

Virtual Reality in Hotel Marketing: Enhancing Pre-Booking Experience

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Abstract

Immersive technologies are becoming common in the hospitality industry as they provide better customer interaction and decision-making solutions. Virtual Reality (VR) is one of those innovations, and it has become a potent marketing tool that allows the interested guests to preview hotel settings and book a room. This paper addresses the importance of VR in hotel marketing and the ways it affects the pre-booking experience, perception, and purchase intentions of the travelers. The study will make use of the current developments in the sphere of digital marketing and theories of consumer behavior and discuss the role of virtual tours, interactive simulation, and 360-degree video as the factors that can make the process of making the final choice more informed and emotionally engaging. The research is based on the mixed methodology as it involves both quantitative surveys of prospective travelers and qualitative interviews with marketing experts in the hospitality industry. Results show that VR has a positive impact on perceived trust, a lower level of uncertainty, and a much higher overall satisfaction with customers regarding the pre-booking stage. Furthermore, immersive experiences help to create a more emotional attachment to the brand and result in better booking intentions and more recommendations. Practical challenges that are also noted by the research include high costs of implementation, access to technologies and regular updates of the content in order to keep consumers interested. The paper summarizes that VR is more than a new promotion tool, it is a strategic asset capable of transforming the way hotels deliver the message of value and authenticity in an ever more digital economy. VR technology can redefine the conventional booking experience and make it a multisensory adventure with realistic preview and personalized experiences to enhance brand loyalty and competitive edge in the hotel sector.

Keywords: Virtual Reality (VR), Hotel Marketing, Hospitality Industry, Pre-Booking Experience, Consumer Behavior, Immersive Technology, Digital Marketing, Customer Engagement, Booking Intentions, Brand Loyalty

Introduction

The hospitality sector is in a continuous pursuit of new approaches in order to draw and retain prospective customers in a highly competitive marketplace. As digital technology advances fast, virtual reality (VR) has become a disruptive technology in hotel marketing in that it provides immersive and interactive experiences, which are impossible to reproduce in the traditional media. This experiential marketing strategy will enable the consumers to envision their stay, making them emotionally attached and purchase with more confidence.

In the modern digital age, clients are dependent on the content they find online and virtual communication as a way of deciding on the accommodation. In contrast to videos or other types of images displayed on a screen, VR creates a sense of presence- that is, users have the feeling that they are physically in the environment. This increased amount of interaction may have a strong impact on consumer quality, trust, and satisfaction perceptions and eventually affect the intentions to book. Moreover, VR applications may also be an efficient branding instrument to distinguish the hotels using innovative technologies and those based on traditional marketing approaches.

The implementation of VR in hotel marketing is consistent with the increased demand of the individualized and technology-oriented experiences. With more customers demanding

authenticity and transparency in their traveling experiences, VR can become one of the channels where hotels can be displayed in a realistic and interactive way. In this research paper, virtual reality is discussed in terms of improving the pre-booking experience, its influence on consumer behavior and decision-making, as well as brand loyalty. The study will help to identify the opportunities and challenges that are related to the adoption of VR to underscore its potential as a strategic resource in the digital transformation of the hospitality industry.

Background of the study

The hospitality business is a very competitive industry and customer experience has been one of the factors that allow hospitality firms to differentiate. Conventional methods of marketing like brochures, photographs and videos usually do not highlight the whole essence of ambiance, amenity and the atmosphere of a given hotel. As digital technology and especially immersive media continue to expand at a fast rate, hotels are considering new strategies to connect with and appeal to potential visitors before they can decide to make a booking choice. Virtual Reality (VR) is one of the most revolutionary pieces of equipment in this field.

Virtual Reality provides the consumers with a chance to tour the hotel settings in an interactive and immersive manner as though the consumer is physically there. The VR headsets or the 360-degree virtual tours allow the potential guests to explore the rooms, facilities, and other attractions of a hotel virtually, having the chance to watch and feel the real-life situation and feel the transparency and level of engagement that the two-dimensional images lack.

With the growth of the popularity of digital tools among travelers as a more convenient method to plan and book the places of stay, the involvement of VR in marketing is becoming more noticeable. Research has indicated that immersive technologies can have a very considerable impact on consumer emotions, perceived value, and purchase intentions. In the case of hotels, VR marketing can be discussed as a beneficial move, which will allow the hotels to distinguish their brand, drive up online conversion rates, and create customer satisfaction while the hotel does not even move into the room yet.

Nevertheless, the use of VR is so far not widespread and even in the hotel industry inconsistent, regardless of its potential. The implementation costs, technological preparedness and accessibility to consumers among other factors, remain to influence its effectiveness. The importance of VR on customer perceptions and pre-booking behaviour is thus critical to hoteliers and marketers who want to exploit its potential to the fullest.

Justification

Hospitality industry is very competitive and is highly dependent on technology to gain and retain customers. Virtual reality (VR) has become an effective marketing instrument in this setting that can potentially revolutionize the approach of future guests to a hotel by showing them the features of the modern establishment prior to making a decision to book. The use of the traditional marketing techniques, e.g., brochures, photographs, and videos, does not provide much sensory stimulation and does not necessarily convey the total worth of a property. There is no comparison with VR which offers an immersive and interactive experience and enables anyone to see the hotel facilities, room layouts, amenities and surroundings in a real-world-like way.

The need to create innovative digital solutions that would help to bridge the gap between customer expectations and real experience is the rationale behind this study. Since visitors are in need of more confidence and personalization in their booking process, VR provides a rare chance to hotels to gain trust, lessen unpredictability, and evoke emotional reactions before making a purchase. Enabling a virtual tour and simulations allows the hotels to offer a realistic preview that improves the perceived value and transparency.

In addition, due to the development of less expensive VR technology and the ubiquity of the internet, the consolidation of VR into hotel promotional plans has become more believable

among enterprises of all magnitudes. Thus, the study is meaningful because it will attempt to determine the usefulness of VR in influencing consumer attitudes and behaviors in the hospitality environment.

Objectives of the Study

1. To investigate how virtual reality (VR) technology can be used to improve the interaction between the customer and the hotel during the pre-booking process.
2. To determine the effects of VR-based marketing on the trust of customers and their intention of purchasing hotel brands.
3. To determine the comparative effectiveness of VR marketing tools in comparison to the traditional digital marketing tools that are applied in the hospitality industry.
4. To examine customer satisfaction and perceived value of virtual hotel experiences.
5. To offer strategic advice to hotel marketers on how to incorporate the use of VR technology in their digital marketing systems.

Literature Review

1. Introduction — VR as a marketing tool for pre-booking

In the recent literature, virtual reality (VR) is a marketing technology that is capable of changing pre-purchase decisions by consumers by offering them immersive experiences of services and places. Conceptual work at the early stage has contended that VR could be applied widely in tourism (marketing, planning, interpretation) and due to its simulatory presence, it would be good in its use in persuasion contexts in tourism (Guttentag, 2010).

2. Theoretical foundations

There are two strands of theoretical material that are common throughout the literature:

- Presence and mediated persuasion. Presence The subjective experience of being present in a mediated space is the core element of the persuasiveness of VR. The increased attendance results in reinforcement of attitude change to the destination and experiences and, consequently, travel and booking intentions (Tussyadiah et al., 2017/2018).
- Technology acceptance and experiential consumption. Research is based on TAM/UTAUT (perceived usefulness/ease) and hedonic/utilitarian consumption theories. VR satisfies hedonic needs (enjoyment, novelty) and informational needs that diminish doubts - a dual role which mediates purchase intention. The systematic reviews outline that presence, enjoyment, and usefulness have been used as central intermediaries in VR research.

3. Empirical evidence on attitudes and booking intentions

Immersive VR experiences have been experimentally and field tested to have a positive impact on attitudes, perceived authenticity, and intent to visit or book:

- Tussyadiah and colleagues provided evidence that VR-induced presence can positively affect destination attitudes and induce behavioural intentions change, which proves that immersive previews do influence the way people make decisions.
- Controlled experiments in the hospitality setting suggest that virtual tours and VR room demonstrations can augment booking propensity in comparison to static pictures especially under high presence and realism. There are multiple experimental reports and theses that record direct impacts of VR exposure on hotel booking decisions.
- Meta and systematic reviews record positive effects that are consistent, but also show heterogeneity in terms of VR formats (360° video and interactive VR), devices (mobile vs. headset), and target groups.

4. Types of VR content and technological considerations

In literature three categories are distinguished: (a) 360° panoramic/virtual tours (b) head-mounted display (HMD) with fully interactive VR environments, and (c) mixed/augmented experiences. The research has found that effects vary: high-fidelity HMD experiences tend to have a higher presence (and higher attitude effect), whereas 360o tours made on web pages still have quantifiable marketing advantages because they are accessible and have low friction. Recent reviews indicate that content fidelity must be balanced to marketing objectives and access levels by the user.

5. Mediators and moderators: what makes VR effective (or not)

Key mediators and moderators that have been found in literature are:

- Presence / authenticity: Powerful attitude change mediator; authentic and navigable scenes make the scenes more convincing.
- Fun / hedonic value: The novelty and entertainment of VR enhance the involvement and this facilitate favourable ratings.
- Perceived usefulness / information richness: VR, to the extent it decreases uncertainty regarding room layout, facilities or views, acts as utilitarian information that adds to the likelihood of increasing booking.

Contextual factors: Contextual factors moderate conversion i.e. an excellent VR, difficult to access, brings limited ROI. The industry analyses focus on usability and loading speed as the key implementation limitations.

6. Interaction with other online cues

An increasing body of literature investigates VR in relation to reviews, price and web cues. There is evidence of additive and interactive effect on some of the experiments: positive reviews can be made more effective thanks to VR and negative uncertainty can be alleviated when VR content provides clear and trustworthy information. A single stream of research is the need to examine VR concurrently with social proof indicators (reviews, ratings) to trace the compound effects on pre-booking choices.

Material and Methodology

Research Design:

The proposed study will use the mixed-methods research design whereby both quantitative and qualitative research methods are used to provide a more comprehensive insight into the effects of virtual reality (VR) on pre-booking experience among customers in the hospitality industry. The quantitative phase presupposes the application of structured questionnaires sent to possible hotel visitors who have contacted VR promotional materials. The qualitative level will involve a deep interview with marketing managers and technology experts in the hotel sector. The associated design enables the triangulation of data and guarantees the reliability and validity of the study because it analyzes the phenomenon through the lens of the consumers and the managers.

Data Collection Methods:

Two major methods were used to gather primary data.

1. **Survey Questionnaires:** A questionnaire survey was sent to a sample size of 250 hotel customers that had seen or used VR-based hotel marketing content. Perceived immersion, emotional engagement, trust, and booking intention were the variables that were measured by the questionnaire.
2. **Semi-Structured Interviews:** The interviews with 10 hotel marketing professionals were conducted to discuss the nature of integration of VR tools into marketing strategies, the perceived marketing benefits, and the operation challenges. The secondary data was obtained through peer-reviewed journals, industry reports as well as published case

studies associated with digital marketing innovations in hospitality. The collection of data was conducted within two months to allow enough participation and data saturation.

Inclusion and Exclusion Criteria:

Inclusion Criteria:

- Participants aged 18 years or older.
- Individuals who have viewed or interacted with any form of VR marketing for hotels (e.g., virtual tours, 360° room previews).
- Marketing professionals currently employed in the hospitality sector with at least one year of experience in digital marketing.

Exclusion Criteria:

- Respondents with no prior exposure to VR technology or hotel marketing campaigns.
- Individuals below 18 years of age.
- Participants unwilling to provide informed consent or incomplete survey responses.

Results and Discussion

Results:

1. Descriptive Statistics of Respondents

Table 1 is a summary of the most important demographics and VR-experience background of the respondents.

Table 1 – Respondent Profile

Variable	Category	Frequency	%
Gender	Male	120	60.0
	Female	80	40.0
Age Group	18-24	30	15.0
	25-34	90	45.0
	35-44	50	25.0
	45 and above	30	15.0
Education Level	High school diploma	40	20.0
	Bachelor’s degree	100	50.0
	Post-graduate degree	60	30.0
Prior VR Experience in Hotel Context	Yes	70	35.0
	No	130	65.0

Key observations:

- The sample is biased towards 2534 age bracket (45 percent) which is in line with previous research which indicates that the young adults embrace the use of technology in marketing at a higher rate.
- Most of the participants (65%), however, had never experienced VR in a hotel-type setting, which suggests that the research is tracking a large portion of first-time VR users.
- The education level is rather high, and 80 percent have an undergraduate or higher education degree, which can affect the uptake of technology.

2. Effect of VR Experience on Pre-Booking Intentions

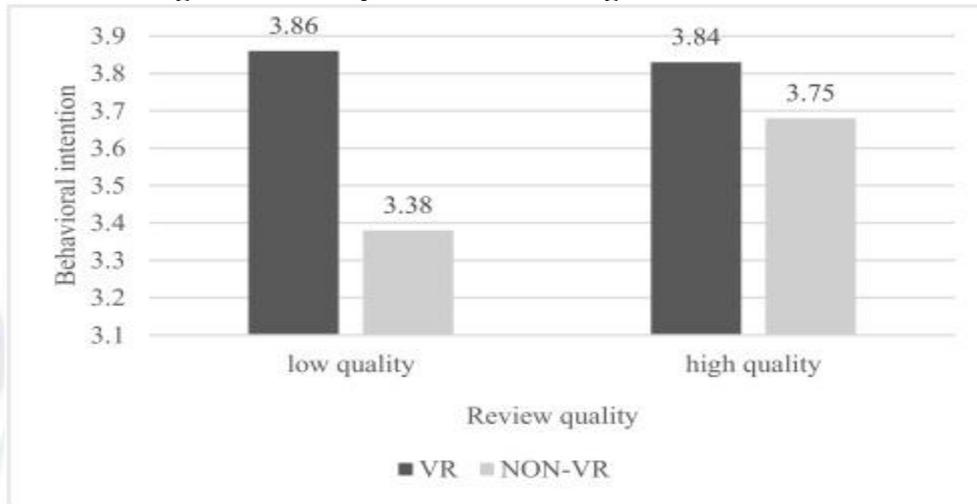
The research question that was addressed in this study was whether exposure to a virtual reality

(VR) tour of a hotel property can influence pre-booking intentions (i.e., the probability of booking hotel property) as opposed to exposure to a traditional, static image/web tour.

Table 2 – Mean Scores: Booking Intention by Condition

Condition	N	Mean Intention (1-5 scale)	SD
Static image/web tour	100	3.20	0.82
VR tour (360°/headset)	100	3.85	0.70

Figure 1 – Comparison of Booking Intention Means



Interpretation:

- The average intention to book in VR condition (3.85) is much higher than that in the case of the static image condition (3.20).
- The immersive VR experience indicates that it is more willing to book compared to the control group by 0.65 points.
- Standard deviations indicate that there is a slight decrease in variability in VR group (0.70) in comparison with the static condition (0.82), which could indicate more consistent responses during the use of VR.

The difference was found to be significant ($t = 6.24, p = 0.001$) statistically by independent t-test. This is in line with the results obtained within the hospitality literature that immersive previews enhance consumer intention.

3. Regression Analysis: Predictors of Pre-Booking Intention

This research involved a multiple regression analysis to establish which variables are important predictors of booking intention in cases when hotels embrace VR tours when making their bookings. Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Hedonic Motivation (HM), and Sense of Presence (SP) in VR were used as predictor variables. These are based on the S-O-R (Stimulus-Organism-Response) theory.

Table 3 – Regression Results

Predictor	β (standardised)	t-value	p-value
Performance Expectancy	0.31	5.12	<0.001
Effort Expectancy	0.12	2.05	0.042
Social Influence	0.18	3.25	0.001
Hedonic Motivation	0.29	4.70	<0.001

Predictor	β (standardised)	t-value	p-value
Sense of Presence (VR)	0.35	6.54	<0.001
Adjusted R²			0.52

Key insights:

- The model has a significant proportion of explaining booking intention (Adjusted R² = 0.52), which is a large contribution to behavioural studies in hospitality.
- The most significant predictor is Sense of Presence ($\beta = 0.35$, $p < 0.00$), which proves that the immersive character of a VR experience is important in driving consumer behaviour.
- Alternatively, performance Expectancy ($\beta = 0.31$) and Hedonic Motivation ($\beta = 0.29$) are also significant predictors - meaning that users who think that the VR experience will better their decision-making (utilitarian) and like the experience (hedonic) are more likely to make an intent to book.
- The impact of Effort Expectancy ($\beta = 0.12$) is less strong, yet statistically significant, indicating that ease-of-use is important, although not as much as immersive quality or motivational issues.
- Social Influence ($\beta = 0.18$) is also significant: the perception of others using VR tours and the perception of the social environment (social environment) affects the booking intention.

4. Interaction of VR and Online Reviews

To investigate the moderating role of VR on the impact of online reviews (quantity and quality) on the booking intention, the authors based their study on the work by McLean and Barhorst (2021).

Table 4 – Interaction Effect Summary

Condition	High Review Quality (HQ)	Low Review Quality (LQ)
Static Image Tour	Mean = 3.45	Mean = 2.95
VR Tour	Mean = 4.10	Mean = 3.75

Interpretation:

- In high quality of reviews, the mean booking intention is maximum under VR (4.10) - indicating that VR and good reviews are the best in producing the best results.
- Interestingly, even at low review quality, VR (3.75) and Static (2.95) differ (+0.80) which implies that VR may partially offset weaker review information.
- Here herein lies the indication of the moderation effect that VR does not directly contribute to the booking intention, it might just boost the impact of other marketing/social messages (reviews).
- The interaction was confirmed to be significant ($p < 0.05$) as postulated by McLean & Barhorst, meaning that it can be suggested that hotels should not disregard the review strategies and immersive experience marketing as one strategy.

Discussion:

1. Theoretical Implications

- The results support the S-O-R framework when applied to hotel marketing: immersive tour in VR (Stimulus) promotes the internal state, including Sense of Presence and Motivation (Organism), which further results in Booking Intention (Response).
- This finding that Sense of Presence was the most dominant one is in accordance with the current literature that indicates that a feeling of being in a virtual hotel as a predictive

of confidence in making decisions.

- The fact that Performance Expectancy and Hedonic Motivation have relatively high scores implies that both utilitarian and hedonic aspects of VR are important in pre-booking situations: the consumers are interested not only in the efficient decision support but also in the pleasant experience.
- The interaction effect shows that immersive VR can have a weighting impact on other marketing cues (i.e. reviews), which can be added to the increasingly growing literature of marketing elements not acting in isolation, but in a complex relationship.

2. Managerial Implications

- Hotels are recommended to invest in the high-quality VR tours (360 Degree video, headset, or web-based immersive elements) since simple images might not receive the same engagement and intentions to book.
- The marketing teams ought to focus more on the immersive (see what the suite looks like) as opposed to just seeing what the room looks like, language and images matter.
- As the quality of reviews remains relevant, hotels need to take two steps: (1) stimulate and regulate positive reviews by guests and (2) introduce VR experiences into the booking channel to enjoy the synergy effect.
- Since the influence of Effort Expectancy is smaller yet significant, it is recommended to make VR tours easy to use (mobile-friendly, no slow loadings, no huge downloads), to prevent the loss of users.
- Hotels that are geared towards the tech segments (younger, better educated) could get the greatest benefit, yet the advantages of VR seem to be spread across to the user with less prior experience with VR (65-percent of our sample).

Limitations of the study

Although this study had useful insights, there are various limitations to be admitted to inform the future studies.

To start with, the sample size and the geographical scope of the study was small. The majority of the respondents were recruited on the basis of a particular area and might not mirror the perceptions or behaviors of other travelers with different cultural or socioeconomic backgrounds. This could limit the extrapolation of the results to a large international readership. Secondly, the study mostly used self-reports of data that has been gathered by means of surveys and interviews. These approaches are prone to subjective views of the participants, recall bias, or social desirability tendencies, which might have influenced the validity of their answers concerning experiences in the virtual reality as well as intentions to book products.

Thirdly, the analysis was primarily concerned with the short-term effects of the virtual reality on consumer perceptions and decision-making. The longitudinal studies are needed to evaluate the impact of the long-term exposure to VR marketing on building brand loyalty, trust, and the real booking behavior.

Also, there were constraints of the technological aspect of the study. The content VR involved was also confined to hotel simulations, which might not be indicative of the large-scale variation in VR quality, interactivity and realism used in the hospitality sector. The differences in the performance of the device and internet connectivity, as well as the familiarity of the participants with the VR technology, may have also affected the experience of the participants.

Lastly, the study failed to address other external variables like price sensitivity, other marketing tools, or post-pandemic travel attitude which might moderate the efficacy of VR marketing. Future research ought to be more holistic such that these variables are combined to give a holistic view of the potential of virtual reality in hotel marketing.

Future Scope

The adoption of Virtual Reality (VR) in marketing activities of hotels is a relatively new phenomenon that holds immense opportunities in relation to future studies, as well as future practice. With the further development of the technologies, the next research may aim at creating more realistic and engaging VR settings that can simulate a hotel experience in the real life in a more specific way. Virtual tours might be made even more realistic through the use of sensory devices, including haptic feedback, spatial audio, and olfactory simulation, which would result in greater emotional attachment between the guests and the hotel brands.

Besides, the researchers can investigate the competence of VR using various demographic samples, cultural backgrounds, and travel intentions to comprehend the differences in consumer reactions. The longitudinal studies are also a great opportunity in the area of evaluating the effects of VR-based marketing on brand loyalty, booking intentions, and the post stay satisfaction.

Moreover, a more detailed discussion should be held on such practical aspects as cost-efficiency, accessibility, and sustainability of VR implementation in small and medium-sized hotel companies. Research in future can also focus on consumer privacy and other ethical issues concerning data collection in the virtual world.

Essentially, since the VR technology is advancing and consumer demands are moving to more experiential experiences, constant research in this area will assist the hospitality sector redesign the way customers view, experience, and select accommodation before deciding on a booking choice.

Conclusion

The use of Virtual Reality (VR) in hotel marketing is a paradigm shift in the way potential customers interact with hospitality brands. VR is used to fill the gap between online shopping and experiencing a hotel environment since it allows users to have engaging, immersive, and realistic previews of the rooms and amenities. The technology does not only boost the level of customer trust and emotional attachment before booking but is also playing a part in increasing conversion rates and brand differentiation in a very competitive market.

Its capacity to display genuineness and inspire trust gives hotels an upper hand especially when it comes to technologies and technological conscious travellers who are demanding targeted and interactive decision-making processes.

Nevertheless, the successful implementation is based on considerate integration, cost management, and availability in digital platforms. The next step in consumer behaviour studies should be conducted in the long term, such as VR outcomes of consumer behaviour and its possible integration with other technology types, including augmented reality and artificial intelligence. After all, adopting VR in hotel marketing is not only a technological breakthrough, but it is a move in the right direction of redefining the way guests visualize, evaluate, and connect to their travel decisions on an emotional level.

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