



Bridging Realities: Understanding the Factors Influencing Visitor Satisfaction and Authentic Experiences in Virtual Tourism

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Abstract. The viability of virtual tourism (VT) as a feasible alternative or interim solution has been heavily debated considering the growing interest in virtual reality (VR) tourism and its relevance. There is, however, no information on how to keep visitors satisfied with VT, enhance their contentment, and turn good experiences into genuine travel ambitions. This paper presents a conceptual model that blends the uses and gratifications theory with the innovation diffusion theory to understand the drivers of VR tourism. The main objective is to explore the factors related to innovation diffusion and gratification that contribute to tourist satisfaction and authentic experience in VT. The study also attempts to find out how satisfaction and authentic experience affect the desire to go to suggested places. Furthermore, the study looks at the function of connection to nature as a moderator in the link between satisfaction and on-site destination intention. The PLS-SEM analysis was used to evaluate the model on a sample of 285 respondents. The findings show that variables related to innovation diffusion, uses, and gratifications have a considerable impact on visitor satisfaction and authentic experience. Furthermore, as compared to authentic experience, visitor satisfaction has a larger effect on the intention to visit the place. However, as the amount of connection to nature grows, the favourable effect of VT satisfaction on on-site tourist intention increases. This study adds to the uses and gratifications theory and the innovation diffusion theory, giving significant insights for tourism practitioners and management looking to improve visitor satisfaction and authentic experience with VT and other attractions.

Keywords: Virtual reality · innovation diffusion theory · uses and gratifications theory · authentic experience · connection to nature · virtual tourism · satisfaction

1 Introduction

Virtual reality (VR) is a remarkable innovation in the domain of information and communication technology (ICT) that is prophesied to have a big influence on today's tourism sector. Many newsworthy advances, like VR platforms, devices, and content creation tools, allow VR to evolve. As a result, VR technologies now have limitless potential

for mass virtual visits to genuine tourism places. Furthermore, the importance of these technologies in the tourist and hospitality sectors, management, and marketing has been thoroughly documented in the literature. They have been recognised for their extraordinary ability to imitate real-life settings and surroundings, and have been lauded as a feasible substitute to actual travel on occasion. As a result, they have evolved as enormously powerful instruments for meeting the different demands of travellers.

Vicissitudes that are expected to happen in future are continually underestimated and arrive much sooner. Thus, tourism and hospitality organisations ought to be encouraged for more forward-thinking and well-equipped technological adaption planning. The purpose of this paper is to develop links between the ideas of VR and tourism and the hospitality industry, as well as to provide prospects for the tourism sector that consider the values articulated in the concept of VR marketing in attempts to satisfy the demands of visitors in the future. The study investigates the potential of VR as a helpful tool for tourist planning and management, technology-based marketing of tourism destinations, and the influence of VR on consumer requirements.

Rogers (1983) defined diffusion of innovation (DOI) as a method through which an innovation is spreading among individuals within a social system. According to Agag and El-Masry (2016), this approach adequately explains visitors' adoption of several technology. Furthermore, the DOI model has been shown to be beneficial in analysing VR consumers' attitudes towards information technology (Pan and Lin, 2011).

The uses and gratifications theory (UGT) are used to describe how people use communication and other environmental resources to mitigate their needs and accomplish their goals. The UGT, for example, has recognised the reasons behind the use of mobile information technologies such as social network services (Han et al., 2015), and the forecast of VR technology usage for gaming (Gallego et al., 2016).

Given the promising findings of both the theories in amplification VR tourism behaviour, we propose to combine and expand upon these research streams to determine the reasons why people utilize VR technology in tourism. This research aims to construct a conceptual framework that integrates both the theories i.e., DOI and UGT, to predict the behaviour of VR tourists.

Although satisfaction and authentic experience have significant implications on technological acceptability in the tourist business, these ideas have received little attention among VR travel users. To address the void, we construct and test a theoretical framework that integrates innovation diffusion, uses and gratifications theories, and takes pleasure and experience into account as significant aspects of tourist activity. As a result, this study analyses consumer behaviour while using virtual reality and offers academics and practitioners with a novel framework that incorporates the two important theories as well as the construct like satisfaction and authentic experience.

The heterogeneity of tourists' preferences regarding nature-related destinations is likely to influence their travel decisions and behaviours (Jiang et al., 2018). The connection to nature, a subjective sense of relationship with the natural world, emerges from the value of experiencing nature and the emotional bond between the individual and nature (Beery & Wolf-Watz, 2014). Some studies have noted that, for the natural landscape, it will be much better to go for an onsite visit, because they could appreciate the scenery in various times or seasons and 'inhale fresh air' (Lu et al., 2022). Hence, the moderating

effects of connection to nature in VT satisfaction evaluation and intention of on-site tourism are examined in this study.

2 Literature Study

2.1 Theoretical Underpinning

2.1.1 Diffusion of Innovation Theory

The diffusion of innovation theory (DOI) is explained how and when a new idea or technological development spread through a social system (Robertson, 1967). In the current study, DOI is utilised as an analytical framework to examine the topics connected to the diffusion of innovation from the standpoint of virtual reality in tourism. Everett Rogers introduced the DOI theory in 1962, which gave a framework for researching how innovations are communicated inside businesses and understanding the process and variables that influence new idea adoption. Diffusion implies transfer an innovation over the time frame within a social system through specialised channels, whereas communication comprises the development and sharing of information among participants in order to achieve mutual understanding (Rogers, 2003). According to Rogers (2003), DOI is having four dimensions such as innovation, channels of communication, time, and social systems. In addition, it is an idea, product, or technique that the adopter sees as unique may be considered as an innovation. Relative advantage, complexity, compatibility, trialability, and observability are the spatial characteristics of this theory (Rogers, 2003). Channels of Communication refer to how information about the invention is communicated across individuals or organisations, including those who are and are not familiar with the innovation. The inventive decision-making process, adopter categories, and adoption rate are all affected by time. Individuals or organisations are categorised as innovators, early adopters, early majority, late majority, or laggards based on their inclination for innovation. The term ‘adoption’ pertains to the act of individuals accepting a change in their behaviour, which can encompass various actions such as purchasing or utilizing a novel product, acquiring skills in a new endeavour, and more. While DOI is not commonly employed in tourism-related consumer behaviour research, it has been utilised in other sectors to cope up with the breakthroughs in information systems, strategic management, healthcare, education, and business research. DOI is used as a theoretical lens to examine emergent innovations in tourist firms in the context of this article.

2.1.2 Uses and Gratifications Theory

The Uses and Gratifications Theory (UGT) is extensively used to describe why people use certain technologies or media, as well as how these novel models may meet their motivations and demands (Katz et al., 1973). In contrast to prior theories, UGT emphasises that users are active participants who select certain communication channels or technological equipment based on their wants and motives, rather than being passive recipients (Ball et al., 2021). UGT has been critical in understanding customer behaviour, intents, and happiness when utilising social platforms, media technologies, web-based, or mobile

services (Ho & See-To, 2018). This methodology has recently been used by scholars to investigate virtual augmentation (Ibáñez Sánchez et al., 2022) and virtual reality (Cheng et al., 2022). Since UGT becomes more pertinent when introducing new communication technologies, it is well suited for researching the effects of VR (Ruggiero, 2000). This makes it the perfect theory to study novel scenarios and developing technology (Taherdoost, 2018). In the end, UGT is ideally suited for study from the perspectives of both passive and active visitors, as well as the virtual tourism setting. There are three main types of gratifications, according to the UGT (Uses and Gratifications Theory): content satisfaction, process pleasure, and social gratification. According to Katz et al. (1973) and Palos-Sanchez et al. (2021), these categories can also be referred to as hedonic, utilitarian, and social pleasure, respectively. This study explores the aspects that lead to satisfaction based on these original dimensions, building on earlier studies that used UGT to Virtual Tourism (VT) and identified links between uses and gratifications and satisfaction (Ibáñez Sánchez et al., 2022). Additionally, Wu et al. (2020) found that experience happiness in VT is significantly influenced by users' emotional connection to virtual reality (VR) activities. Accordingly, authentic experience may be thought of as a possible derived variable of UGT.

2.2 Hypotheses Development

2.2.1 Innovation of Diffusion and Satisfaction

The VR technology is spreading in the tourism sector because of high degree of pleasure. The simplicity of innovation dissemination quality that influences potential visitors' perceptions and trust (Agag and El-Masry, 2016). Another feature of innovation diffusion that impacts travel customer happiness is benefit (Kim et al., 2017). According to Chiang (2013), certain users, specifically those in the laggard, late majority, and early majority categories of technology adopters, have a more positive attitude towards continuing to use a particular technology when it is compatible with their previous experiences. This suggests that congruence with past experience is important in influencing travel customer happiness. Based on these findings, we propose that investigating the characteristics of innovations might offer insight into the happiness of VR customers in the tourist environment. The statements that follow establish our suggested framework for understanding this relationship.

H1: Innovation diffusion's attributes positively influence satisfaction of VR tourists.

2.2.2 Innovation Diffusion and Authentic Experience

Because visitors believe they are experiencing authentic experiences, VR technology is becoming more and more popular in the tourism industry (Yung and Khoo-Lattimore, 2017). The ease of use of the technology, which is one of the characteristics of innovation diffusion, affects potential tourists' perceptions of and confidence in online travel communities (Agag and El-Masry, 2016). Additionally, a further characteristic of innovation diffusion is the advantage from VR technology, which affects how authentic travel experiences are for customers (Kim et al., 2017). Additionally, for some users—especially those who fall into the categories of laggards, late majority, and early majority in terms of technology adoption—the compatibility of the technology with their prior experiences

has a positive impact on their attitudes towards continued use of the technology (Chiang, 2013). This implies that travellers' impressions of the authenticity of VR encounters are influenced by how well they mesh with their past experiences. Based on this research, we suggest that the characteristics of innovations play a vital role in explaining customers' views of authenticity in the context of VR technology within the tourist business.

H2: The attributes of innovation diffusion have an impact on authentic experience of VR tourists.

2.2.3 Uses and Gratification and Satisfaction

In the UGT, the idea of informativeness denotes the extent to which media or technology material helps consumers to find, develop, and share important information (Palos-Sanchez et al., 2021). Tourism satisfaction is defined as comparing the amount of satisfaction received from the actual experience to personal expectations (Goo et al., 2022). Smart tourism technology can help travellers make educated decisions by delivering relevant information, resulting in increased travel satisfaction (Goo et al., 2022). Furthermore, the exchange of knowledge and experiences while travelling via mobile tourism apps or digital platforms improves travellers' happiness with their visits (Ha et al., 2015). The capacity to connect with others is referred to as social interaction. According to earlier studies (Kim et al., 2020b), there may be a connection between social contact, genuineness, subjective well-being, and satisfaction. Social interactions are crucial in determining satisfaction levels, as evidenced by the fact that using social media or other smart technologies to communicate with people might satisfy some user demands (Goo et al., 2022). Based on the above discussion, the following research hypotheses are proposed:

H3: VR tourists' satisfaction positively influences by meeting their needs of gratification.

2.2.4 Relationship Between Uses and Gratifications and Authentic Experience

When people view VR experiences as satisfying their want to learn, the ease and enjoyment features of VR impact their willingness to utilise it for learning (Gallego et al., 2016). The pleasure that comes from information seeking and the desire for social status that comes from sharing VR experiences are both viewed as gratifying (Gallego et al., 2016), demonstrating that VR features like innovation contribute to the feeling of authenticity. Furthermore, the social connection and distraction provided by VR games, as well as their pleasing aesthetics, have a considerable favourable influence on users' psychological reliance on online games (Chen et al., 2010). Building upon these literatures, this research suggests that meeting the gratification needs of VR users enhances the authenticity of the tourism activities they engage in. Thus, we propose the following hypothesis:

H4: Meeting the needs of gratification of VR travellers remarkably influences their authentic experience.

2.2.5 Satisfaction and Intention to On-Site Tourism

Intention to travel to the actual locations is influenced by tourists' readiness to engage in on-site tourism activities in order to experience suggested attractions or projects via virtual tourism (VT). Tourists get a sense of pleasure when their expectations or requirements are met (Wu et al., 2020), which in turn motivates their behavioural intention to travel to the actual tourism location. Additionally, users' willingness and capacity to visit the real area may increase as a result of their pleasure with the usage of tourist applications or virtual reality (VR) devices (Morrison et al., 2023). According to Ho & See-To (2018), consumers' happiness with the digital tourism platform favourably affects their propensity to travel to the actual locations.

H5: Tourist satisfaction and behavioural intention.

2.2.6 Authentic Experience and Intention to On-Site Tourism

Based on the studies by Kim et al. (2017) and Yung and Khoo-Lattimore (2017), the authentic experience gained from utilising different technologies favourably influences users' behavioural intention. The desire of travel customers to reuse mobile information technology is specifically increased when an authentic experience is provided (Kim et al., 2017). Similarly, if virtual reality (VR) can provide experiences that are close enough to the real thing, customers may view VR excursions as an alternative to actual travel (Guttentag, 2010). Since it increases the feeling of authenticity and motivates visitors to these locations, heritage sites are becoming more appealing as travel destinations using VR technology (Dueholm and Smed, 2014). Additionally, if VR technologies can deliver a high degree of realism, virtual vacations might act as stand-ins for actual travel encounters and affect the behavioural intentions of VR tourists (Mura et al., 2017). In their assessment of the literature, Yung and Khoo-Lattimore (2017) looked at earlier research on travellers' views of the authenticity of VR travel by Dueholm and Smed (2014) and Mura et al. (2017). They discovered that a higher feeling of authenticity increases the desire to engage in virtual reality tourism. Based on the literature review mentioned above, we propose that the authentic experience plays a crucial role in shaping users' behavioural intention towards VR tourism.

H6: Subjective well-being of VR tourists significantly impact on their intention to visit.

2.2.7 Connection to Nature

According to Strzelecka et al. (2021), the specific goal of travel brought about by virtual tourism (VT) might change based on elements including visitor traits and preferences, how they view the place, and how much VR equipment is being used. According to several studies (Tussyadiah et al., 2018; Nam et al., 2022) the sensation of presence is what distinguishes virtual tourism from actual tourism. The impact of visitors' assessments of their contentment with or attachment to virtual reality on their desire to engage in on-site tourism can be influenced by several factors, including their connection to nature. An individual's emotional, cognitive, and experiential connections with the natural world are referred to as their connection to nature. It covers the extent to which people identify

with and feel a connection to nature. The significance of connection to nature as a psychological concept that affects people's attitudes, behaviours, and preferences about the natural environment is emphasised by Baxter and Pelletier (2019). Lower demand for nature connection people may be more likely to shun actual situations and restrict their contact with it. To encourage and strengthen their intention to engage in on-site tourism in such circumstances, extra external information and emotional triggers are needed. Based on these considerations, the following research hypotheses are proposed (Fig. 1):

H7: Connection to nature positively moderates the effect of VT experiential satisfaction on the intention of on-site tourism.

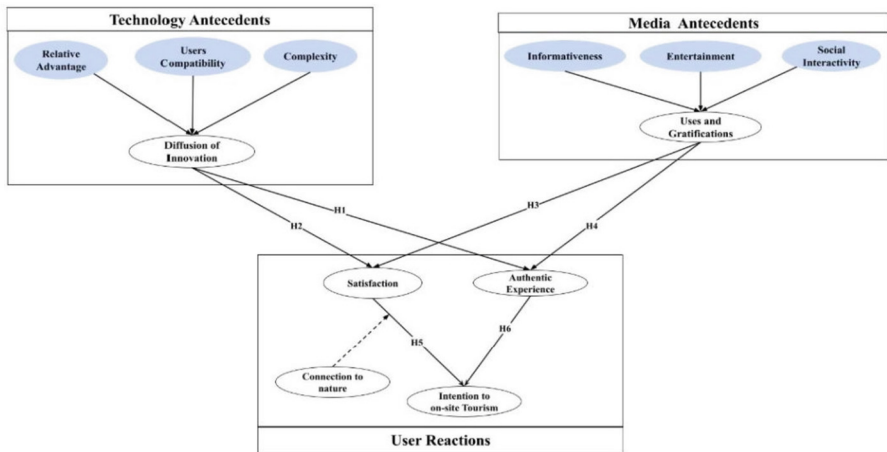


Fig. 1. Conceptual Framework

3 Methods

3.1 Measurement Design

By using a set of previously validated multi-measurement items, this study attempted to address the shortcomings of single-item measurements (Churchill's, 1979). The 44 items on the questionnaire were intended to evaluate 10 different themes. Relative advantage, user compatibility, and complexity were the main constructs connected to DOI. Social interaction, informativeness, and entertainment were among the characteristics connected to UGT. Authentic experience, satisfaction, intention to engage in on-site tourism, and connection to nature made up the remaining components under research. To enhance construct validity, the study primarily selected construct items from previous research.

To enhance construct validity, the study primarily selected construct items from previous research. These items were then slightly modified to align with the virtual reality (VR) context. Specifically, the attributes related to the theory of innovation diffusion, namely relative advantage, users' compatibility, and complexity, were adapted from

studies conducted by Fang et al. (2017), Kim and Ammeter (2014), and Lin and Lu (2015). Similarly, the attributes associated with the uses and gratifications theory (UGT), including informativeness, entertainment, and social interactivity, were measured using 11 items from Kim et al. (2020b). The measurement items for authentic experience in virtual tourism were sourced from Gilmore and Pine (2007) and Meng and Choi (2016a, 2016b). Satisfaction and intention to engage in on-site tourism were assessed using three items each, which were derived from the research of Atzeni et al. (2022) and Kim et al. (2020a).

3.2 Participants and Procedure

The survey initially recruited 393 respondents. To ensure data validity, two additional procedures were used to screen out invalid responses. First, we removed respondents who had spent less than five minutes completing the survey according to the online system, following common data cleaning practice. Second, the survey contained several attention questions to check for careful reading. Respondents were removed if these questions were answered incorrectly. Finally, 285 valid responses remained. Overall, the sample of respondents was deemed adequate for attaining our study goals. To evaluate the hypotheses SmartPLS4 software was utilised in this work to perform PLS-SEM.

4 Results

4.1 Validation of Outer Model

We conducted a comprehensive assessment of reliability and validity, following established research guidelines. The results indicate strong reliability and validity for our measurement model, with all factor loadings greater than 0.5 and Cronbach's alpha and composite reliability values more than 0.7, and an Average Variance Extracted (AVE) surpassing 0.5, (Hair et al., 2017). Additionally, all Variance Inflation Factor (VIF) values are below 3.3, and the Heterotrait-Monotrait (HTMT) values, a measure of discriminant validity, are below 0.9, further confirming the robustness of our measurement model. In conclusion, our findings support the validity and reliability of our measurement model. Table 1 and 2 shows the reported measurement model values for each latent variable in the separate models.

4.2 Testing of Hypotheses

The hypotheses were examined using the structural model once the measurement model had been validated. Rasoolimanesh and Ali (2018) proposed using the Stone-Geisser index (Q2) and the coefficient of determination (R2) to evaluate the structural model. The R2 score has a range of zero to one, with values of 0.682, 0.654, and 0.509 considered strong for on-site tourism, satisfaction, and authentic experience (Hair et al., 2017). According to Ali et al. (2018), the Q2 value reflects the predictive capability of the structural model and should be greater than zero. Table 3 shows the acceptable R2 and Q2 values for each endogenous component. The bootstrap function was used in the structural

Table1. Reliability and Validity of measurement items

Construct	CA	CR	AVE
AE	0.942	0.948	0.775
CP	0.930	0.932	0.783
CN	0.880	0.894	0.739
DOI	0.950	0.953	0.570
ET	0.889	0.890	0.819
INF	0.912	0.912	0.791
IOT	0.924	0.928	0.728
RA	0.951	0.952	0.805
SA	0.939	0.941	0.805
SI	0.891	0.894	0.699
UC	0.896	0.898	0.707
UGT	0.943	0.947	0.619

AE = Authentic Experience; CP = Complexity; CN = Connection to nature; ET = Entertainment; INF = Informativeness; IOT = Intention to on-site Tourism; RA = Relative Advantage; SA = Satisfaction; SI = Social Interactivity; UC = Users Compatibility

Table 2. Discriminant Validity (HTMT ratio)

Construct	AE	CP	CN	ET	INF	IOT	RA	SA	SI	UC
AE										
CP	0.530									
CN	0.131	0.101								
ET	0.673	0.552	0.123							
INF	0.687	0.571	0.101	0.806						
IOPT	0.646	0.459	0.101	0.600	0.650					
RA	0.651	0.534	0.429	0.646	0.702	0.836				
SA	0.695	0.521	0.102	0.681	0.732	0.878	0.752			
SI	0.620	0.547	0.157	0.710	0.728	0.649	0.657	0.656		
UC	0.521	0.897	0.493	0.531	0.570	0.452	0.533	0.529	0.542	

model, with a statistical sample size of 271 and 5000 bootstrapping test samples. The links between the latent variables, which correspond to the study hypotheses, are depicted in Fig. 2, and the values presented in Table 3 along these associations indicate the path coefficients and t-statistics.

PLS-SEM hypothesis testing reveals that all t-statistics values are greater than 2.57, indicating that all hypotheses are verified at a 99% level. In other words, the characteristics of innovation dissemination (H1; H2) of virtual reality have direct and substantial influence on visitor satisfaction and genuine experience. However, the direct consequences of the dimensions of uses and gratifications (H3; H4) on visitors' authentic experience and pleasure are substantial. The product of the coefficients approach (indirect effect) was used to examine the mediating effects in this study, where mediation is deemed present if the indirect impact is statistically significant, as described by Rasoolimanesh et al. (2021). Rasoolimanesh et al. (2021) also used bias-corrected bootstrap confidence intervals (CIs) to assess the significance of the indirect effects. Through the mediating factors of satisfaction and genuine experience, the data demonstrated that the dimensions of innovation diffusion and uses gratification had a strong indirect influence on tourist intention to visit on-site tourism. Furthermore, tourist desire to attend on-site tourism was significantly influenced by satisfaction (H5) and authentic experience (H6). Consequently, it can be concluded that authentic experience and satisfaction play the role of mediators within the research framework. Table 4 shows the medicating impact of SA and AE in the relationship between DOI, UGT, and IOT.

Table 3. Hypothesis Testing Results

Path	Direct Effect	Mediating Effect	Total Effect	Supported
AE → IOT	0.243***	–	0.243***	Yes
DOI → AE	0.324***	–	0.324***	Yes
DOI → SA	0.569***	–	0.569***	Yes
DOI → IOT	–	0.401***	0.401***	Yes
SA → IOT	0.566***	–	0.566***	Yes
UGT → AE	0.445***	–	0.445***	Yes
UGT → SA	0.297***	–	0.297***	Yes
UGT → IOT	–	0.276***	0.276***	Yes

4.3 Moderating Effect

The interaction effect technique was used in this research to investigate the moderating impact (Rasoolimanesh et al., 2021). The t-statistic value surpasses the minimal criterion of 1.64 with a confidence level of 0.01 in relation to the moderating influence of connection to nature in H7 (Table 4). This demonstrates that proximity to nature moderates the association between happiness and inclination to engage in on-site tourism. A further calculation yields a value of 0.099 for the f square (f²) for hypothesis 7. Kenny (2018) claims that interaction effect sizes of 0.005, 0.01, and 0.025 correspond to modest, medium, and high impact sizes, respectively (Rasoolimanesh et al., 2021). The interaction effect's f² value is statistically significant in this investigation. Additionally,

Fig. 3 graphically illustrates that a higher level of connection to nature (represented by the green line) compared to a lower level (shown by the red line) results in a larger association between satisfaction and desire to engage in on-site tourism.

Table 4. Moderating Effect

Path	Original Sample	T statistics	P values	f ²
Connection to nature x Satisfaction → Intention to on-site Tourism	0.217	10.597	0.000	0.252

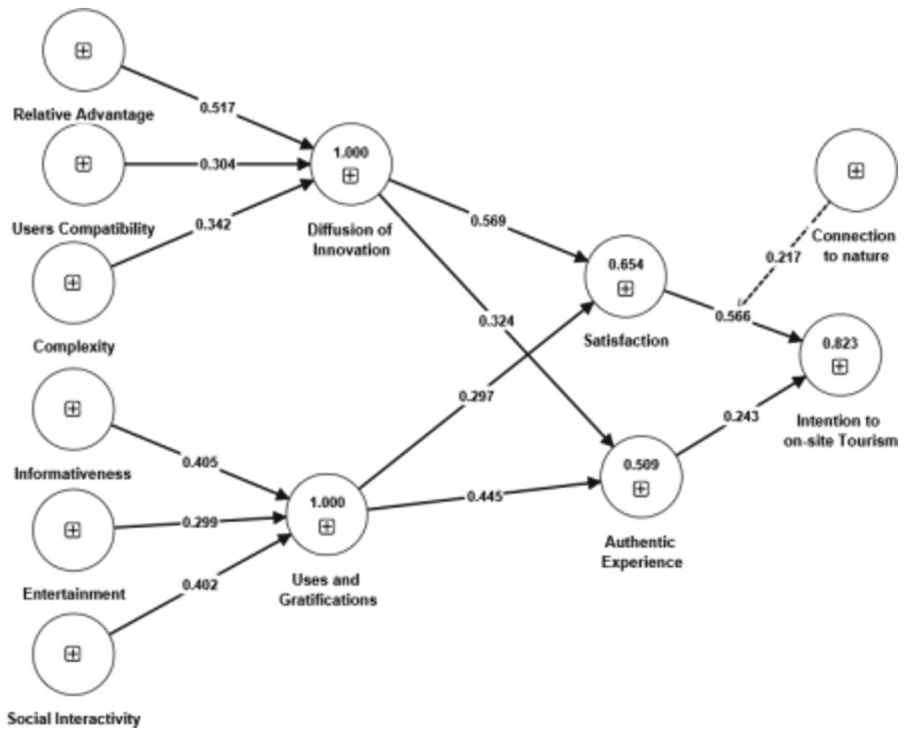


Fig. 2. Result of Structural Model

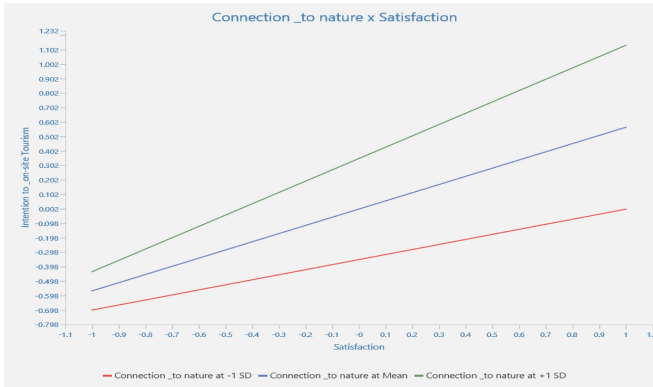


Fig. 3. Moderating Effect of Connection to Nature

5 Discussion

VR technology, devices, and content development tools have a significant influence on VR tourism, significantly improving tourist experiences (Kim et al., 2020a, 2020b). In spite of the rising concentration in and relevance of virtual reality tourism, no such integrated theoretical framework has been established and confined in this area (Yung and Khoo-Lattimore, 2017). To remedy this hole, we develop and test a conceptually integrated model that incorporates theories of innovation diffusion as well as uses and gratifications to explain why individuals engage in VR tourist activities. Moreover, it investigated the moderating effect of connection to nature on the relationship between VT satisfaction evaluation variables and intention to visit the actual tourism destinations.

This study demonstrates that relative advantages, user compatibility and complexity (components of diffusion innovation) are interrelated to satisfaction and authentic experience. The connotation between innovation diffusion and satisfaction is stronger than the connotation between innovation diffusion and authentic experience. Furthermore, informativeness, entertainment and social interactivity (components of uses and gratifications) are found to positively influence satisfaction and well-being. The effects of uses and gratifications on authentic experience are larger than the effects of uses and gratifications on satisfaction. Additionally, in line with other studies (Atzeni et al., 2022) VT experience happiness has a beneficial contribution to predicting the intention of on-site tourism. Virtual tourism has unique and cutting-edge qualities that have the ability to pique tourists' interests and satisfy a range of travel motives and objectives. Visitors' intents to travel on-site are influenced by virtual tourism through immersive, real-world, and interactive travel experiences. It is important to note that the impact of satisfaction is greater than the effect of genuine experience on behavioural intention towards tourism-related activities. Additionally, when visitors feel strongly connected to nature, their VT pleasure has a substantial impact on their inclination to engage in on-site tourism.

6 Implications

6.1 Theoretical Implications

This theoretical research provides some significant contributions in the disciplines of VR tourism. To begin, the study creates a complete model based on the DOI and UG theories to describe travel customers' intentions to use or enjoy VR programmes. This is the first attempt in the VR domain to identify an integrated model of travel customer behaviour. This study shows experimentally that both the theories make substantial and different aspect to understand VR travel consumer behaviour. Second, by including the impacts of satisfaction and well-being on behavioural intention, the integrated model created in this study adds to well understanding of VR travel customers. Third, empirical data supports the theoretical model's identification of the theoretical model's influence on genuine experience and subjective well-being.

The study model describes how satisfaction and authentic experience affect behaviour intention. The findings also add to previous research on the relationship between satisfaction and intent to participate in VR travel programmes (Yung and Khoo-Lattimore, 2017). Finally, by merging DOI and UG theories, this study gives acumens into behavioural intention to embrace new technologies in the field of VR tourism.

Moreover, this study discovered a significant moderating impact of connection to nature on the relationship between satisfaction and intention towards on-site tourism. This study is the first to investigate the moderating role in the area of virtual tourism (VT), therefore broadening the scope of connection to nature research. By studying the moderating function of connection to nature, the theoretical implications of this study provide to a better understanding of the interaction between visitors' evaluations of pleasure in VT and their behavioural intentions towards on-site tourism.

6.2 Practical Implications

This study provides significant practical insights to the relationship between innovation dissemination and pleasure that VR travel industry practitioners may employ. Given the importance of relative advantage, user compatibility, and complexity in driving the diffusion of innovations, it is critical for VR technicians to carefully consider these attributes when designing their products and services, particularly in the context of VR technology in the tourism sector. VR specialists may increase the uptake and acceptability of VR technology among visitors by including these features into their products. However, VR engineers should not go ahead of where consumers are in terms of adopting VR technology into their experiences (i.e., VR tourism should be well-suited with users' degrees of comfort with the technology). VR developers should also consider the benefits that customers expect from VR technology and strive to match those expectations in terms of both technology and content (compatibility). Similarly, VR practitioners should simplify how the programmes are used so that first-time users do not quit up in frustration due to challenges in getting the technology to work.

The same elements that impact the dissemination of innovation listed above are equally significant to fostering subjective well-being. In other words, simple, useful,

and beneficial VR tourism material that promotes enjoyment will most likely be psychologically pleasant to potential VR tourists. The findings of the study on the influence of uses and gratifications on satisfaction and subject well-being may be of interest to tourism marketers. For example, if marketers create virtual reality goods that are instructive, interesting, and socially linked (factors that promote subjective well-being), they may improve consumers' affection for the VR programmes. Furthermore, practitioners may find it useful to include the discovery of the impacts of uses and gratifications on the emotional and well-being of VR users. Therefore, VR tourism practitioners should incorporate components of information, social relationships, and entertainment into their VR products and services to provide customers with a greater sense of emotional well-being.

The outcomes of this study will help field professionals who want to adopt good practices about the relationship between satisfaction and behavioural intention. VR tourism practitioners should make their VR programmes authentic; one method to do so may be to include unique parts of material. This might be accomplished by developing VR tourism activities with realistic sound, video, and haptics. Marketers must consider the impact of subjective well-being on behavioural intention when using technology and creating content that fosters a sense of subjective well-being. VR developers, for example, could generate psychologically exciting VR tourist material by utilising sophisticated techniques such as three dimension (3D) and 360-degree technology. Importantly, by adding the concept of authentic experience, this study gives fresh insights on VR tourist products. According to the findings, commercial operators whose VR tourism programmes generate high levels of pleasure, enjoyment, and contentment will contribute to the sustained usage of VR tourism and may lead to visits to the places shown in VR content. By using any or all these strategies, the industry should become more user-friendly and profitable for practitioners. In conclusion, this study has practical implications for VR tourist marketers.

The findings addressing the moderating influence show that the multisensory and near-nature experience part of virtual tourism (VT) need refinement. This data can help marketers design customised marketing strategies based on various customer categories. Furthermore, tourism managers must prioritise the delivery of high-quality services in Vermont in order to improve the satisfaction and expectations of client groups with a strong natural affinity. This, in turn, may stimulate their desire to visit genuine locations. Destination managers should prioritize nature-oriented experiences in tourist attractions to strengthen visitors' connection with nature. By integrating nature-based activities like hiking trails, wildlife encounters, and scenic viewpoints, destinations can increase satisfaction levels and increase on-site tourism intention. Tailoring marketing efforts to highlight the connection to nature as a unique selling point can attract visitors who value immersive nature experiences. Targeted campaigns can convey the message that visiting a physical destination provides an unparalleled opportunity to connect with nature.

7 Limitations and Direction for Future Studies

When implementing the findings, keep the study's limitations in mind. Because the sample was taken from Indian tourists, the study's conclusions should be used with caution outside of India. We concentrated on the usage of VR material rather than the

devices; more research should be undertaken to evaluate if the findings apply to all types of VR devices. The technological acceptance model, in particular, is beneficial in understanding the adoption of VR devices. To further understand VR technology adoption by tourists, future studies may investigate adding other theories of human behaviour into an expanded VR technology acceptance model.

Furthermore, further study on the reasons individuals do not use VR for tourism can help practitioners recruit non-VR tourism consumers, ultimately expanding the VR travel industry. Furthermore, customers who have no experience with using technology for tourism and/or visitors who intentionally seek to avoid technological encounters are part of the market to target. As a result, future research should employ a variety of samples to capture non-users' perceptions about digital encounters. Furthermore, because there are several methods to enjoy VR tourism, ranging from smartphone applications to large-scale VR attractions at amusement parks, future study should concentrate on various sorts of VR experiences. Because this study does not take into account the impact of various tourism experiences (e.g., visiting museums, nature excursions, dark tourism, shopping, and so on) and the various motivations that may be associated with each of them, qualitative research on various types of VR tourism would deepen our understanding of tourist/visitor behaviour.

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