlike previous studies comparing VR, 360-degree videos, and static images in the context of tourism and hotels (e.g. Bogicevic et al., 2019; Lo & Cheng, 2020), this research makes significant theoretical contributions by delineating how interactivity and vividness in advertising serve as critical stimuli that enhance trust in advertisements, which in turn influences brand trust and approach tendency. These findings robustly support the Stimulus-Organism-Response (SOR) framework, offering a deeper understanding of the mechanisms through which advertising elements shape brand perceptions. By focusing on how customers' trust in advertisements influences their overall trust in a brand, this study provides a deeper understanding of the mechanisms through which advertising elements impact brand perception.

Moreover, the study expands on existing literature by highlighting the differential impacts of various media formats. Although previous studies have confirmed the role of trust in shaping and influencing consumer behaviour (e.g., Weismueller et al., 2020), this study advances the field by analysing the effects of advertising trust and brand trust across three distinct formats: VR, 360-degree videos, and static images. The results reveal that in more immersive formats, such as VR and 360-degree videos, brand trust exerts a significantly stronger influence on behavioural responses compared to less immersive formats. These findings can help researchers understand the nuanced mechanisms through which various advertising formats impact customer behaviour response.

5.2 Managerial Implications

The findings of this study offer important implications for three key stakeholder groups in the shared accommodation ecosystem: (1) platform managers (e.g., Airbnb and similar platforms), (2) property owners or hosts, and (3) third-party content producers or advertisers. Each group plays a distinct role in shaping the effectiveness of advertising strategies and in fostering consumer trust. For platform managers, the results underscore the need to invest in advanced advertising technologies and support systems that facilitate vividness and interactivity.

Platforms should integrate immersive tools such as VR and 360-degree video capabilities to allow users to virtually explore listings, interact with property features, and better visualise their stay. In addition, platforms should develop guidelines and technical support for hosts and advertisers to easily produce high-quality immersive content. By doing so, platforms can not only enhance advertising and brand trust indirectly but also improve the overall user experience.

For property owners or hosts, the findings highlight the importance of actively enhancing the vividness and interactivity of their listings. Hosts should prioritise the use of high-resolution images, visually appealing aesthetics, and clear video content that communicates the authenticity and unique features of the property. Creating immersive experience using 360-degree views or VR walkthroughs can significantly enhance advertising trust by allowing potential guests to virtually engage with the space. Hosts should also ensure that all content remains transparent, accurate, and consistent to foster consumer trust and reduce information asymmetry.

Video ads are key to building customer trust by creating more immersive user experiences. Additionally, the shared accommodation platform should enable hosts to upload more interactive advertisements, such as allowing users to "explore" listings in virtual spaces, view different angles, or experience unique features of the property. In terms of vividness, advertisements should focus more on details such as image resolution, aesthetics, and clarity of images and videos.

For third-party content creators and advertisers, the findings suggest a need for tailored advertising strategies based on format. VR and 360-degree video advertisements are particularly effective for building brand trust, especially among more engaged or experienced users. Conversely, static image advertisements play a more prominent role in establishing advertising trust and capturing initial attention or clicks. Content producers should therefore consider aligning their creative approach with the stage of the customer journey and the desired trust outcome.

Finally, given that vividness and interactivity do not directly influence brand trust, but instead work through advertising trust, all stakeholders—platforms, hosts, and advertisers—should focus on enhancing the credibility and authenticity of advertisements as a key objective. This can be achieved through

honest portrayals, consistent messaging, and interactive features that build transparency and reduce perceived risk for customers.

5.3 Limitation and Future Research

Despite the contributions of this study, there are limitations that should be addressed in future research. The sample size was limited to 102 participants, primarily postgraduate students, which may raise concerns about the generalization of the findings. While the 18-34 age group is a significant customer segment for Airbnb and VR technology, it does not fully capture Airbnb's diverse customer base. Future studies should consider using a more representative sample, including participants from various demographic groups and different shared accommodation or hotel contexts, to validate these findings. Additionally, this study collected data only from Airbnb users and did not include other competitors in the market. Future studies could gather data from users of other platforms and compare the results to gain a broader understanding of the phenomenon.

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