

# A Study on Consumer Awareness and Readiness for the Adoption of VR/AR in Tourism Marketing and Its Influence on Hotel Booking Decisions and Destination Selection with Reference to Navi Mumbai

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**Abstract:** *Immersive technologies such as Virtual Reality (VR) and Augmented Reality (AR) are transforming digital marketing practices in the tourism industry. Unlike traditional promotional tools, these technologies allow potential travellers to explore destinations virtually before making travel decisions. Such interactive experiences can influence important choices, including hotel selection and destination preference. Although India's tourism sector has started integrating VR and AR in marketing campaigns, limited research exists on consumer awareness and readiness to adopt these technologies.*

*This study explores the level of consumer awareness and readiness toward VR/AR adoption in tourism marketing and examines their influence on hotel booking behaviour and destination selection among travellers in Navi Mumbai. Data is collected using structured questionnaires from Gen Z and Millennial respondents. The study analyzes factors such as perceived usefulness, ease of use, perceived value, immersive experience, and intention to adopt through descriptive and inferential statistical techniques. The findings provide insights for tourism marketers to design effective VR/AR-based promotional strategies that enhance consumer engagement and influence pre-travel decisions..*

**Keywords:** Virtual Reality (VR), Augmented Reality (AR), Tourism Marketing, Consumer Awareness, Travel Decision-Making.

## I. INTRODUCTION

Immersive digital technologies such as Virtual Reality (VR) and Augmented Reality (AR) are increasingly transforming the way consumers explore, evaluate, and engage with tourism-related information. Unlike traditional promotional media, VR and AR enable interactive and visually rich experiences that allow potential travellers to preview destinations and services before making actual travel decisions. These technologies have become especially relevant in tourism marketing, where consumers often rely on visual cues and experiential information to reduce uncertainty and form preferences. As travel planning becomes more digitally driven, the ability of VR/AR to provide realistic simulations and contextual overlays can shape consumer perceptions, enhance confidence in travel choices, and influence important pre-purchase decisions such as hotel booking and destination selection. However, the effectiveness of such technologies depends largely on the level of awareness among consumers and their readiness to adopt and use immersive tools in the decision-making process. In urban and technologically evolving contexts like Navi Mumbai, young consumers are increasingly exposed to digital platforms and innovative marketing content, yet their familiarity with and preparedness to engage with VR/AR-based tourism marketing remain uneven. Understanding



consumer awareness and readiness is therefore essential for evaluating the potential of immersive technologies to influence travel-related decisions. This study seeks to examine how awareness and readiness toward VR/AR in tourism marketing shape hotel booking behaviour and destination selection among potential consumers in Navi Mumbai, with the aim of generating insights that can inform more effective, consumer-centric digital marketing strategies in the tourism domain.

### **Government Tourism Initiatives Using VR**

The Indian government has recognised the potential of immersive technologies to promote tourism destinations. For example, the Ministry of Tourism, Government of India, partnered with Google India to launch 360-degree virtual reality (VR) experiences under the “Incredible India” campaign. These VR videos provide online immersive tours of iconic tourist sites such as Hampi, Goa, Delhi, and Amritsar, enabling potential travellers to experience the richness of India’s heritage before physically visiting. The initiative aims to increase global engagement with India’s tourism offerings by offering immersive previews of cultural and historical destinations, thus enhancing destination appeal and potentially influencing tourist footfall.

In addition, specific heritage attractions have been promoted through VR collaborations between private companies and tourism stakeholders. Samsung India partnered with UNESCO to develop a VR film on the Taj Mahal, showcasing the monument through immersive content that can be accessed via VR headsets and social media. This VR film was incorporated into the Incredible India tourism campaign and aimed to reach both domestic and international audiences by offering virtual access to one of India’s most visited heritage sites.

### **VR Adoption in Indian Hospitality Marketing**

Emerging research indicates that individual hospitality brands are beginning to leverage VR/AR technologies for guest engagement and promotional purposes. For instance, Taj Hotels (part of Indian Hotels Company Ltd.) has implemented virtual reality tours of its heritage properties, such as the Taj Lake Palace, allowing potential guests to explore luxurious suites, architectural features, and scenic environments virtually. These immersive tours are used as marketing tools to build emotional connections, enhance destination visualization, and increase confidence in booking decisions among travellers seeking premium experiences (e.g., honeymoon or wedding travel).

Academic research supports the value of such immersive tools in hospitality marketing. A recent study examining the implementation of VR and AR in the hospitality industry found that virtual tours and interactive augmented content significantly increase customer engagement and satisfaction, contributing to improved marketing outcomes such as booking confidence and customer loyalty. Specifically, in contexts where VR tours allow customers to preview hotel facilities, the immersive experience helps potential guests form clearer expectations, thereby influencing their purchasing behaviour.

## **II. REVIEW OF LITERATURE**

Patel, Bhatt, and Rathore (2023) investigated the potential of smart tourism by implementing VR and AR technologies, noting that these tools enable immersive virtual tours and interactions that can improve destination engagement and interest among travellers. Such studies highlight the use of immersive technologies as mechanisms to enhance destination marketing effectiveness and competitive advantage in Indian tourism contexts.

Vishwakarma, Mukherjee & Datta (2020) the study highlights that perceived value significantly shapes tourists’ willingness to use VR for destination evaluation. It shows that immersive experiences create stronger emotional involvement with destinations. The findings suggest that richer virtual experiences help consumers imagine themselves at the destination. These supports examining immersion and value as factors influencing destination selection decisions. Sabari Shankar, Koshy & Mathew (2022) discussed VR as a marketing tool for destination branding and engagement in Indian tourism. The study positions VR as an important marketing tool for destination branding. It explains how immersive experiences strengthen emotional engagement with tourism promotions. The authors highlight VR’s role in



enhancing consumer interaction with tourism content. This supports the relevance of VR/AR in influencing consumer perceptions and booking intentions.

Dutta, Dixit & Khare (2024) showed 360° VR experiences assist destination visualisation and influence intentions, based on Indian tourist samples. The study finds that 360-degree VR experiences help consumers visualise destinations more clearly. It shows that improved visualisation reduces uncertainty during travel planning. The findings suggest that immersive previews positively influence travel intentions. These supports examining VR/AR awareness as a factor influencing hotel booking and destination selection.

Kumar & Kushwaha (2025) conducted a systematic review of VR in tourism marketing, highlighting the need for empirical work on adoption factors. The review identifies VR as a growing tool in tourism marketing research. It highlights the lack of sufficient empirical studies on consumer adoption in emerging markets. The authors point out the need to study behavioural factors influencing VR/AR usage. This supports the research gap addressed by the present study.

Samaddar & Mondal (2023) analysed AR/VR travel products in emerging economies, noting perceived value and performance expectations influence adoption. The study explains how AR/VR travel products create higher perceived value for users. It finds that performance expectations influence willingness to adopt immersive technologies. The research shows that perceived usefulness shapes adoption intentions in emerging economies. This supports analysing consumer readiness and expectations in VR/AR adoption.

Jamgade & Jayaprakash (2023) identified strategic value co-creation through VR in Indian tourism contexts. The study highlights VR's role in value co-creation between consumers and tourism marketers. It explains how immersive experiences encourage active consumer participation. The findings show that interactive technologies enhance consumer engagement with destinations. These supports linking VR/AR experiences with marketing influence on travel decisions.

International Journal for Multidisciplinary Research (2026) outlined immersive tech influence on destination image and marketing stimuli. Studies show AR/VR enhance tourism marketing by improving visualisation and narrative immersion (general literature). Technology acceptance research indicates perceived ease of use and usefulness drive adoption intentions. The study indicates that immersive technologies improve destination image formation. It shows that interactive content strengthens marketing communication effectiveness.

#### **Research Gap:**

- Most existing studies focus on technology adoption intentions or user experience with VR/AR, but there is limited research linking consumer awareness and readiness directly to actual tourism marketing outcomes such as hotel booking decisions and destination selection.
- Indian studies largely examine VR adoption in general tourism contexts (e.g., destination evaluation, virtual tours), while empirical evidence on AR in tourism marketing from the consumer perspective in India remains scarce.
- Prior research emphasizes perceived usefulness, immersion, and enjoyment, but gives limited attention to consumer readiness as a combined construct reflecting technological comfort, openness to innovation, and willingness to use VR/AR for travel planning.
- Many studies are conducted in broad national or international samples, with very few localized, city-specific studies in emerging urban centres like Navi Mumbai, where digital exposure and consumer behaviour may differ from metro cities.
- Existing literature primarily examines attitudinal and intention outcomes, with insufficient focus on concrete behavioural decisions such as hotel booking choices and destination selection influenced by VR/AR-based tourism marketing.
- Several studies adopt technology-centric or industry-focused perspectives, while there is a lack of consumer-centric, demand-side research capturing how potential travellers perceive and are ready to engage with VR/AR marketing tools.



- There is limited integration of awareness as a precursor variable influencing readiness and adoption, despite awareness being a critical initial stage in technology acceptance and diffusion in emerging markets.
- Most Indian studies rely on conceptual discussions or small-scale pilots, indicating a need for empirical, survey-based research with structured measurement of awareness, readiness, and decision outcomes.

**Objective of the Study:**

1. To assess the level of awareness of VR/AR applications in tourism marketing among potential customers in Navi Mumbai.
2. To examine the readiness of potential customers to adopt VR/AR technologies for travel planning and decision-making.
3. To analyse the influence of consumer awareness of VR/AR on hotel booking decisions among potential customers.
4. To identify whether awareness and readiness toward VR/AR jointly predict consumers' intention to use immersive technologies for hotel booking and destination selection.

**Scope of the Study:**

The scope of the present study is limited to understanding the level of awareness and readiness among potential customers in Navi Mumbai toward the adoption of Virtual Reality (VR) and Augmented Reality (AR) in tourism marketing. The study focuses on how such awareness and readiness influence consumers' hotel booking decisions and destination selection intentions. The research does not include primary data from hotels, travel agencies, or tourism organizations; instead, it adopts a consumer-centric perspective to capture demand-side readiness for immersive marketing technologies.

**Limitations of the Study:**

1. The study is geographically limited to Navi Mumbai, therefore the findings may not fully represent consumer awareness and readiness toward VR/AR adoption in tourism marketing in other cities or regions.
2. The study considers only potential consumers or travellers, and does not include the perspectives of tourism businesses, hotel operators, or travel agencies that implement VR/AR technologies in their marketing strategies.

**Hypotheses of the Study:**

1. To assess the level of awareness of VR/AR applications in tourism marketing among potential customers in Navi Mumbai.

H<sub>01</sub>: There is no significant level of awareness of VR/AR applications in tourism marketing among potential customers in Navi Mumbai.

H<sub>11</sub>: There is a significant level of awareness of VR/AR applications in tourism marketing among potential customers in Navi Mumbai.

2. To examine the readiness of potential customers to adopt VR/AR technologies for travel planning and decision-making.

H<sub>02</sub>: Potential customers in Navi Mumbai do not show a significant level of readiness to adopt VR/AR technologies for travel planning and decision-making.

H<sub>12</sub>: Potential customers in Navi Mumbai show a significant level of readiness to adopt VR/AR technologies for travel planning and decision-making.

3. To analyse the influence of consumer awareness of VR/AR on hotel booking decisions among potential customers.

H<sub>03</sub>: Consumer awareness of VR/AR has no significant influence on hotel booking decisions among potential customers in Navi Mumbai.



H<sub>13</sub>: Consumer awareness of VR/AR has a significant influence on hotel booking decisions among potential customers in Navi Mumbai.

4. To identify whether awareness and readiness toward VR/AR jointly predict consumers' intention to use immersive technologies for hotel booking and destination selection.

H<sub>04</sub>: Consumer awareness and readiness toward VR/AR do not jointly predict consumers' intention to use immersive technologies for hotel booking and destination selection in Navi Mumbai.

H<sub>14</sub>: Consumer awareness and readiness toward VR/AR jointly predict consumers' intention to use immersive technologies for hotel booking and destination selection in Navi Mumbai.

### III. RESEARCH METHODOLOGY

Nature of the Study	Descriptive and Analytical Research
Research Approach	Quantitative Research Approach
Study Area	Navi Mumbai
Target Population	Potential consumers/travellers residing in Navi Mumbai
Sampling Method	Non-probability sampling (Convenience sampling)
Sample Size	179 Respondents
Sources of Data	Primary data (Questionnaire); Secondary data (books, research articles, journals, reports, websites)
Primary Data Collection Tool	Structured questionnaire using 5-point Likert scale
Variables of the Study	Independent: Awareness of VR/AR, Readiness to adopt VR/AR, Perceived usefulness, Perceived ease of use Dependent: Hotel booking decisions, Destination selection, Intention to use VR/AR
Data Analysis Techniques	Descriptive statistics (mean, percentage, SD), Reliability test (Cronbach's Alpha), Correlation analysis, Regression analysis

### IV. DATA ANALYSIS AND INTERPRETATION

The data were analysed using Microsoft Excel and SPSS software. Statistical techniques such as descriptive statistics, reliability testing using Cronbach's alpha, correlation analysis, and regression analysis were employed to examine relationships between the variables.

#### Reliability Analysis

Reliability analysis was conducted to evaluate the internal consistency of the measurement scale used in the questionnaire. Cronbach's Alpha was calculated for the set of Likert-scale items representing awareness, readiness, and decision-making variables.

Table 1: Reliability Statistics

Measure	Value
Cronbach's Alpha	0.82
Number of Items	27

#### Interpretation

Cronbach's alpha value of 0.82 indicates a high level of internal consistency among the measurement items. A reliability coefficient above 0.70 is generally considered acceptable in social science research, suggesting that the questionnaire items reliably measure the constructs of awareness, readiness, and consumer decision behaviour.



Descriptive statistics were calculated to understand the central tendency and variability of responses across the main variables of the study.

Table 2: Descriptive Statistics of Key Variables

Variable	Mean	Standard Deviation
Awareness of VR/AR	3.8	0.47
Readiness to adopt VR/AR	3.90	0.46
Perceived usefulness and ease of use	3.92	0.48
Hotel Booking Decision	3.88	0.50
Destination Selection	3.91	0.53
Intention to use VR/AR	3.95	0.46

### Interpretation

The mean scores for all variables are above the neutral value of 3, indicating a generally positive perception of VR/AR technologies among respondents. The results suggest that consumers in Navi Mumbai demonstrate moderate to high awareness of VR/AR applications and exhibit a favourable readiness to adopt these technologies for travel planning purposes. The relatively low standard deviation values indicate that responses are moderately consistent across respondents.

An examination of response distribution indicates that the majority of respondents expressed positive attitudes toward VR/AR applications in tourism marketing.

Table 3: Distribution of Responses

Response	Percentage
Strongly Agree	32%
Agree	38%
Neutral	18%
Disagree	8%
Strongly Disagree	4%

### Interpretation

The results indicate that a large proportion of respondents show a positive attitude toward the use of VR/AR technologies in tourism marketing. Approximately 70% of respondents either agreed or strongly agreed that immersive technologies can influence travel planning decisions such as hotel booking and destination selection. Around 18% remained neutral, while only 12% expressed disagreement. This suggests that most potential consumers perceive VR/AR as a useful tool in tourism marketing.

Correlation analysis was conducted to examine the relationships between awareness, readiness, and consumer decision variables.

Table 4: Correlation Matrix

Variable	Awareness	Readiness	Hotel Booking	Destination Selection
Awareness	1			
Readiness	0.51	1		
Hotel Booking	0.43	0.41	1	
Destination Selection	0.47	0.41	0.45	1

### Interpretation

The results indicate moderate positive relationships among the variables. Awareness of VR/AR technologies is positively associated with readiness to adopt these technologies. Furthermore, both awareness and readiness show



positive correlations with hotel booking decisions and destination selection, suggesting that immersive technology exposure may influence travel decision behaviour.

### Regression Analysis

Two regression models were tested.

#### Model 1:

Dependent Variable

Hotel Booking Decisions

#### Independent Variables

- Awareness
- Readiness

Variable	Coefficient	Interpretation
Awareness	Positive	Awareness increases booking confidence
Readiness	Positive	Technology readiness increases likelihood of booking

### Interpretation

Consumers who are more aware and ready to use VR/AR technologies show greater confidence in hotel booking decisions.

#### Model 2

Dependent Variable

Destination Selection

Independent Variables

- Awareness
- Readiness

Variable	Coefficient	Interpretation
Awareness	Positive	VR/AR awareness influences destination evaluation
Readiness	Positive	Technology readiness increases destination preference

### Interpretation

Awareness and readiness significantly influence destination choice.

Hypothesis Testing

Table: Hypothesis Testing Results

Hypothesis	Statement	Result
H01	There is no significant awareness of VR/AR in tourism marketing among potential consumers.	Rejected
H02	Potential consumers are not ready to adopt VR/AR technologies for travel planning.	Rejected
H03	Consumer awareness does not influence hotel booking decisions.	Rejected
H04	Awareness and readiness do not predict consumers' intention to use VR/AR technologies for hotel booking and destination selection.	Rejected

### Findings of the Study

The analysis of the collected data indicates that respondents possess a moderate level of awareness regarding the application of Virtual Reality (VR) and Augmented Reality (AR) technologies in tourism marketing. A considerable number of participants acknowledged that these technologies are increasingly being used by tourism businesses to provide virtual tours and interactive travel experiences. The results further reveal that most respondents demonstrate a



favourable attitude toward the adoption of VR and AR technologies in travel planning. Many respondents expressed interest in using immersive technologies to explore destinations and preview hotel facilities before making actual booking decisions.

The findings also highlight that VR and AR technologies positively influence consumers' travel decision-making process. Respondents indicated that virtual experiences can help them better evaluate travel destinations and accommodation options, thereby reducing uncertainty and increasing confidence in their choices. Furthermore, the analysis suggests that awareness of immersive technologies is associated with a greater willingness to adopt them for tourism-related activities. Individuals who are familiar with VR and AR applications are more likely to consider using them while selecting destinations or booking hotels. Overall, the results demonstrate that immersive technologies have the potential to play a significant role in shaping modern tourism marketing strategies and enhancing consumer engagement.

## V. CONCLUSION

Based on the analysis and interpretation of the collected data, it can be concluded that VR and AR technologies are gradually becoming influential tools in the tourism industry. Consumers are increasingly open to adopting these technologies as part of their travel planning process.

The study indicates that immersive digital experiences can enhance the level of information available to potential travellers and assist them in making more informed decisions regarding destination selection and hotel bookings.

The results suggest that higher levels of awareness and familiarity with VR and AR technologies contribute to a stronger intention to use them for tourism-related purposes. As digital technologies continue to evolve, tourism businesses are likely to benefit from integrating immersive experiences into their marketing strategies. By offering virtual previews of destinations, attractions, and hotel facilities, tourism marketers can provide consumers with realistic and engaging experiences that influence their perceptions and preferences. Therefore, VR and AR technologies represent valuable tools for improving consumer engagement and strengthening marketing effectiveness in the tourism sector.

### Suggestions

Based on the findings of the study, several suggestions can be proposed for tourism marketers, hotel operators, and destination management organizations.

1. Tourism businesses should invest in the development and promotion of VR and AR applications to provide potential travellers with immersive previews of destinations and accommodation facilities. Such technologies can enhance the overall customer experience and help build trust among consumers before they make travel-related decisions.
2. Tourism organizations should focus on increasing consumer awareness of VR and AR technologies through digital marketing campaigns, social media platforms, and online travel portals. Educating consumers about the benefits and practical applications of immersive technologies can encourage greater adoption and engagement.
3. Collaboration between tourism stakeholders and technology providers should be strengthened to develop innovative and user-friendly virtual experiences. Integrating VR and AR features into official tourism websites and hotel booking platforms can allow consumers to explore destinations in a more interactive and informative manner.

Finally, future research can be conducted with larger and more diverse samples to examine additional factors influencing the adoption of immersive technologies in tourism. Researchers may also explore the impact of demographic variables, technological readiness, and consumer trust on the use of VR and AR in travel decision-making. Such studies can contribute to a deeper understanding of how emerging technologies are transforming the tourism marketing landscape.



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