Ekonomikos ir verslo administravimo fakultetas

VILNIUS UNIVERSITY
FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

MARKETING AND INTEGRATED COMMUNICATIONS

Nabeel Sattar

MASTER THESIS

TITLE IN LITHUANIAN	TITLE IN ENGLISH
"Veiksniai, darantys įtaką ketinimui naudotis virtualiu muziejaus turu"	"Factors Influencing the intention to use Virtual Museum Tour"

Supervisor Vytautas Dikčius

(Signature)

Table of Contents

Abstract

The rapid advancement of technology and the COVID-19 pandemic have significantly accelerated the adoption of virtual experiences in the tourism sector. Among these, virtual museumtours have gained prominence for providing immersive and interactive experiences that replicate physical visits to museums. This study aims to investigate the factors influencing the intention touse virtual museum tours by applying the Technology Acceptance Model (TAM) and the Theoryof Planned Behavior (TPB). The research examines the impact of perceived ease of use, perceivedusefulness, perceived enjoyment, and perceived security on user intentions. Additionally, it explores how attitudes, subjective norms, and perceived behavioral control influence the intentionto engage in virtual museum tours. This study has used a specific case of the Mona Lisa virtual tour to get analyse how users can perceive these factors while visiting Mona lisa and findings consists of important factors which play vital role in shaping of user intentions. A questionnaire was used to collect data from respondents. The study provides valuable insights for developer of visrtual environment, museum professional, and educators to enhance intereactive visual features and innovative designs.this study also fostering global sustainable goal by reduing mass physical tourism

Introduction

Speaking of the transformations that have occurred during the past decades, traveling remained one of the most memorable of all depicted in our minds and holding valued assets (Lean et al., 2016). we've kept seashells, worn bracelets with memories of foreign locations, and proudly displayed souvenirs like trophies from our memarablevisits and adventures. These priceless artefacts have protected our memories, acting as little anchors connecting us to significant occasions and locations we've visited (Timothy & Boyd, 2006). Now the emergence of virtuality, it is a system of constantly dynamic digital places in which multiple people can communicate with digital substances while navigating these surroundings using virtual personas from the ease of home (Babu & Mohan, 2022).

The future of tourism is increasingly reliant on technology to offer personalized and engaging experiences. After COVID-19 pandemic the popularity of virtual travel increased, particularly virtual museum tours, which are expected to continue growing globally. Virtual Museum visits, including interested cultural and historical objects, are a convenient way to expand the availability of art, history, and education, any of Interest without leaving home (Zhang et al., 2021). One of the most well-known instances of this phenomenon is the Virtual Tour of the Louvre Museum. These digital valuables, if done well, have the potential to match the emotional resonance of their physical equivalents (Mantas et al., 2021).

Gallarza et al. (2017) denies that whether you're fascinated to the majesty of historic sites, the amazing beauty of natural landscapes, or the vibrant energy of modern cities, tourism provides a portal to finding and recording the world's hidden treasures via photography. The future of tourism is dependent on using technology to provide personalized and interesting experiences. The epidemic of Covid 19 has increased the popularity of virtual travel, and it is expected to continue to rise globally. Museum visits, including interested cultural and historical objects, are a convenient way to expand the availability of art, history, and education, thanks to the COVID-19 pandemic, of Interest without leaving home (Zhang et al., 2021).

Consider the benefits of travelling to new places and creating memories from the comfort of your own home (Liddell, 2023). The future of tourism relies heavily on technology, including robotics, movement tracking, virtual tours, and automated check-in kiosks. Technology provides safer ways to communicate with others (Σιγάλα, 2020). Virtual museum tours use modern technologies like 360-degree photography, VR, and AR to provide immersive experiences similar to in-person museum visits. These technologies not only improve the

accessibility. Museums not only attract a wider audience but also enhance the learning experience with interactive aspects (Guttentag, 2010; Jung et al., 2015).

Understanding the elements influencing visitors' intents to engage in virtual museum tours is crucial as institutions implement new technology. Virtual reality advancements are driving a shift towards digital experiences in global tourism (Liddell, 2023). The realm of virtuality is evolving to digital space, with potential, robust social connections, and a multitude of cultures open for exploration. This shift is not only technological, it represents a profound change in our lifestyle, with digital elements revolutionizing our travel experiences (Volchek & Brysch, 2023). The tourism sector has experienced a significant shift towards virtual reality, driven by advancements in technology and the constraints imposed by the COVID-19 pandemic on visiting cultural sites like museums. Consequently, the importance of virtual museum tours has escalated. Technologies such as Virtual Reality (VR), Augmented Reality (AR), and panoramic photography are employed in these tours to deliver an immersive experience that closely resembles an in-person museum visit. Interactive technologies can enhance museum education and accessibility for a wider audience(Guttentag, 2010; Jung et al., 2015). One of the most famous museums in the world the Louvre Museum has also joined the ranks of museums providing a vast virtual tour of its galleries. With the help of high definition images and other features that make the tour interactive, visitors can now explore the museum and its treasures from the comfort of their homes; the first artwork that was virtually toured was Leonardo da Vinci's 'Mona Lisa,' 'Venus de Milo,' and a host of Egyptian artifacts. The Louvre's virtual tour is meant to mimic the real life tour to the highest degree possible to the users the opportunity to move around the museum's corridors and see all its valuable exhibits up close, all without leaving the comfort of their own homes. This innovation not only increases access but also educates the end user and entertaining experience for users worldwide, to bring art and culture closer to people all over the world audience (Boeuf, 2020).Besides these, there are some limitation related to virtual museum. This means that user adoption for instance is highly determined by the perceived technology usefulness and ease of use. If the userinterface of the VT is not userfriendly or if the technology used is, If they could not produce interesting and useful content, the users may get irritate. Furthermore, the use of virtual museum tours may be linked with concerns of security and privacy (Lee & Chung, 2008).

Study Problem: What factors influence the user intentions to use virtual museum tour and how aspect such as effectiveness, vividness, immersion, engagement, ease of use, usefulness, enjoyment, and security be addressed?

Aim of Study: To provide actionable recommendations for enhancing user engagement and adoption of virtual museum tours by analyzing the effects of immersion, engagement, perceived ease of use, usefulness, enjoyment, security, attitude, subjective norms, and perceive behavioral control on user intention to use virtual museum tour.

This study centers around the mentioned objectives

- To investigate the influence of effectiveness, vividness, immersion and engagement on user intention to engage in virtual museum tours.
- To examine the impact of perceive ease of use,perceive usefulness, enjoyment, and security on the intention to use virtual museum tours.
- To investigate the influence of atitude, subjective norm, and behavior controll on users intention to engage in virtual museum tours.
- To develop methodology and test the influence of both direct and indirect drivers on the intention to use virtual museum tours.
- To provide practical recommendations for museum curators and technology developers to enhance user engagement and encourage the adoption of virtual museum tours by effectively managing the identified factors.

1. Emergence and Evolution of Tourism

1.1 Traditional and virtual tourism in Scientific Literature

International tourism trends are turning towards digital experiences, driven by improvements in virtual reality (Liddell, 2023). While traditional tourism is still popular, there is an increasing interest in virtual tourism due to perks such as personalized accessibility, lower expenses, and thrilling adventures. Understanding user perspectives poses a challenge (Sigala, 2020). The significance is derived from using an integrated model of technology acceptance and the theory of planned behavior to investigate factors impacting user intention towards virtual tourism. Previous research used the TAM models, however there is little research on integrated model and TPB is vital for analyzing user behavior towards new technologies (El-Said & Aziz, 2021). This study also investigates technical skills to identify their impact on user attitudes regarding the adoption of virtual tourism. Therefore, the literature provides a complete analysis of traditional tourism, including its present scenario, advantages, boundaries, and new trends. It illustrates the importance of souvenirs and recollections in traditional trip experiences. Additionally, the emergence of Virtual Tourism Explore the growing popularity of virtual tourism and its potential to transform travel experiences. Focus on the important features and functionality offered by virtual tourism. Tourism occurs within tourist areas, which are set apart by unique either natural or artificial elements that attract tourists across the globe to participate in a variety of activities. The traditional definition of a tourism destination requires achieving certain criteria, such as providing tourist attractions, hotels, and transportation infrastructure to allow transit between, and within the location (Burak, 1974). The analysis of the key components of a memorable tour indicates a three- stage structure pre tour, during tour, and after tour, The findings of this research show that most memories happen during the third stage of this process, which happens after the trip is completed. During this phase, individuals reflect on their experiences and compare them to others to assess their (Mantas et al., 2021). Many tourists make it their priority to bring home souvenirs as memories from their travels. Souvenirs can take many forms items collected during the trip, such as pinecones or shells; acquired features, such as a suntan or a beard grown during the journey; mementos retained from activities, such as a playbill or transportation ticket; or items purchased, such as postcards, curios, items for kids, clothing, or even forgotten travel necessities (Timothy & Boyd, 2006). Being at home usually indicates a routine or daily occurrence, but travelling signifies a sacred or extraordinary experience. The contrasts among the routine of everyday life and the relaxation of travel have been mentioned as reasons for purchasing souvenirs. Having souvenirs enables

the tourist to save, indicate, and keep a memory of tour, incorporating elements of the extraordinary into the ordinary and keeping the essence of the travel experience (McGugan & Petichakis, 2009). The study of souvenirs is an emerging topic with the potential to deepen debates in a variety of geographic areas, including consumer culture, perceptions of place, and tourist academics (Stone et al., 2018). Finally, tourism occurs in recognized tourist places, which are marked by unique natural or artificial features that encourage tourists from around the globe to visit and involve in a variety of activities. The conventional description of a tourism destination requires specific requirements, such as the availability of attractions, hotels, and transportation infrastructure. Souvenirs serve a significant part in the tourism experience since they act as physical mementos of the journey and overcome the gap between the ordinary and extraordinary aspects of travel. Souvenir type and nature depends on geographic disciplines, such as consumer culture, sense of place, and travel. According to Williams (2006), the term "appification" refers to the increasing trend of using smartphone apps instead of traditional web browsing to access information and consume e- services over the Internet. This study showed how providing personalized e-souvenirs instead of traditional physical souvenirs from museums can improve user engagement. Users generate and acquire these e souvenirs by compiling previously taken pictures and movies into an extensive multimedia package.

2. ANALYSIS OF DIRECT AND INDIRECT FACTORS INFLUENCE ON INTENTION TO USE VIRTUAL MUSEUM TOUR

2.1 Effectiveness and Vividness in Virtual Reality Tourism

The concept of "virtual travel" is ambiguous and has multiple definitions that are accepted globally. On the other hand, it can be generically defined as a model of the current environment, usually composed of many video image clips (Osman et al., 2009). The model is constructed using a library of videos or still photos that have been enhanced with textual content, spoken instructions, or audio elements. The objective is to accurately duplicate the physical world experience in the simulated environment, complete with all associated effects. (Aguilera et al., 2014). The majority of virtual museum tours are accessible via a desktop or laptop computer connected to the Internet. People can navigate and interact with the virtual world using a monitor and a mouse. Users can use their mobile devices to interact with various aspects, navigate a digital area, and immerse themselves in artificial circumstances made possible by this electronic platform (Koutsoudis et al., 2007). According to Wu et al. (2020), people's visual perception of their surroundings allows virtual items to blend in seamlessly with the actual

world for users of augmented reality. When virtualized multimedia technology and the physical environment are combined, augmented reality is created, Liestøl et al. (2019). Through the overlay of relevant "virtual information" onto the physical environment, augmented reality systems enhance perception of both space and time, contributing to a more immersive experience. Thus, object simulation is used in augmented reality to improve the intention of user about reality. (Azuma et al., 2011). Nee et al. (2012) investigated augmented reality applications, which superimpose virtual features on the real world to enhance user experiences by encoding digital material with authentic surroundings. Virtual tours seem to be one of the most promising methods for accomplishing the communication and public access to information goals of museums, as stated in the study Carvajal et al. (2020). Egypt, a country that has been more and more depending on the international tourists, has faced severe economic challenges as described in the Rezk et al. (2020) paper. As a result of the lack of international travel the Ministry of Tourism and Antiquities in Egypt was quick to act in April to ensure that potential visitors did not lose interest in visiting the country. They used their social media platforms to introduce the Explore Egypt from Home campaign.

El-Said and Aziz (2021b) played a role in initiating this campaign that was launched with five virtual tours of historic landmarks. This was succeeded by creating more virtual tours that are centered on different Egyptian museums and other archeological attractions. Moreover, a study pointed out that the level of vividness and interactivity of VR technology affects the tourists' intentions to visit significantly. When adopting the use of multiple theories, it was established that VR has the ability to enhance the attitudes and the behavioural intention to visit (Nguyen, Le, & Chau, 2023).Vividness is essential for the effectiveness of virtual tours, as it provides a sensory-rich experience. Studies indicate that VR tourism fosters a stronger sense of spatial presence and enjoyment compared to traditional methods such as e-brochures. This heightened vividness influences users' travel intentions and their willingness to pay, acting as a mediating factor in how virtual tours affect these decisions (Kim, Shinaprayoon, & Ahn, 2021). Additionally, research has demonstrated that VR wine tour videos result in higher purchase intentions and increased willingness to pay compared to conventional videos, highlighting the significant impact of vividness on consumer behavior (Wen & Leung, 2021).

Effectiveness refers to the degree where individual feel sens of prens in virtual environment,where user perceive their involvement and engagement in terms of visuals interactions, audio and sensory richeness of virtual environment where user can feel themseleve physically available in that particular environment. Effectiveness is usually identified by feel

of present in environment and how deeply the engagement of user is. Greater the realistic environment more the sens of presense would be (Slater &, Wilbur 1997). A study conducted by Jung et al., (2020) describes that integrated effect of audio and visual element enhace the sens of presense of user. The more interactive, visullay and audio rich environment leads to greater effectiveness. Slater, M. (2003) stated that effevtiveness not only refers to sens of present but it also concerning with cognative and emotional factors. In virtual tour it refers to where user perceive how realistic the interaction among artifacts and users,

Virtual tours (VTs) are critical in offsetting the total paralysis of numerous tourism activities during moments of crisis. VTs enable users to virtually visit destinations online and hence continue interacting with tourist experiences even during restricted travel times (Roman et al., 2022). Different literature such as industry reports and articles suggest that the period of January to March 2020 was the period when coronavirus started to affect the world's travel and tourism sector negatively.because of high impact of virus a lot of govt implied travel restriction in their countries which effected the tourism industry a lot (Rahmanov et al., 2020).

However, while vividness is important, other elements such as interactivity and a strong sense of presence are also crucial for enhancing the effectiveness of virtual tours.

2.2 Immersion and Engagement in Virtual Reality Tourism

Virtual environment presence, as a construct, embraces a broader sense of the user's immersion and engagement in the environment and refers to how fully they are aware of and engaged with a technologically mediated environment. Immersion and presence are closely related as the latter measures the level of the user's simulated experience the extent to which a person feels they are physically in a virtual world. Such presence is a sociologically relevant psychological experience other than physical body-based presences; it concerns the extent to which the user perceives the environment as real through cognitive affective and sensory activity (Slater & Wilbur, 1997). Immersion is one of the key areas of study in UX, especially in areas such as VR, where the goal often is to make a memorable impression and achieve greater user engagement. Presence and flow theories form the theoretical foundation of immersion to a greater extent. Perceived presence according to Lombard and Ditton (1997) is the subjective experience that one is physically present in a mediated environment. This state is described by the user's capacity to have a feeling as though they are at a different place physically though they are in a different place. In contrast, flow presented by the author is described as a mind situation where the individual forgets the time spent on a given task and is completely absorbed in an activity (Csikszentmihalyi, 1990). It refer to the optimal experience within this state there

is an and integration of challenge and skills in that, individuals and their surroundings are held in balance which result in enjoyment.

The amount of participation that a user has in the digital environment can be taken to mean a lot about how they will experience the environment. Sensory involvement of 3D content on a Comparative Study of a Standard Monitor vs. Simple Stereoscopic glasses of 3D content on a conventional monitor are very basic and involving and in most cases lack immersion Highly basic examples of this could be seen here. Semi-immersive environments, that include 360 degree videos or AR applications, have higher interactivity as well as sensed presence, which boosts user engagement (Guttentag, 2010). The highest level of Immersion involves the use of VR headsets offers visual, acoustic, and in some cases tactile feedback fully engaging the consumer in the virtual experience. During high levels of immersion, participants also express increased Enjoyment and a continuous stronger Intent to use the content again or recommend it to others (Slater & SanchezVives, 2016). The results found show that higher levels of immersion do not only provide a better user experience in the current activity but also enhance the behavioral intentions. Research indicates that users who have reported greater immersion mean greater reported behavioural intentions such as indicating an intention to revisit the experience or recommending others to do so. This has significant implications for disciplines such as digital marketing and virtual tourism where the quality of experience inherent in the design of the experience is critical to customers' further engagement and word-of-mouth. (Schwind et al., 2019).therefore these aspects like engagement and immersion are essential in order to retain or engage the customer in virtual environment.

2.3 Elements of Technology Acceptance Model and their effect on the intention to use virtual Museum tour.

Davis (1985) developed the TAM, which explores a individual's desire to adopt technologies based on an existing theory of reasoned action. The factors that affect a individual's decision to employ a certain technology were discovered by the TAM model. It was discovered that having positive views regarding technology is essential for its use. There are two important aspects. PEU and PU that shape how people perceive use of technology (Mathieson, 1991). Szajna (1996). PEU, according to author, is a determining factor for interaction design and features employed in a particular technology; these factors are associated with the design and interface of the technology. On the other hand, perceived usefulness is determined by how technology produces positive outcomes and high-quality outputs in a manner that also increases task efficacy. Taherdoost (2018) found that the TAM model ignores the individual qualities of the

user when using technology, instead concentrating only on PU and PEU. The TAM model, analyzed by Al-Adwan et al. (2023) author, focuses mostly on intellectual and psychology based factors that affect users' perception about innovative technology. The TAM model has been widely used in the past to examine PU and PEU in the context of tourism and VT. According to Liu and Jia (2021), the adoption of technology is being leveraged to support the expansion of tourism as a whole. By enabling travelers to experience destinations digitally, information technology gets tourist destinations ready for smart tourism (Ramos et al., 2021). To enhance the visitor experience, digital tourism and technology integrate marketing, reservations, and digital assets (Cheuk et al., 2018). These variables are further employed in a number of studies (El-Said & Aziz, 2021b; Liu & Jia, 2021; Sharma et al., 2023), however the integrated model of TAM and TPB is only seldom used in research. El-Said and Aziz (2021b) employed the TAM and PADM in their latest study to examine the variables related to virtual studies. Thus, the main emphasis of this research was on how perceived utility and simplicity of use affected the uptake of virtual tourism. Besides, out of most used models to depict the acceptance of technology,

and usage behavior is the Technology Acceptance Model. More frequently, researchers are using TAM to enable the prediction of users' technological adoption (Shen et al., 2022). Besides, out of most used models to depict the acceptance of technology, and usage behavior is the Technology Acceptance Model. More frequently, researchers are using TAM to enable the prediction of users' technological adoption (Fagan et al., 2012; Yi et al., 2006).

2.3.1 Role of Perceived Ease in Shaping Intention to Use Virtual Tour

The PEU of virtual tourism platforms is also influenced by their availability on different devices. Virtual tourist experiences are easier and have more users because of user-friendly interfaces that are provided on PC, tablet, mobile, virtual reality glasses, etc. By making sure applications are compatible and by finding the best ways to be effective in multiple parts one is making technology less intimidating to a lot of people. The meaning of perceived ease of use is how easy you think it will be to use and work through the different parts of the VR system. The best VR tourist equipment should be uncomplicated to use, easy to understand and should not necessitate constant services. Perhaps even more importantly, it is crucial that the encounter itself be one of virtual reality and have clearly comprehensible content. If you expect that there will be lesser technoloogy barriers, then you will be open to adoption of VR tourism and appreciate the virtual experience (Geng et al., 2022).

As the studies show, applications of a virtual museum with an intuitive interface significantly increase the amount of user satisfaction. Consequently, a number of aspects have emerged as crucial in carrying out usability studies that focused on virtual applications of museums, including user interfaces and easy to follow navigation schema that can help to keep the users engaged and ensure their satisfaction (Aristeidou et al., 2023; Sylaiou et al., 2010). Immersive VR experiences respond greatly to how easily users think a system may be operated. The general user experience is enhanced when using VR headsets to engage with three dimensional avatars and travel through virtual spaces (Lee et al., 2020; Kalving et al., 2022). This study has provided evidence that both mechanisms of displaying content and the use of augmented reality improves the perceived ease of use. As the literatures Jokanović, 2020 and Meinecke et al., 2022 indicate, these enhancements enhance user satisfaction and further use of the virtual museum touring.

2.3.2 Impact of Perceived Usefulness on Intention to Use Virtual Tour

A system is highly helpful if it increases your sense of overall productivity, efficiency, and success in your position. This perception is reinforced by the fact that exceptional performance usually translates into rewards for one's actions and successes, both on an individual and organizational level. (Van Der Heijden, 2004). Numerous scholarly investigations have emphasised the significance of perceived utility and the advantages of lifelike simulations in augmenting the intention of adoption and usefulness. With in the context of tourism. There is a direct correlation between your productivity and the use of a system that seems beneficial. You can clearly relate using the system to improve your assignment performance. This sense of potential development makes you more involved and proficient with the system, which boosts your overall level of happiness and productivity (Davis, 1989). VR tourism looks more beneficial to you the more it seems to offer these benefits—making exploration pleasurable, useful, and instructive. This sensation of utility ultimately drives your decision to partake in VR tourism. When virtual reality appears to be a practical tool for achieving your travel goals, you're more likely to consider incorporating it into your trip itinerary (Geng et al., 2022a). PEU is a fundamental notion in frameworks like the TAM Model. Ease of use consists of a direct influence on perceived usefulness and, to a lesser degree, actual technology use, according to TAM. According to a study examining the effects of COVID on the uptake of technology in the travel and tourism sector, perceived usefulness has a significant impact on people's opinions on virtual travel. According to the study, aspects like easy to use and eusefulness has a big influence on users' autonomy and attitude, which in turn influences how they feel about virtual

travel (Li et al., 2022). First, Disztinger, Schlögl & Groth (2017) discuss how the actual immersion of virtual reality is its technological advantages, and users' decreased perception of the value of VR when planning a trip. Interest is also found to have a big influence on desire to use VR technology for planning of vocation: perceived utility, curiosity, enjoyment, and immersion. Likewise, Lim, Ahmad, Mahmod, Othman, and Lada (2022) on the prospects of virtual tourism realized with Value based Adoption Model. Perceived benefits which include perceived enjoyment and perceived utility werepositively correlated with perceived value. This highlights how important it is to have clear strengths to help bring up the perceived worth of online experiences in Virtual Reality. Further, Cui, Zhou, and Kim (2023) also focus on understanding the impact of perceived benefits of virtual reality tourism on the visitors' intentions to travel and value experience. The study reveals that perceived value is a function of perceived usefulness, ease of use and perceived enjoyment. Perceived value is then positively related to the intention of visit to a tourist site. This actually adds more support to the notion that perceived usefulness is enhanced by the extent to which the value and accurate simulations. In addition, Yuan and Hong (2023) explore the impact that virtual reality has on travelers' experiences, and motivations. These findings support the notion of perceived usefulness of the VR by providing realistic simulations and engaging experiences that emphasizes significantly positive relationships between VR presence, flow, tourist experience, and behavioral intentions. Virtual museum tours help cultural heritage to be within the reach of everyone who needs it by fulfilling the condition of each museum's accessibility. For instance, it has been ascertained that the usefulness of the VISITOR virtual museum app is especially high for educational settings, because it enables museum content creators to build learning experiences that enhance learner engagement (Aristeidou et al., 2023). Besides, easy to use and usefulness investigating the acceptance of technology among users for virtual museums influence the tech acceptance intention of users for such technologies. Awang et al. (2009) the investigations deploying the TAM has shown that perceived usefulness, ease of use and enjoyment have strong correlations with the user acceptance and usage intentions. Taken into account the fact, it can be stated that the value perceived from the virtual museum visits is a key driver of its uptake and effectiveness.

2.3.3 Influence of Perceived Enjoyment on Intention to Use Virtual Tour

Davis et al. (1992) has created the TAM, this model provides a framework for understanding consumer behaviour in technology settings. This paper postulates that TAM underlines that the acceptance, as well as, the implementation is a central feature. mainly fueled by the self-interest

to have fun in the case of the user of the new technology. Van Der Heijden (2004) states that positive computer-mediated environments greatly enhance the probability of users' continued use of technology which supports this idea. Nevertheless, enjoyment is by no means an invariant; it is not about positive content only. The experience of anxiety or threat is parts of media content can partly create feelings of satisfaction, as Lin and colleagues pointed out in their study conducted in 2017. By this, content valence and user experience are hypothesized to be multiple and complex, meaning that one can be satisfied with a range of affective interactions with technology. The extent that is held utilising technology is fun and gratifying for the sake of having fun irrespective of the performance results is referred to as perceived enjoyment (Chung et al., 2017). According to the study done by Huang et al. (2013), it was evident that HI is affected by enjoyment, emotional involvement and positive emotional states of the user in virtual tourist environments. This work also looked at the acceptabilityfor the use of 3D virtual worlds as a tool in selling and marketing tourism destinations.is regarded as enjoyable in and of itself, independent of potential performance outcomes, is known as perceived enjoyment (Chung et al., 2017). A study by Huang et al. (2013) found that users' behavioral intentions within virtual tourist settings are significantly influenced by enjoyment, emotional involvement, and positive emotions. This study also examined the acceptability of 3D virtual worlds in tourism marketing. Similarly, studies in South Africa on Use of Virtual Reality (VR) glasses by Generation Y consumers validate this theory by relating perceived enjoyment as a critical moderating variable between the consumer 's intention to use VR glasses and their actual usage of VR glasses. People have also noted that Al can bring about improvement in customers' quality of life through providing delightful experiences by technologies like virtual reality and augmented reality. The extent to which users feel exposed is Incumbent in the real world that the technology has created is called immersion and this is the factor that contributes generally to this advantage (Sekhavat & Zarei, 2017). Numerous scholarly investigations have emphasized the pivotal function that experienced delight plays in molding consumers' perspectives and inclinations towards virtual tourism. For example, a study examining how COVID-19 influences virtual tourism discovered that consumers' opinions about virtual tourism are strongly influenced by their reported enjoyment. According to Li et al. (2022) the research findings indicate that perceived enjoyment is favorably influenced by PEU and PU, and this in turn affects users' perceptions towards virtual tourist experiences. Additionally, empirical evidence from a study comparing VR tourism to real-life experiences shows that the sense of usefulness and presence in VR experiences boosts satisfaction, which

leads to more positive sentiments toward tourist sites and higher visit intentions (Tussyadiah et al., 2018). Several studies clearly demonstrate that customers' perceptions of engaging in virtual tourism will be more favorable if they find it to be enjoyable. Perceived enjoyment has a substantial influence on users' attitudes and intentions toward virtual tourism, highlighting the importance of perceived enjoyment in virtual tour experiences (Maziriri et al., 2023; Deng & Pan, 2023; Hartini et al., 2020). Numerous studies have shown that VR content's richness and interactivity greatly increase. Viewers pleasure and engagement. Studies have indicated that the inclusion of interactive and captivating aspects in VR tourist content, together with its media richness, enhances users' reported experience to a significant degree. In one study, for example, the media richness of VR material was linked to higher levels of reported enjoyment, such as destination visit intention (Lee, 2022), moreover, author also suggests that users will have a more pleasurable vr experience when the information is more interactive and engaging. Moreover, it was demonstrated that the entertainment value of virtual environments which includes components like emotional involvement, good feelings, and flow experience is captured when 3D virtual worlds are used in tourism marketing. These hedonic components greatly influence the experience's perceived satisfaction and are essential to comprehending how 3D virtual worlds are used in tourism (Huang, Backman, Backman, & Moore, 2013). Furthermore, it has been discovered that the inclusion of gamified components in smart tourism applications greatly affects users' perceptions of enjoyment. According to a study on the uptake of gamified smart tourism applications, users' intentions to use the applications were highly impacted by perceived enjoyment, highlighting the significance of interactive and interesting content in raising user satisfaction (Yoo, Kwon, Na, & Chang, 2017).

Among so many factors that might affect using and, therefore, enjoying the virtual museum tours, a particular status is the perceived satisfaction. As highlighted by Lee et al. (2020) virtual reality highly increases the level of enjoyment of virtual museums. In their studies, these authors noted that the numerous and positive encounters with a museum’s artefacts can be carried out in an immersive and engaging VR environment. Consequently, as supported by Lee et al. (2020), the study showed how the VR technologies enhance the subsequent, as well as overall, museum experience, thus increasing the users’ happiness and intention to visit museums. According to Damayanti et al., (2021) The function of multiple senses in virtual museum. The study found out that sensory systems primarily the visual and acoustic play a significant role the level of satisfaction which people exhibit in virtual environments. It is possible to enhance

how the various components of an MSL framework affect overall perceived enjoyment of virtual museum tours (Damayanti et al., 2021).

2.4 Use of TPB in the Context of Virtual Tourism

As a consequence of relying on the lens of the theory of planned behavior, it becomes possible to understand and predict the intentions and actions of travelers The presented Theory of Planned Behavior has found wide application in a vast number of fields related to tourism, including virtual tourism. The TPB framework has been proved to be quite effective as a model that describes how decision making by visitors occurs because it enshrine elements such as attitudes, perceived behavioral control and many others. For instance, a synthesis of literature in TPB applied in the tourism, leisure, and hospitality management demonstrated its suitability for the methodology and object of research in these fields, although most of the works were based on surveys and focused on the customers' behavior (Ulker-Demirel & Ciftci, 2020).

The results also indicate that TPB has practical verification as a conceptual model within the framework of creative tourism, where its practical application has been made to build models that explain visitors' willingness to visit the same place again (Huang et al., 2019). In a bid to fit comprehendible intents in other activities of sustainable tourism such as bicycle touring, the TPB was however extended to include other, such choices, self-regulation, personal norms, prior behavior, and so on (Han, Meng, & Kim, 2017). What was found out is that the present extension of this model performed better in predicting intentions when compared to the basic TPB, thus highlighting the inclusion of both the volitional and non - volitional component. Moreover, components such as travel motivation, e-Word-of-mouth, destination image, and familiarity each of which has significantly influenced tourists' revisit intentions have been incorporated into the TPB to predict tourism destination revisit intentions.

The TPB has been validated for use in various countries regarding medical tourism, and it has been found that the model may only predict behavioural intentions from attitude, subjective norms and perceived behavioural control while observing certain contextual variations (Boguszewicz- Kreft et al., 2020). Travel applications of virtual reality benefit from the TPB architecture. Virtual reality has the capability to create like travel consequences that could replace travel and hence the ability of travelers to accept these substitutes will depend on their motivational caliber, acceptance limits of a replacement, attitude to lying, and the authenticity that is acceptable to most travelers (Guttentag, 2010). The extended TPB model has been used to predict how tourists will interact with smart tourism technologies in developing smart destinations. The findings further suggest that these technologies have a positive relationship

influence on travel perceptions of TPB factors, and travel intentions (Novianti, Susanto & Rafdinal, 2022).

2.4.1 Fundamental elements of the Theory of Planned Behavior in Virtual Enviornment

The findings of the tourism research acknowledge the TPB as the critical social-psychological framework. According to the findings of the study conducted by Ulker and Demirel (2018) and Çiftçi (2020) and based on the literature. The TPB, proposed with the TRA grounds the following three elements that can impact people's behavior: attitude, subjective norms, and perceived behavioral control (Conner & Armitage, 1998). In 1998, Armitage defined An individual's attitude refers to their point of view toward a particular behavior or phenomenon.Positive attitudes on a specific behavior or phenomenon increase the likelihood of participation (cheng et al., 2006). The societal limitations that a person has when choosing whether or not to engage in a particular conduct are known as subjective norm (Conner & Armitage, 1998). The TPB has been revealed to be a firmly grounded and representative model for specific attitude within the option procedure. sustainable travel, in a large number of research (Verma & Chandra, 2018). Although the TAM is commonly used for technology acceptance investigations, Davis (1985) discovered that both behavior and attitude remained have significant parts in technology use and virtual tourism as underlined by Koo et al. (2022). Therefore, to investigate further the intentions of user regarding the adoption and use of virtual tourism, the current study adopts the integrated model of TAM. Further, only attitude, subjective norms and other elements of TPB will be used in this work to examine and behavioral control.

2.4.2 Influence of Attitude to Shape the Intentions Towards Virtual Tour

In Ajzen's (2011) view, attitude is the favorable or unfavorable way that an individual regards an activity or object. They include, affective, cognitive, and psychosocial factors that will involve their emotions and perceptions. Cheng et al. (2006) established that those with higher levels of mindfulness, point out that people who possess positive attitudes towards a certain behaviour are likely to engage in it. This is evident when analyzing Virtual Tours (VT), in which users' attitudes towards the live implications encountered during a virtual tour are assessed by an attitude variable (De Canio et al., 2021). Further research carried out in the tourism and technology fields shows that a person's attitude strongly influences them in the general sense when convinced to do a certain act, which and in so doing influences the consumers' behavioural intention , the likelihood of performing that activity.According to VT,

stresses that the desire to use VT is positively associated with considering VT as a leisure activity and the observed pattern was especially noted during the COVID-19 pandemic (Lu et al., 2007). behavior are more likely to participate in it. This relationship is clear when considering Virtual Tours (VT), where users' opinions about the live experiences during a virtual tour are evaluated using an attitude variable (De Canio et al., 2021). Additional study conducted in the tourism and technology domains reveals that a person's attitude has a major impact on how they respond overall when they are convinced to do something, which in turn shapes their intention to carry out that activity. Regarding virtual reality (VT), emphasizes that the intention to utilize VT is positively connected with considering VT as a relaxing alternative form of entertainment, a trend that was particularly observed during the COVID-19 epidemic (Lu et al., 2007). This series of papers demonstrates the essential importance of attitudes have in relation to the likelihood of displaying particular behaviors especially if concerning using new technological tools like virtual tours in a desperate situation.

2.4.3 Impact of Subjective Norms on Intention to Use Virtual Tour

Subjective norms has to do with what a person believes that is being expected of him or her by other people in the society deciding whether or not they should engage in a specific behaviour (Ajzen, 2011). The TPB, which posits that both social factors, assertional control expectations and internalized attitudes, influence the superordinate expectancy regulating behavior, relies upon these norms in addition, the occurrence of these norms can be explained by the kinds of culture that are present in an organization or the nature of the belief system holding in an organization. They say that numerous researches prove the degree to which SN influences behavioural intentions. For example, Zhang, Liang, & Wang (2021) found out that, The results revealed that those who has a high social norms have more likelihood to recycle when it comes to themselves environmental behavior. Similarly, Hasan et al. (2020) noted that SN possessed a strong, positive correlation with the risky behavior, effect on travel decisions thus people consider social acceptance in travel decisions. New empirical findings reported by Pahrudin et al. (2021) also showed that individuals are more likely to participate in exercises if they assume that individuals in their reference group perceive fitness. Owing to social constructionism a high importance is placed on fitness and health. Similarly to the current findings, Albayati et al., (2023) highlight that SN effects are not limited to a specific area of behavior, but influences different behaviors. Though SN play a central control construct in implementing behavioral intentions, PBC at times can exert control over these social influences. Hasan et al., (2020) suggested that the relationship between the context and SN is indirect and dynamic in nature

and PBC because such decisions as to how easy or difficult a particular aspect is may personally affect it. the last word, even in cases where social culture dictates acceptable type of tourism activity.

2.4.4 Role of Perceived behavior Control in Shaping Intention to Use Virtual Tour

This means that perceived behavioral control or PBC refers to the ease or otherwise of the action being undertaken by the individual. a certain activity to be It means that in a method mentioned by Albayati et al. (2023), It can be considered as integral part of the TPB, since it was used to enhance its capability in the prediction to make use of the Theory of Reasoned Action. considering factors which may limit a person's ability to perform a task. As it was mentioned by Han et al. (2016), PBC suppose that the control delegation necessarily leads to the control strengthening behavioral intentions. They also noted that PBC can act as a stand alone predictor of academic achievement, intention especially when an individual has no say at all or little say in deciding matters affecting conduct. PBC is often criticized in the meantime for failure to consider external factors by assuming that it is feasible for individuals to exert complete control on how they behave as identified by the (Ajzen, 2011). According to Tang et al., (2011) environmental and personal variables are likely to determine behavior intentions following a comprehensive analysis factors. This highlights the need to consider more factors than the previous research has done only focusing on the Bulls-eye theory personal opinion. Ulker-Demirel and Ciftci (2020) underline once more that the TPB views an individual's actions as the result of a purposeful plan that is directed by an expectancy- value framework. When a person has the required tools, opportunities, and resources, as well as social support and the belief that their actions will result in positive consequences, their behavior is predicted. PBC has been positively correlated with virtual technology adoption in practical applications. Studies show that people who are proficient in virtual reality (VT) on a variety of electronic devices are more inclined to participate in VT, which was especially noticeable during the COVID-19 pandemic. Hamid et al. (2023) observed this correlation in particular, arguing that having the required tools and talents greatly increases a person's intention to use virtual reality. Therefor, it's the perceivness of ones about ease or difficulty of a task is key component theory of planned behavior.

2.5 Perceived security impact on intention to use towards virtual tourism

Users' cognitive processes that influence their psychological state and physical choices are impacted by how they perceive security (HurYeon & Hun, 2017). The connection between users' intention, emotions, and cognitive processes is always being discussed, and depending

on how attitudes change, this relationship can have an impact on whether users utilize IT services persistently or not (Bhattacherjee, 2001). The issue of perceived security in the context of virtual tourism is complex and influenced by a number of variables. Within the VT, the decision to visit a tourism site is reinforced in large part by the perception of holistic presence, which encompasses spatial-presence, social-presence, and self-presence. The components of hedonia and eudaimonia, along with their all-encompassing presence, help consumers feel secure and satisfied (Tsai, 2022). Perceived security is further enhanced by the fact that the authenticity of the virtual experience has a substantial impact on cognitive and emotive reactions, which in turn increase attachment and visit intention.In addition to being positively correlated with telepresence and happiness, vividness and mental imagery related to non-immersive VR experiences are also important for promoting a safe and enjoyable virtual tourist experience (Kim, Lee, & Jung, 2020). Furthermore, the fear of missing out, tech-savviness, and COVID-19 travel anxiety all increase one's readiness for VT space travel, suggesting that perceived security is also influenced by external situational factors and personal psychological states (Zaman, Koo, Abbasi, Raza, & Qureshi, 2022). The importance of perceived security in influencing behavioural intentions for virtual tourism has been highlighted in a number of research studies. The planned behavior theory was applied in a study by Hamid et al., (2023) to analyze users' intentions toward virtual tourism during the corona virus. The evidence presented here showed that perceived security influenced people’s behavior and thoughts. their perception of threat towards behavioral intentions towards virtual tourism. This development of VT technology points to the importance of design, function, and content, which create both the security and satisfaction of the consumers’ needs within the larger spectrum of overall tourism (Potjanajaruwit, 2023). All these observations suggest how much felt security is crucial in validating the concern why one would but intend to use virtual tourism, with factors rooted on psychological and technology perspectives.This Vishwakarma et al. (2020) explored the virtual reality modelling of how destinations are assessed, and the value-based.ve experience that satisfies consumers' needs and fosters overall satisfaction, especially in the context of health tourism (Potjanajaruwit, 2023).Taken as a whole, these observations demonstrate how important felt security is in determining the intention to utilize virtual tourism, which is influenced by psychological as well as technological elements. Adding this Vishwakarma et al., (2020) examined how tourism destinations are evaluated using virtual reality and the value-based adoption model. To the surprise of researchers, the level of perceived value of VR and its overall adoption was found to be dependent on the following variables adoption in the travel

and tourist sector was perceived physical risk. This stress underlines even more the crucial role of perceived security as one of the factors defining users intents regarding the process of virtual travelling. Yang et al., (2022) specifically depicts Results of Technological Adoption and Readiness on Virtual Tourism, made a significant attempt at this.The paper reveals that consideration about the usefulness and ease of application of the technology, which are strongly related to the emotional feeling of comfort and safety of traveling, influenced the attitude towards the virtual tourism among travelers significantly.ording to the study, assessments of the technology's usability and convenience of use, which are highly connected with travelers' emotions of comfort and security, had a substantial impact on travellers' intentions to use virtual tourism. In conjunction with the displayed literature, these researches reveal that perceived security significantly affects the users' intentions towards virtual tourism (Hamid et al.,2023; Yang et al.,2022; Vishwakarma et al.,2020).thus it refers to individual belief that how secure their use and information while using any particular technologiacal system.

3. Factors Influencing the intention to Virtual Museum Tour Research Methodology

3.1 Purpose of Research and Hypothesis

Research Problem: Technology has also played a big role in shaping how people engage with museums through the use of technology as virtual museums faced a boost due to the COVID 19. However, Factors include ease of use, perceived usefulness, enjoyment, and perceived security still influences the adoption of virtual tour. This research study will examine virtual museum visit "the Louvre Mona Lisa Virtual Tour" to determine how these factors affect the users intention to use virtual museum tour.

Reseach Aim:

Examine the effect of immersion, vividness, effectiveness, and engagement how these factors affect the user's intention to use virtual museum tour. MOREOVER, investigate

Concerning perceived ease of use, usefulness, security, perceived behavioural control and social influence shape attitude of user towards these virtual enviornments.

Conceptual Framework

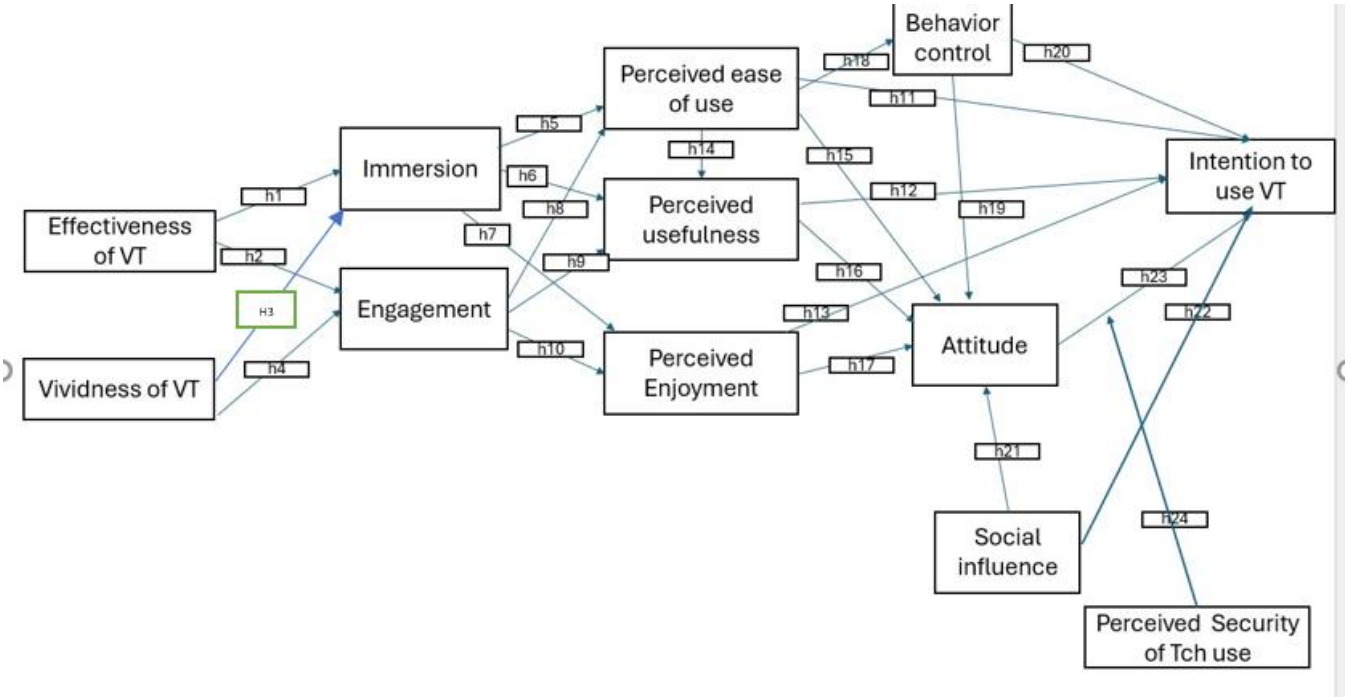

Figure 1. Research model

Cui et al., (2023) showed that High immersion virtual reality (VR) environments have been ,which are found to contribute toward improving the VT experience to the motivation of use VT. This impact is especially apparent in virtual tourism since using VR allows for the exposure to tourist places colourfully, making increase in user engagement or even gain more appreciation and willingness to visit the places. From current literature, presence has been regarded as having parameters that can be quantified such as visual sharpness fidelity of reproduction, tracking in circular motion, and recognizability, all of which are affected Because of high degree of correspondence of the virtual environment in terms of presence (Van den Bulck & Roskos Ewoldsen, 2020). Previous research indicates that immersion is strongly associated with the functionality and responsiveness of virtual environments. A well-designed virtual tour improves users' ability to interact intuitively with the environment, allowing them to explore and engage with elements in a way that resembles real-world experiences. This increased sense of interaction and control cultivates a greater feeling of immersion, making users feel both mentally and physically engrossed in the virtual space (Smith & Johnson, 2023).

H1: Effectiveness of virtual tour positively influence the immersion level in the virtual environment.

The effectiveness of virtual reality environments significantly increase user engagement by providing experiences based on immersivness and interactivity that are more impactful than traditional physical visits. These environments allow users to actively participate and engage, fostering a deeper connection and involvement than conventional approaches (Allcoat & Mühlenen, 2018). Research indicates that Studied show that VR improves positive affect and decreases negativity in a higher level than traditional and video based learning approaches. The emotional connection of virtual worlds creates a more engaging and stimulating learning environment, which significantly increases user engagement (Guertin-Lahoud et al., 2023). Effectiveness, level of immersion, sense of presence, usability, and overall user experience are key indications of engagement in VR storytelling environments. Ávila-Garzón, Bacca-Acosta, & Chaves-Rodríguez (2023) found that combining these components creates a more engaging and participatory experience.

H2: The effectiveness of virtual tour positively influence the user engagement with the virtual environment.

Increased vividness in virtual reality enhances the sense of presence, leading to a more positive attitude towards the experience. The rich sensory details and realism provided by colourful

settings allow users to feel more involved, increasing their overall happiness and engagement with the virtual experience (Kerrebroeck, Brengman, & Willems, 2017). Immersion, impacted by sights and audiovisual components, often strengthens the sense of presence. The impact of immersion varies depending on the components, as different sensory factors influence the user's perception of physical and psychological absorption in the virtual environment to different extents (Hudson, Matson-Barkat, Pallamin, & Jégou, 2019). Users with more vivid visual images are more likely to have a higher sensation of presence in virtual reality (VR) situations, demonstrating that individual differences can have a significant impact on the immersive experience. This shows that personal cognitive abilities, such as the ability to visualise detailed mental representations, have a major impact on the level of immersion that VR users perceive (Iachini et al., 2018).

H3: The vividness of the virtual tour positively influence the immersion in the virtual environment.

Vividness and immersion in virtual reality may significantly increase user engagement and satisfaction, making it ideal for usage in marketing, education, and training. These enhanced experiences better grab users' attention, leading in more involvement and better outcomes across multiple sectors (Guo et al., 2024). The richness of vividness in virtual reality (VR) influences users' attitudes and sense of telepresence, encouraging positive behavioural intentions such as visiting a location or purchasing a product. The immersive quality of vivid VR experiences heightens emotional and cognitive involvement, increasing the likelihood that users will act on their virtual interactions (Kerrebroeck, Brengman, & Willems, 2017). Virtual reality (VR) environments with greater levels of vividness enhance user engagement and elicit more positive emotional reactions compared to traditional or less immersive forms of media. The rich sensory experiences provided by high vividness VR create a deeper connection, resulting in increased user involvement (Xin, 2022).

H4: The vividness of the virtual tour positively influence the user engagement with the virtual environment.

Immersion in virtual reality (VR) environments enhances the perceived ease of use, which in turn affects users' intention to engage with VR systems. This is especially noticeable in educational contexts, where immersive features in VR improve usability and acceptance, increasing the likelihood that learners will adopt the technology for their studies (Huang, Liaw, & Lai, 2016). Immersive virtual reality (VR) training environments have the potential to lower perceived workload and stress, resulting in improved performance in real-world tasks. Positive

experiences in VR are linked to reduced stress and workload, suggesting that immersion can enhance system usability by minimizing cognitive and emotional strain on users (Lackey, Salcedo, Szalma, & Hancock, 2016). Immersion in virtual reality (VR) is strongly connected to perceived usefulness, which plays an important role in user acceptance. However, perceived ease of use is more affected by practical aspects of the system rather than immersion by itself, indicating that factors like functionality and interface design are also crucial in determining ease of use (Sagnier, Loup-Escande, Lourdeaux, Thouvenin, & Valléry, 2020).

H5: A higher level of immersion positively influences the perceived ease of use of the virtual tour.

Immersion in virtual reality (VR) improves perceived utility and usability, increasing the possibility that users will employ VR learning systems. This heightened immersion promotes higher acceptance and motivation to implement VR into educational contexts (Huang, Liaw, & Lai, 2016). An immersive VR environment boosts motivation, presence, and good feelings, all of which help to increase perceived learning outcomes and the overall utility of the VR experience. This combination improves engagement and learning efficacy (Kaplan-Rakowski & Gruber, 2023). Immersive virtual reality (VR) encounters often lead to favourable user experiences and perceptions and usability, both of which are critical for the successful adoption of VR devices. these aspects significantly influence consumers' willingness and intention to adopt technology (Pellas, Dengel, & Christopoulos, 2020).

H6: A higher level of immersion positively influences the perceived usefulness of the virtual tour.

Enjoyment is widely assessed and reported as a positive result in VR-based therapy; however, additional standardised metrics are needed to ensure uniform assessments across research. This emphasises the importance of developing dependable techniques to accurately capture the effects (Rohrbach, Chicklis, & Levac, 2019). Highly realistic virtual reality (VR) environments improve enjoyment of exercise, making it more interesting and gratifying. The immersive nature of VR increases user involvement, resulting in a more motivating and enjoyable training experience (Mouatt et al., 2020). Immersive virtual reality (VR) environments increase satisfaction by promoting telepresence and flow, both of which are essential for creating great user experiences in virtual shopping and storytelling. These qualities make consumers feel more connected and immersed, resulting in more pleasure and engagement with the virtual experience (Yang & Zhang, 2021).

H7: A higher level of immersion positively influences the perceived enjoyment of the virtual tour.

Shared virtual reality (VR) experiences, particularly those with high interactivity, increase positive feelings and engagement while maintaining immersion and presence. These collaborative settings allow users to engage and participate more deeply while remaining immersed in the virtual environment (Li, Ch'ng, & Cobb, 2023). User acceptability of virtual reality (VR) is driven by perceived usefulness and engagement, but perceived ease of use is mostly decided by the VR system's practicality. This suggests that functionality and performance have a greater effect on driving engagement and easy to use than engagement alone (Sagnier, Loup-Escande, Lourdeaux, Thouvenin, & Valléry, 2020). Participating in virtual reality (VR) improves perceived ease of use by increasing user happiness, lowering cognitive load, and instilling good feelings. VR environments that are dynamic and socially engaged work especially well at increasing users' perceptions of system usability, making the technology feel more natural and fun to use.

H8: A higher level of engagement positively influences the perceived ease of use of the virtual tour.

Higher engagement in virtual reality (VR) experiences leads to greater perceived usefulness and enjoyment, which positively influences users' attitudes towards the virtual experience (Petousi et al., 2023). In virtual reality learning environments, greater engagement enhances performance and triggers positive emotional responses, thereby increasing the perceived usefulness of the learning (Allcoat & Mühlenen, 2018). Disparity in the level of immersion to VR results to a higher perceived usefulness and enjoyment that affects the users' attitude towards the virtual experience (Petousi et al., 2023). Higher level of participation in virtual reality learning environment leads to better performance and elicits positive affect that subsequently increases perceived usefulness of the learning.

H9: A higher level of engagement positively influences the perceived usefulness of the virtual tour.

Using VR experiences more effectively enhances immersion and pleasure among users. Increased involvement creates a more engaging and enjoyable experience, leading to greater overall performance (Wagler & Hanus, 2018). According to Moreira, Luna-Nevarez, and McGovern (2021), Perceived enjoyment and interest are key factors in determining the impact of VR technology on users' attitudes and behaviours. In a variety of methods, including educating and entertaining the audience. These elements contribute to great user experiences.

encounters, increasing the possibility of recurring usage and the proliferation of the technology.
H10: A higher level of engagement positively influences the perceived enjoyment of the virtual tour.

It has been discovered that perceived simplicity of use has a significant impact on perceived usefulness. A meta-analysis revealed that perceived ease of use significantly influenced perceived usefulness 52.79 % (Liang & Elliott, 2020). This emphasises the necessity to provide enjoyable virtual visitor experiences.Improving user-friendliness of virtual tourist experiences can enhance their perceived ease of use. It emphasises the necessity of creating user-friendly virtual tourist experiences, which improves users' perceptions of the platform's simplicity. Furthermore, studies show that when tourists have a positive flow experience, their opinions of the PU and PEU of virtual tourism improve. This positive flow experience is made possible by a user-friendly design. As a result, these factors influence the acceptance and use of virtual tourism technology (Yang, Yan, Wang, and Xue, 2022). It was found that the ease of use (PEU) positively influences consumers' attitudes towards using mobile devices for tourism and their intentions to do so. This PEU is shaped by factors such as technological proficiency and travel experience, as noted in a study by (Kim, Park, & Morrison, 2008). Moreover, immersive virtual reality (VR) experiences play a significant role in boosting user satisfaction and perceived ease of use. Engaging with three-dimensional objects and exploring virtual settings via VR headsets significantly enhances the user experience, as reported in research by (Lee et al., 2020; Kalving et al., 2022).

H11: In Mona Lisa tour perceive ease of use positively influence intention to use virtual tour.

The perceived usefulness of virtual museum tours has a considerable impact on their acceptance and continued use. Studies have demonstrated that using virtual reality (VR) technologies significantly improves the perceived usefulness of these virtual tours. According to (Lee et al., 2020), by offering realistic and engaging experiences, VR can boost users' likelihood of visiting actual museums in the future. Furthermore, virtual museum tours are a significant resource for people who are unable to physically visit museums, increasing the accessibility and inclusivity of cultural heritage. A classic example is the visitor virtual museum software, which has proven particularly useful in educational contexts. According to Aristeidou et al. (2023), it enables instructors to create individualised museum experiences that promote student learning and engagement. Furthermore, research on the acceptability of virtual museums, as demonstrated by the ViSeum prototype, shows that perceived usefulness is a critical aspect in determining

users' intentions to interact with such platforms. The Technology Acceptance Model used in these research shows that perceived usefulness, together with reported ease of use and enjoyment, has a significant impact on how consumers adopt and intend to utilise these technologies (Awang et al., 2009). In conclusion, the perceived usefulness of virtual museum visits is critical to their adoption and efficacy.

H12: Perceived usefulness of Mona Lisa tour positively influence intention to use virtual your. The level of enjoyment felt is an important factor in the acceptance and pleasure gained from virtual museum visits. According to Lee et al., (2020) virtual reality (VR) plays an important role in increasing the enjoyment of these virtual excursions. Their findings revealed that immersive VR settings promote more engaged and enjoyable engagement with museum exhibitions. The study found that VR tools not only enhance the immersive component of museum visits, but also improve the overall experience, resulting in higher visitor satisfaction and a stronger desire to frequent museums (Lee et al., 2020). Damayanti et al. (2021) investigated the effects of multisensory interactions during virtual museum visits. Their findings showed that sensory components, particularly those linked to hearing and seeing, have an important role in improving pleasure in virtual environments. The study indicated that incorporating multi-sensory aspects can improve the satisfaction and overall quality of the virtual museum experience.

H13: Perceive enjoyment positively influence intention to use Mona Lisa virtual tour

In the context of vurtual tour, several studies showed significant relationship among perceive ease of use and perceive usefulness. A study conducted by Yang, Yan, Wang, and Xue (2022), travelers' point of view about usefulness and ease of use are improved by the flow experience that virtual tourism provide. This suggests that users are more likely to view virtual tourism beneficial when they regard it to be user friendly. In a similar vein, Li, Liang, Huang, Yang, Li, and Bai (2022) shown that usability has a major impact on how beneficial and enjoyable virtual tourism is viewed by both potential and actual users. This study emphasizes how perceived utility of technology increases with PEU, improving the user experience overall. Furthermore, using an expanded TAM, Schiopu, A., Hornoiu, R., Padurean, M., & Nica, A. (2021) investigated applications of VR in tourism and discovered that usefulness has direct impact by PEU, additionally current study provides evidence for the theory by demonstrating that users' evaluations of PEU and PU have a substantial influence on their intention to use virtual tourism. Additionally, in the association between individual cultural features and the intention to use online tourism applications, Mazan and Çetinel (2022) explored the mediating impact of PEU

and PU. The results highlight perceived ease of use as essential aspect in boosting perceived usefulness by showing that it has a full mediator effect. Finally, Xie and Yuan (2021) verified that consumers' online experience and brand loyalty are significantly improved by the perceived utility and usability of VR technology. This study emphasizes how crucial usability is in influencing consumers' opinions on how beneficial virtual tourism technology is. In conclusion, numerous research that repeatedly demonstrate that PEU is an important aspect in determining usefulness in virtual tourism context, significantly support the theory. (Wang et al, 2022).

H14: Perceived ease of use of the virtual tourism system will positively influence perceived usefulness of VT.

Numerous studies have demonstrated how essential PEU is in impacting people intention about embracing new technologies, such as in the context of virtual tour. Li et al., (2022) conducted a study that revealed that virtual tourism's perceived utility and enjoyment are positively impacted by simplicity of use. This, in turn, positively improves users' views towards VT. This suggested that user are more likely to view virtual tourism platforms favorably when they find them simple to use. In contrast, studies by Geng, Li, and Xue (2022) showed that attitude of user and intentional behaviour towards virtual tourism are highly impacted by their opinion that how easy to use the system is.it is also analysed that perceived usefulness, and PEU has significant impact on user intention to engage in virtual tourism. Furthermore, Bigné and Maturana (2022) contrasted the experiences of users on a conventional web-based platform with those in an immersive virtual reality environment. The analysis highlighted the importance of PEU in forming positive attitudes, showing that users who found the virtual reality environment easier to use reported higher scores in terms of attitude change and intention to visit tourist sites. Furthermore, Maziriri, Mashapa, Nyagadza, and Mabuyana (2023) examined the attitudes of The perception of ease of use was found to have a positive and significant influence on the attitudes of the consumer to the usage of virtual reality to identify tourist destinations. This provides more evidence in favor of the theory that favorable perceptions of virtual tourism are largely fostered by factors that contribute to PEU. This emphasizes how crucial it is to create user-friendly virtual tourism platforms in order to raise user happiness and engagement levels.

H15: Perceived ease of use Louvre Museum virtual tour positively influences users' attitudes toward the virtual tour.

A study indicated that PEU and PU have a substantial impact on users' attitudes and behavioral intentions toward virtual tourism. This study made up using the TAM Geng and associates

(2022). Furthermore, studies examining the value adoption model in relation to Malaysian tourists' adoption of virtual tourism discovered that perceived usefulness significantly positively impacted perceived value, which in turn impacted users' attitudes toward virtual tourism (Lim et al., 2022).This is aligned with another study which looked at how VR technology characteristics affected travelers' intents to visit, and analyzed thar usefulness played a significant role in influencing travelers' positive attitudes and intentions toward virtual tourism (Nguyen, Le, & Chau, 2023). Furthermore, telepresence and the realism of the virtual environment—which add to the perceived usefulness of the VR experience significantly influence users' attitudes and visit intentions, according to a research on the effect of VR experiences on tourist intention to visit (Ouerghemmi, Ertz, Bouslama, & Tandon., 2023). According to Pratisto, Thompson, and Potdar's (2023) research on the relationship between system quality and user personality in virtual reality tourism, visual attractiveness and interactivity two factors that contribute to perceived usefulness impact on users' attitudes and behavioral intentions.

H16: Perceive usefulnes of Mona lisa tour positively influence user attitude towards virtual enviornment.

Maziriri et al. (2023) found that people's attitudes towards virtual reality (VR) technology are highly influenced by their enjoyment levels, which in turn influences their desire to utilise VR and their actual interaction with it while choosing trip destinations. Furthermore, a study in China on virtual concerts found that the public's view of virtual events is heavily influenced by their enjoyment, as well as perceived utility and simplicity of use (Deng & Pan, 2023). Furthermore, the perceived utility of virtual reality experiences increases enjoyment, resulting in to more favourable assessments of places to visit and an increased probability of planning visits, as evidenced by empirical data from a study comparing VR tourism to actual travel experiences (Tussyadiah et al., 2018).

H17: Perceive Enjoyment of Mona lisa tour positively influence user attitude towards virtual enviornment.

According to research into virtual communities, Perceived Ease of Use (PEU) has a significant impact in forming members' intentions to engage with these kinds of platforms. The study broke down the attitude component into PEU and discovered that Perceived Behavioural Control (PBC), which includes self-efficacy on the internet and the availability of favourable situations, has a significant impact on people's behavioural intentions (Lin, 2006). This means that if consumers view virtual tourism experiences to be user-friendly, their sense of control over these

encounters increases, boosting their willingness to participate. Furthermore, research into the quality of VR and its effects on behavioural intention supports this notion. According to the findings, high-quality content, robust system performance, and strong Perceived Behavioural Control (PBC) all contribute positively to customers' attitudes and feelings of virtual presence, resulting in good intentions to visit the actual destination (Lee et al., 2020).

H18: Perceive ease of use positively influence the Perceive behavior control in context of virtual enviornment

The idea of Perceived Behavioural Control (PBC) has a considerable and positive influence on the inclination to use technology, implying that people with a stronger sense of control are more likely to plan on using it (Sagnak & Baran, 2021). The level of perceived behavioural control (PBC) determines people's attitudes towards technology. This shows that people who have more control over technology are more likely to see it as beneficial and adopt a more positive attitude towards its use (Park & Lee, 2022).Perceived behavioral control has a strong positive impact on both attitudes toward and intentions to use technology (Sagnak & Baran, 2021).. Women are more affected by perceived behavioral control (PBC) in shaping their attitudes toward technology, whereas younger workers and men are primarily influenced by their attitudes directly (Venkatesh, Morris, & Ackerman, 2000).

H19: Perceived Behavior control positively influence Attitude towards VT use.

A variety of academic research have highlighted the critical importance of perceived behavioural control in determining users' willingness to participate in virtual engagements. For example, virtual community research has found that members' behavioural intentions to engage are highly influenced by their perceived behavioural control, which includes elements such as internet self-efficacy and enabling environments (Lin, 2006). This shows that people are more likely to engage when they feel in control of their virtual interactions. Adding more, During the COVID-19 pandemic, researchers used the Theory of Planned Behaviour (TPB) to discover that consumers' intentions to engage in virtual tourism are significantly influenced by their attitudes, perceived social pressures, and perceived behavioural control (Hamid et al., 2023). Multiple of researches give compelling evidence that users' inclination to engage in virtual tourism is strongly influenced by their sense of behavioural control (Huang et al., 2013; Hamid et al., 2023; Wei et al., 2019; Lin, 2006).

H20: Perceive behavior control positively influence the intention to use virtual tour.

Song and Kim (2006) found that high subjective norms are likely to increase users' intention to participate in virtual tourism, emphasising the importance of social influences in shaping user behaviour towards virtual settings.moreover studies on virtual reality depict the sequence connection between behavioral intention and virtual tourism, impacted by PEU, attitude, PU, and study suggested that aspects of TPB including subjective norms have significant impact on shaping user intentions towards virtual context (Geng, Li, & Xue, 2022).Lastly in traditional travelling SN had diret considerable impact, but according to literature it has not direct impact on travel intentions. This shows that it can impactful in an indirect way for participation in tourism which can make by subjective norms.

H21: Social approval positively influence the attitude towards virtual tour.

H22: Social approval positively influence the intention to use virtual tour.

Multiple studies has explored that in context of shape the behavioral intention perceived security performs a signinifcant role. A study conducted by hamid et al., (2023) applied theory of planned behavior and also determined that, users engagement in virtual enviornment highy influenced by their sense of security. Yang et al., 2022 study looked at the effects of technical readiness and acceptance on virtual tourism. The study found that tourists' intents to engage in virtual tourism are significantly impacted by their perceptions of the technology's feasibility and usability, which are in turn directly tied to their sense of security and comfort. This shows that improving users' perceptions of the safety of virtual tourism could increase their willingness to engage with it. Collectively, these studies demonstrate that users' inclinations to participate in virtual tourism are significantly influenced by their sense of security, supporting the hypothesis(Yang et al., 2022 ; vishwakarma et al., 2020; Hamid et al., 2023).

H24: Perceive security moderated the relationship between attitude and intention to use virtual tour.

3.2 Data Collection Method and Research Instrument

A single-case study approach is used to conduct a thorough analysis of contexts in which virtual tourism technologies are used. This method excels in capturing detailed user interactions, perceptions, and behavioural intentions in reaction to new technology setups in virtual reality. It was chosen specifically for its capacity to properly analyse phenomena, particularly when user behaviours and reactions to new technologies are not yet well understood, demonstrating its applicability for investigating emergent technology implications (Eisenhartt, 1989).

Data collection method: In this study an online survey is being used for data elicitation. The survey analized multiple factor such as effectiveness, vividness ,immersion and engagement integration with TAM and theory of planned behavior lastly intentions to use virtual tours. Additionally these quantitative measure provide greater awareness about users perspective (Lv et al., 2023). Virtual tourism's effectiveness is defined by virtual platforms' capacity to provide consistent, high-quality information and experiences that encourage user engagement. This characteristic assesses VR technology's performance, including operational efficiency, visual clarity, and dependability. Effectiveness includes characteristics such as the speed and consistency of the VR experience, which ensures users have a cohesive and satisfying interaction with the system with little interruptions. These features are rated on a 7-point Likert scale, from strongly disagreeing to strongly agreeing picked from (Witmer & Singer, 1998). Vividness is measured using a 5-point Likert scale that assesses the clarity and power of visual representation. A high level of vividness in VR increases user engagement by making the virtual experience more fascinating and memorable, encouraging more interaction and exploration in digital spaces. According to (Li, Sun, Zhu, & Qiu, 2023), immersing is the feeling of being in a virtual environment that is reinforced by ongoing sensory experiences and intuitive interactions. This statistic considers how visually and auditorily engrossed users are in the VR experience, as well as whether they perceive movement inside it. Immersion is measured using a 7-point Likert scale, which considers elements such as self-motion perception, control response, and sensory participation.

Venkatesh and Davis (2000) developed structured items to evaluate the ease of usage of a system. This framework consists of several separate statements that address the ease with which users can learn and become proficient in the VT tourism platform, the simplicity of locating information within the system, the effort required to engage with the system, and an assessment of the system's overall ease of use. These aspects are critical to the platform's usability and navigational ease. Respondents assess these features on a 7-point Likert scale that ranges from "strongly agree" to "strongly disagree." To determine user intentions, it is critical to understand the platform's accessibility and usability, which can be obtained from analysing these items.

Liu & Park (2024) developed a set of questions to assess the perceived usefulness of virtual tourism. This concept evaluates the functional advantages that users perceive, such as the ability to virtually visit places that are otherwise inaccessible, the time saved, and the efficient acquisition of destination-related information, as well as the perceived value of these experiences for planning future travels. Respondents' agreement is measured using a 7-point

Likert scale ranging from "strongly agree" to "strongly disagree." The information gathered from this assessment aids in determining users' perspectives on virtual tourism.

Manis and Choi (2019) developed a technique for measuring human enjoyment gained from virtual technologies. This framework includes components that assess the level of enjoyment, excitement, and amusement that people feel when using VR equipment in virtual surroundings. For leisure-oriented technology, enjoyment is important since it influences user engagement and loyalty. Respondents evaluate their experiences on a 7-point Likert scale to quantify their level of enjoyment. In a research conducted by Liu & Park (2024), and defined individual point of view about social influence and pressure that impacts the use of virtual tourism. This framework measure how user view and think about other opinion regarding use of particular technology. The questions comprice with ones believe, suggestion and enforcement to the use of virtual tour. To collect data from respondents a 7 point likert scale is being implement in this study.

The measurement is important since it has a direct impact on people's intentions to use and adopt the technology. A Likert scale of 7 points, ranging from strongly agree to strongly disagree, is used, participants indicate their consent of agreement through these statements, which helps determine how people feel about the VT overall and how valuable they think it is as a travel tool. Liu & Park (2024) developed a scale for measuring intention to use virtual technologies. This framework includes components that assess the users view about their intention to use these VT and how valueable this experience was. To get these responses a 7 point likert scale was used in questionnaire.A study conducted by author Sudono et al., (2020), proposed a set questions in order to get people opinion about their feel of security while using the technology .A likert scale of 7 points, ranging from strongly agree to strongly disagree, is used to convey ratings. In order to identify possible obstacles to technology use and to build methods to Page promote technology acceptance and user competence.

All 12 variables of current research are presented in Table 2, together with description of the construct questions, adapted measurement type and references to the original construct.

Constructs of the Questionnaire

Table 1

Construct	Items	Source
Effectiveness	• The Mona Lisa tour provided high-quality information about the exhibits. • The Mona Lisa Tour ran smoothly and responded quickly to my inputs. • The Mona Lisa Tour had a visually appealing and well designed interface. • The Mona Lisa toure effectively communicated the key aspects of the exhibits.	(Witmer & Singer,1998)
Vividness	• The Mona Lisa tour provided vivid, rality based images that enhanced my experience. • The visual quality of the Mona Lisa tour was clear and sharp. • The images in Mona Lisa tour were highly detailed and immersive • The Mona Lisa Tour created strong, memorable visual impressions.	(Witmer & Singer, 1998)

Immersion	• I felt fully engaged with all my senses during the Mona Lisa Tour. • The audio in the Mona Lisa Tour enhanced my feeling of being present in the environment. • I felt a strong sense of moving through the virtual environment • I could closely examine objects and view them from multiple angles • I was highly focused in the Mona Lisa tour with little awareness of the real world around me.	(Li, Sun, Zhu, & Qiu, 2023)

Engagement	• I felt deeply involved in tour Mona Lisa Tour experience. • I was able to control the flow of events in the Mona Lisa Tour • The Mona Lisa Tour responded well to my actions, making it interactive.	(Li, Sun, Zhu, & Qiu, 2023)

Perceive Ease of use	• Compared to other online stores, I am happy with this online store. • The overall feeling I received from the online store was satisfied. • My purchase choice at this online store is the right one. • This online store meets my expectations	(Venk atesh & Davis, 2000)

Perceived Usefulness	• The Mona Lisa Tour helped me to understand more about the exhibits. • The Mona Lisa tour enhanced my knowledge of art and culture. • I found the Mona Lisa tour informative and educational • I found Mona Lisa experience is useful for future travels.	(Venk atesh & Davis, 2000)

Perceived Enjoyment	• I enjoyed participating in the Mona Lisa Tour. • The Mona Lisa tour was entertaining. • I found the Mona Lisa tour an enjoyable experience overall. • Interacting with Visual elements are amusing in Mona Lisa Tour	(Manis & Choi, 2019)

Perceived Behavior control.	• I feel confident using the technology required for the Mona Lisa Tour. • I have the necessary resources to access the Mona Lisa Tour technology, internet, etc. • It was easy for me to get access to the Mona Lisa Tour.	(Liu & Park, 2024)

Attitude	• I find Mona Lisa VT experience is useful for future • Participating in the Mona Lisa tour was a good idea • In future I am motivated to explore more Virtual tour like Mona Lisa • I believe the Mona Lisa tour was an enjoyable experience. • I believe the Mona Lisa Tour provided a valuable cultural experience.	(Liu & Park, 2024)

Security	• I feel that the virtual Mona Lisa tour takes adequate steps to verify my identity • I believe that any personal information I share during the Mona Lisa virtual tour is only used for the purpose of the Mona Lisa tour • I am reassured that the Mona Lisa virtual tour offers privacy policies that clearly explain how my data is used and protected. • I feel comfortable knowing that the Mona Lisa virtual tour provides an option to review and manage my personal	(Sudono et al., 2020)

Intention to use	• I intend to explore the virtual tour again in the near future. • I intend to make an effort to use the virtual tour to learn more about the featured places. • I intend to revisit the virtual tour soon to gain additional insights. • I am interested in exploring new features or updates in the virtual tour in the near future.	(Liu & Park, 2024)

3.3 Sample Size and Structure

3.3.1 Population: The study's population consists of people with knowledge or interest in virtual tourism, including tech-savvy tourists, virtual reality lovers, and people impacted by travel limitations moreover users from around the globe. This includes individuals from diverse backgrounds, encompassing various age groups e.g., 18-65 years old and gender identities These tech-savvy people, those who are anxious about traveling because of COVID-19, and those who are looking for innovative travel's experiences. For instance, the significance of tech-savviness and travel anxiety in affecting preparation for VT travel was underlined in a study on foreign expats in the United Arab Emirates (Zaman, Koo, Abbasi, Raza, & Qureshi, 2022). In a similar manner, another study stressed the significance of real- world encounters and psychological responses in virtual reality travel (Kim, Lee, & Jung, 2020).

3.3.2 Sampling Technique: Purposive sampling is being employed in this study that allows to select individuals who have specific characteristics or expertise related to VR tours, such as experience with virtual tourism, or a strong interest in innovative technology. The primary purpose of purposive sampling is to concentrate on specific properties of a population that are of pursuit, allowing you to best answer your research questions (Rai & Thapa, 2015).

3.3.3 Sample Size

In accordance with recommended guidelines and the marketing research literature, an average sample size of 318 individuals has been determined, as presented in the following table. This sample size is considered sufficient to ensure the reliability and generalizability of the research findings in studies exploring user behavior and intentions in virtual environments. (Zaman, Koo, Abbasi, Raza, & Qureshi, 2022).

Comparable research sampling method

Table 2

No	Author	Type of questionnaire	Sampling	Number of respondents
1.	Liu,H., & Park,K.-S.(2022)	Online Questionnaire	Non-Probability Sampling	310

2.	(Hamid et al., 2023)	Online Questionnaire	Non-Probability Sampling	317
3.	(Tatar & Freitas, 2023)	Online Questionnaire	Convenience Sampling	305
4.	(kim & Lee., 2018)	Not specified	Quota Sampling	260
5.	(Deng & Pan., 2023)	Online Questionnaire	Non-Probability Sampling	280
6.	(Schiopu et al., 2021)	Online Questionnaire	startified Sampling	290
7.	(Zaman et al., 2022)	Online Questionnaire	Purposive Sampling	480
8.	(Brouder, 2020)	Structured Questionnaire	Convenience Sampling	298
9.	(Yanal et al.,2022)	Online Questionnaire	Random Sampling	300
10.	Wu & Huang (2023)	Online Questionnaire	Non-Probability Sampling	358
11.	Tri Cuong (2021)	Online Questionnaire	Non-Probability Sampling	306
12.	Sullivan & Kim (2018)	Online Questionnaire	Non-Probability Sampling	312
Avg:				318

3.4 Methods and Limitations

The study have used several data analysis methods which included scale relaibilty to ensure that items are rigour enough to apply the analysis and results.further descriptive analysis is being applied in the study to better describe and summarize the dataset. Further to analysze the predictors linear and multivariate regression has applied for examine the combine effect of multiple variable simultaneously and simple effect among two constructs according to current context of study.

Limitations of Data Analysis consists of data should be complete and accuratre to avoid false result data cleaning is essential to obtain data quality.then this study has implied suffiecient sample size which will ensure the generalizability of the results this study has choosen an adequate size of 319 individuals. Importantly this study has strictly implies ethical considerations like data and limited scope of analysis.

4. Results Of Factors Influencing On Intention To Use Virtual Tour

4.1. Demographic attributes and reliability of collected data

Data Analysis

The data collection was performed between November 21th and December 17th, 2024. In this questionnaire, data from 318 respondents was gathered via an online questionnaire. After filtering the data for incomplete forms or individuals who did not visit the Virtual Tour, 50 respondents were excluded because they did not meet the requirements. The remaining 268 respondents included 169 males, accounting for 63.3% of the total data, and 93 females, accounting for 34.8% of the total survey participants.

Table illustrates the overall demographics, including age, gender, income, and nationality of the respondents.

Demographics

Table 3

Category	Sub-category	Count	%
Gender	Male	169	64.5
	Female	93	35.5
Age	18-23	95	36.3
	24-29	85	32.4
	30-35	50	19.1
	36-41	22	8.4
Income	Lower than average in my country	20	7.6
	Slightly Lower than average in my country	30	11.5
	Correspond to average in my country	65	24.8
	Slightly higher than average in my country	70	26.7
	higher than average in my country	42	16.0

	Much higher than average in my country	15	5.7

The sample consists of a higher portion of male respondents with 64.5 percentage.the distribution of income depicts a majority of respondents earning slightly higher than avg income in their country.these insights of demographic shows the sample details and diversity in terms of age, gender and income level.

Furthermore, Cronbach alpha values were used to assess the questionnaire's reliability. In scientific literature, Cronbach's alpha ranges from 0 to 1. A Cronbach's Alpha value of 0.6 to 0.95 indicates that the test results are appropriate for further examination. The questionnaire had an overall reliability of $\alpha = 0.857$, with further reliability scores as shown below.

Scale Relaibility:

Constructs' reliability evaluation based on Cronbach's Alpha

Table 4

Construct	**Reliability Cronbach's α**
Effectiveness	.879
Vividness	.824
Immersion	.935
Engagement	.866
Perceive Ease of Use	.866
Perceive Usefulness	.863
Perceived Enjoyment	.796
Perceive Behavior Controll	.758
Attitude	.899
Subjective Norms	.970
Security	.906
Intention To Use	.849

Overall, the table depicts that the constructs used in this research have strong excellence in scale reliability with strong value of subjective norms, security and immersion besides this perceive behavior control and perceive enjoyment have relatively lower values.

Coefficients Table for the Effect of Effectiveness of Virtual Tour and Immersion

Table 5

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.410	.308		4.571	.000
	EFT_M	.789	.047	.715	16.663	.000

a. Dependent Variable: IMRSN_M

Effectiveness has a positive unstandardised coefficient (B = 0.789), which means that every one unit rise in Effectiveness results in an increase of 0.789 units in Immersion. Beta = 0.715 as a standardised coefficient confirms the magnitude of the effects, indicating a strong positive influence (unlike t-statistics, which do not offer size information). The t-statistic (16.663) and p-value (<0.001) confirm the high significance of this connection. Based on this evidence, we can conclude that the Null hypothesis is not proven and the alternative hypothesis H1 is accepted.

Coefficients Table for the Effect of Effectiveness of Virtual Tour and Engagement

Table 6

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.119	.288		7.349	.000
	EFT_M	.685	.044	.688	15.465	.000

a. Dependent Variable: ENG_M

Effectiveness's unstandardised coefficient is positive (B = 0.685), meaning that for every unit increase in Effectiveness, the Engagement will also rise by 0.685 units. Beta = 0.688, a standardised coefficient that indicates a substantial positive influence (unlike t-statistics that do not provide information on size), further confirms the extent of the impacts. The t-statistic (15.465) and p-value (<0.001) both indicate that this link is extremely significant. We can infer from these data that the alternative hypothesis, H2, is accepted and the null hypothesis is not verified.

Coefficients Table for the Effect of Vividness of Virtual Tour and Immersion

Table 7

Coefficients[a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	.605	.383		1.577	.116
Vivid_M	.896	.058	.689	15.493	.000

a. Dependent Variable: IMRSN_M

The unstandardised coefficient for vividness is positive (B = 0.896), meaning that an increase of one unit in vividness will result in an increase of 0.896 units in immersion. Beta = 0.689, a standardised coefficient that indicates a substantial positive influence (unlike t-statistics that do not provide information on size), further confirms the extent of the impacts. The t-statistic (15.493) and p-value (<0.001) both indicate that this link is extremely significant. We can infer from these data that the alternative hypothesis, H3, is accepted and the null hypothesis is not verified.

Coefficients Table for the Effect of Vividness of Virtual Tour and Engagement

Table 8

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
	(Constant)	1.004	.332		3.021	.003
	Vivid_M	.841	.050	.717	16.772	.000

a. Dependent Variable: ENG_M

With a positive unstandardised coefficient (B = 0.841), Vividness will enhance Engagement by 0.841 units for every unit increase in Vividness. Beta = 0.717, a standardised coefficient that indicates a substantial positive influence (unlike t-statistics that do not provide information on size), further confirms the extent of the impacts. The t-statistic (16.772) and p-value (<0.001) both indicate that this link is extremely significant. We can infer from these data that the alternative hypothesis, H4, is accepted and the null hypothesis is not verified.

Coefficients Table for the Effect of Immersion and perceive ease of use

Table 9

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
	(Constant)	1.601	.193		8.310	.000
	IMRSN_M	.765	.029	.848	26.074	.000

a. Dependent Variable: PEOU_M

With a positive unstandardised coefficient (B = 0.765), immersion will boost perceived ease of use by 0.765 units for every unit increase in immersion. Beta = 0.848, a standardised coefficient that indicates a substantial positive influence (unlike t-statistics that do not provide information on size), further confirms the extent of the impacts. The t-statistic (26.074) and p-value (<0.001) both indicate that this link is extremely significant. We can infer from these data that the alternative hypothesis, H5, is accepted and the null hypothesis is not verified.

Coefficients Table for the Effect of Immersion and perceive usefulness

Table 10

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.233	.158		14.122	.000
IMRSN_M	.678	.024	.865	28.125	.000

a. Dependent Variable: PU_M

With a positive unstandardised coefficient (B = 0.678), immersion increases perceived ease of use by 0.678 units for every unit increase in immersion. Beta = 0.865, a standardised coefficient that indicates a substantial positive influence (unlike t-statistics that do not provide information on size), further confirms the extent of the impacts. The t-statistic (28.125) and p-value (<0.001) both indicate that the relationship is quite significant. We can infer from these data that the alternative hypothesis, H6, is accepted and the null hypothesis is not verified.

Coefficients Table for the Effect of Immersion and Enjoyment

Table 11

Coefficients[a]

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	3.422	.162		21.089	.000
IMRSN_M	.493	.025	.774	19.934	.000

Dependent Variable: ENJO_M

Because immersion has a positive unstandardised coefficient (B = 0.493), an increase of one unit in immersion will result in a 0.493-unit rise in perceived ease of use. In contrast to t-statistics, which do not reveal size, the standardised coefficient Beta = 0.774, which indicates a substantial positive influence, further validates the magnitude of the impacts. The p-value (<0.001) and t-statistic (19.934) both indicate that this link is extremely significant. The alternative hypothesis, H7, is accepted based on these data, and the null hypothesis is not supported.

Coefficients Table for the Effect of Engagement and perceive ease of use

Table 12

Coefficients[a]

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	1.770	.275		6.445	.000
ENG_M	.736	.042	.734	17.652	.000

a. Dependent Variable: PEOU_M

Engagement has a positive unstandardised coefficient (B = 0.736), which suggests that a one-unit increase in Engagement results in a 0.736-unit rise in Perceived Ease of Use. The magnitude of the impacts is also supported by Beta = 0.734, a standardised coefficient with a

substantial positive influence (unlike t-statistics, which do not provide size information). The t-statistic (17.652) and p-value (<0.001) confirm the high significance of this connection. Based on this evidence, we can conclude that the Null hypothesis is not verified, and the alternative hypothesis H8 is accepted.

.

Coefficients Table for the Effect of Engagement and perceive usefulness

Table 13

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.684	.252		10.654	.000
ENG_M	.605	.038	.697	15.834	.000

a. Dependent Variable: PU_M

Engagement has a positive unstandardised coefficient (B = 0.605), implying that every one unit increase in Engagement results in a 0.605 unit rise in Perceived Usefulness. Beta = 0.697 as a standardised coefficient confirms the magnitude of the effects, indicating a strong positive influence (unlike t-statistics, which do not offer size information). This association is very significant, as indicated by the t-statistic (15.834) and p-value (<0.001). Based on this evidence, we can conclude that the Null hypothesis is not verified, and the alternative hypothesis H9 is accepted.

Coefficients Table for the Effect of Engagement and Enjoyment

Table 14

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.799	.226		16.840	.000

ENG_M	.433	.034	.613	12.642	.000

a. Dependent Variable: ENJO_M

Engagement has a Proportional unstandardised coefficient (B = 0.433) which means that one unit increase in Vividness will lead to an increase of 0.433 units in the Enjoyment. The magnitude of the effects is also confirmed by Beta = 0.613 as a standardized coefficient which constitutes a strong positive impact (unlike t-statistics that do not provide information on size). This relationship is highly significant as per both the t-statistic (15.834) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H10 is approved.

Coefficients Table for the Effect of perceive ease of use and intention to use

Table 15

Coefficients[a]

Model	Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	3.032	.257		11.794	.000
PEOU_M	.536	.039	.647	13.822	.000

a. Dependent Variable: INTN_M

Perceived Ease of Use has a positive unstandardised coefficient (B = 0.536), which suggests that every one unit increase in Perceived Ease of Use results in a 0.536-unit rise in intention to use. The magnitude of the impacts is also supported by Beta = 0.647, a standardised coefficient indicating a substantial positive influence (unlike t-statistics, which do not offer size information). The t-statistic (13.822) and p-value (<0.001) confirm the high significance of this connection. Based on this evidence, we can conclude that the Null hypothesis is not proven, and the alternative hypothesis H11 is accepted.

Coefficients Table for the Effect of perceive ease of use and intention to use

Coefficients Table for the Effect of perceive usefulness and intention to use

Table 16

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.515	.302		8.338	.000
	PU_M	.609	.045	.637	13.484	.000

a. Dependent Variable: INTN_M

Coefficients Table for the Effect of enjoyment and intention to use

Table 17

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.686	.374		4.506	.000
	ENJO_M	.735	.056	.625	13.073	.000

a. Dependent Variable: INTN_M

Enjoyment has a positive unstandardised coefficient (B = 0.735), which means that every one unit rise in Enjoyment results in an increase of 0.735 units in intention to use. The magnitude of the impacts is also supported by Beta = 0.625, a standardised coefficient with a high positive influence (unlike t-statistics, which do not offer size information). The t-statistic (13.073) and p-value (<0.001) confirm the high significance of this connection. Based on this evidence, we can conclude that the Null hypothesis is not proven, and the alternative hypothesis H13 is accepted.

Coefficients Table for the Effect of perceive ease of use and perceive usefulness

Table 18

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	(Constant)	2.475	.241		10.277	.000
	PEOU_M	.634	.036	.730	17.439	.000

a. Dependent Variable: PU_M

Perceive Ease of Use has a positive unstandardised coefficient (B = 0.634) which means that one unit increase in Perceive Ease of Use will lead to an increase of 0.634 units in the Perceive Usefulness. The magnitude of the effects is also confirmed by Beta = 0.730 as a standardized coefficient which constitutes a strong positive impact (unlike t-statistics that do not provide information on size). This relationship is highly significant as per both the t-statistic (17.439) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H14 is approved.

Coefficients Table for the Effect of perceive ease of use and attitude

Table 19

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	(Constant)	3.467	.263		13.204	.000
	PEOU_M	.464	.040	.584	11.720	.000

a. Dependent Variable: ATTD_M

Perceive Ease of Use has a positive unstandardised coefficient (B = 0.464) which means that one unit increase in Perceive Ease of Use will lead to an increase of 0.464 units in Attitude.

The magnitude of the effects is also confirmed by Beta = 0.584 as a standardized coefficient which constitutes a strong positive impact (unlike t-statistics that do not provide information on size). This relationship is highly significant as per both the t-statistic (11.720) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H15 is approved.

Coefficients Table for the Effect of perceive usefulness and atitude

Table 20

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	(Constant)	3.184	.314		10.139	.000
	PU_M	.503	.047	.548	10.686	.000

a. Dependent Variable: ATTD_M

Perceive Usefulness has a positive unstandardised coefficient (B = 0.503), which suggests that one unit rise in Perceive Usefulness will result in an increase of 0.503 units in Attitude. The magnitude of the impacts is also supported by Beta = 0.548, a standardised coefficient indicating a substantial positive influence (unlike t-statistics, which do not provide size information). The t-statistic (10.686) and p-value (<0.001) confirm the high significance of this association. Based on this evidence, we can conclude that the Null hypothesis is not proven, and the alternative hypothesis H16 is accepted.

Coefficients Table for the Effect of enjoyment and atitude

Table 21

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
	(Constant)	1.217	.324		3.751	.000

ENJO _M	.800	.049	.709	16.418	.000

a. Dependent Variable: ATTD_M

Enjoyment has a positive unstandardised coefficient (B = 0.800) which means that one unit increase in Enjoyment will lead to an increase of 0.800 units in the Attitude The magnitude of the effects is also confirmed by Beta = 0.709 as a standardized coefficient which constitutes a strong positive impact (unlike t-statistics that do not provide information on size). This relationship is highly significant as per both the t-statistic (16.418) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H17 is approved.

Coefficients Table for the Effect of perceive ease of use and perceive behavior controll

Table 22

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.222	.255		12.609	.000
PEOU_M	.501	.039	.623	13.001	.000

a. Dependent Variable: PBC_M

Perceive ease of Use has a positive unstandardised coefficient (B = 0.501), implying that a one-unit increase in Perceive ease of Use results in a 0.501-unit rise in Perceive behaviour control. Beta = 0.623 as a standardised coefficient confirms the magnitude of the effects, indicating a strong positive influence (unlike t-statistics, which do not offer size information). The t-statistic (13.001) and p-value (<0.001) confirm the substantial significance of this association. Based on this evidence, we can conclude that the Null hypothesis is not proven, and the alternative hypothesis H18 is accepted.

Coefficients Table for the Effect of perceive behavior control and atitude

Table 23

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.908	.278		6.874	.000
	PBC_M	.708	.042	.715	16.700	.000

a. Dependent Variable: ATTD_M

Perceive ease of Use has a positive unstandardised coefficient (B = 0.708) which means that one unit increase in Perceive ease of Use will lead to an increase of 0.708 units in the Perceive behavior control. The magnitude of the effects is also confirmed by Beta = 0.715 as a standardized coefficient which constitutes a strong positive impact (unlike t-statistics that do not provide information on size). This relationship is highly significant as per both the t-statistic (16.700) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H19 is approved.

Coefficients Table for the Effect of perceive behavior control and intention to use virtual tour

Table 24

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.738	.341		8.041	.000
	PBC_M	.587	.052	.569	11.278	.000

a. Dependent Variable: INTN_M

Perceive behavior control has a positive unstandardised coefficient (B = 0.587) which means that one unit increase in Perceive behavior control will lead to an increase of 0.587 units in the intention to use virtual tour. The magnitude of the effects is also confirmed by Beta =

0.569 as a standardized coefficient which constitutes a strong positive impact (unlike t-statistics that do not provide information on size). This relationship is highly significant as per both the t-statistic (11.278) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H20 is approved.

Coefficients Table for the Effect of subjective norms and atitude

Table 25

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
	(Constant)	6.842	.078		87.801	.000
	SN_M	-.073	.017	-.261	-4.416	.000

a. Dependent Variable: ATTD_M

Social Norms has a negative unstandardised coefficient (B = 0.073) which means that one unit increase in Social Norms will lead to an decrease of 0.073 units in the attitude The magnitude of the effects is also confirmed by Beta = -0.261 as a standardized coefficient which constitutes weak-to-moderate negative correlation impact . This relationship is significant as per both the t-statistic (-4.416) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H21 is approved.

Coefficients Table for the Effect of subjective norms and intention to use

Table 26

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
	(Constant)	6.877	.082		84.355	.000
	SN_M	-.073	.017	-.248	-4.169	.000

a. Dependent Variable: INTN_M

Social Norms has a negative unstandardised coefficient (B = 0.073) which means that one unit increase in Social Norms will lead to an decrease of 0.073 units in the attitude The magnitude of the effects is also confirmed by Beta = -0.248 as a standardized coefficient which constitutes weak-to-moderate negative correlation impact . This relationship is significant as per both the t-statistic (-4.169) and p-value (<0.001). From this information, we can conclude that the Null hypothesis is not confirmed, and the alternative hypothesis H21 is approved but the relationship is negative.

Moderation effect of perceive security among attitude and intention to use

Table 27

Run MATRIX procedure:

***************** PROCESS Procedure for SPSS Version 4.2 *****************

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

****
Model : 1
Y : INTN_M
X : ATTD_M
W : SCRT_M

Sample
Size: 268

****
OUTCOME VARIABLE:
INTN_M

Model Summary

R	R-sq	MSE	F	df1	df2	p
.7174	.5147	.1519	93.3168	3.0000	264.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	-19.7936	3.3769	-5.8615	.0000	-26.4427	-13.1445
ATTD_M	3.6935	.5040	7.3290	.0000	2.7012	4.6858
SCRT_M	3.8513	.5598	6.8794	.0000	2.7490	4.9536
Int_1	-.5342	.0831	-6.4282	.0000	-.6978	-.3706

Product terms key:

Int_1 : ATTD_M x SCRT_M

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0760	41.3223	1.0000	264.0000	.0000

Focal predict: ATTD_M (X)

Mod var: SCRT_M (W)

Conditional effects of the focal predictor at values of the moderator(s):

SCRT_M	Effect	se	t	p	LLCI	ULCI
5.7600	.6164	.0549	11.2235	.0000	.5083	.7246
6.7500	.0876	.0777	1.1272	.2607	-.0654	.2405
7.0000	-.0460	.0945	-.4864	.6271	-.2321	.1402

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

------ END MATRIX -----

ATTD_M Attitude: As ATTD_M rises, INTN_M rises as well, according to the positive and significant correlation between the two variables coefficient = 3.6935, p = 0.0000. This implies that a higher INTN_M score is correlated with more favourable attitudes. Likewise, the positive and significant correlation between SCRT_M and INTN_M coefficient = 3.8513, p = 0.000 indicates that when secretive behaviour rises, so does INTN_M. This demonstrates how confidentiality could affect the result.

The interaction effect ATTD_M × SCRT_M suggests that the effect of ATTD_M on INTN_M is tempered by SCRT_M. Specifically, the link between attitude and outcome

strengthens when SCRT_M is low and weakens as it grows. This implies that the effect of ATTD_M on INTN_M depends on the degree of SCRT_M.

4.2 Additioanal Regression Analysis

In order to achieve a more comprehensive understanding of how effectiveness, vividness, immersion, engagement comined with TAM and attitude impact the intentions towards virtual tourism, several supplementary linear regression analyses were conducted in this part of the study. These analyses facilitate the drawing of more nuanced conclusions and enable the comparison of the significance of various dependent variables in relation to intention to use.

With all other variables held constant, there was a 0.246 increase in intention to use for every unit increase in Vivid_M. Similarly, there was a 0.400 rise for every unit increment in IMRSN_M and a -0.062 drop for PEOU_M. Lastly, for ATTD_M, a 0.169 increase occurred in intention to use while other variables remain constant. Further, $\beta = 0.252$ for Vivid_M, showing that a single standard deviation rise in Vivid_M corresponds to a 0.252 standard deviation increase in intention to use a virtual tour. The strongest effect is shown by $\beta = 0.534$ for IMRSN_M, a negative effect by $\beta = -0.074$ for PEOU_M, and a moderate effect by $\beta = 0.162$ for ATTD_M. With matching p-values of 0.000, 0.000, 0.326, and 0.002, the t-values for Vivid_M, IMRSN_M, PEOU_M, and ATTD_M are 4.514, 6.815, -0.984, and 3.189, respectively. Accordingly, the findings imply that every variable—aside from PEOU_M—was statistically significant, with IMRSN_M having the most influence because of its high t-value of 6.815 and significance level of 0.000. lastly, table ATTD_M indicates that each increase would be 0.165, the lead of SD shown by 0.158, and the significance value was 0.004. The t value was 2.916, which is significant because it is greaterd than 2.

Coefficients[a] table Between Vividness , Imerssion, Perceive ease of use and Attitude

Table 28

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.643	.297		5.539	<.001		
	Vivid_M	.246	.054	.252	4.514	<.001	.472	2.120
	IMRSN_M	.400	.059	.534	6.815	<.001	.240	4.166
	PEOU_M	-.062	.063	-.074	-.984	.326	.259	3.859
	ATTD_M	.169	.053	.162	3.189	.002	.571	1.751

a. Dependent Variable: INTN_M

The statistical validity of the regression model is confirmed by the p-value of less than 0.001, which shows that the model is highly significant overall. This implies that a considerable amount of the variance in the intention to use virtual tours may be explained by the independent variables ATTD_M, Vivid_M, PEOU_M, and IMRSN_M taken together.

ANOVA table Between Vividness , Imerssion, Perceive ease of use and Attitude Table 29

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.649	4	12.662	104.106	.000[b]
	Residual	31.988	263	.122		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, Vivid_M, PEOU_M, IMRSN_M

When all other factors remained unchanged, the intention to use increased by 0.287 with every unit rise in Vivid_M. In a similar vein, IMRSN_M increased by 0.468 with every unit increment, however PU_M decreased by -0.193. Finally, for ATTD_M, intention to utilize increased by 0.154 while all other variables stayed the same. Additionally, $\beta = 0.295$ for Vivid_M shows that the intention to use a virtual tour increases by 0.295 standard deviations for every standard deviation increase in Vivid_M. ATTD_M had a moderate effect with $\beta = 0.148$, PU_M had a negative impact with $\beta = -0.202$, and IMRSN_M had the highest effect with $\beta = 0.625$. The t-values for Vivid_M, IMRSN_M, PU_M, and ATTD_M are 5.059, 7.602, -2.449, and 2.933, respectively, with corresponding p-values of 0.000, 0.000. Consequently, the

findings indicate that every variable—aside from PU_M—was statistically significant, with IMRSN_M having the greatest influence because of its high t-value of 7.602 and significance level of 0.000. Finally, table ATTD_M indicates that each increase would be 0.165, the lead of SD would be 0.158, and the significance value would be 0.004. The t value was 2.916, which is statistically significant because it is larger than 2.

Coefficients[a] table Between Vividness , Imerssion, Perceive usefulnedd and Attitude

Table 30

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.898	.315		6.024	.000		
Vivid_M	.287	.057	.295	5.059	.000	.425	2.353
IMRSN_M	.468	.062	.625	7.602	.000	.213	4.685
PU_M	-.193	.079	-.202	-2.449	.015	.211	4.730
ATTD_M	.154	.053	.148	2.933	.004	.569	1.759

a. Dependent Variable: INTN_M

The p-value of less than 0.001 confirms that the overall regression model is statistically significant, indicating that the independent variables ATTD_M, Vivid_M, ENJO_M, IMRSN_M collectively have a meaningful impact on the intention to use virtual tours.

ANOVA table Between Vividness , Imerssion, Perceive usefulnedd and Attitude

Table 31

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.247	4	12.812	107.343	.000[b]
	Residual	31.390	263	.119		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, Vivid_M, IMRSN_M, PU_M

Intention to utilize increased by 0.232 for every unit increase in Vivid_M while other constants remained same. Similarly, the plan to use increased by 0.364 for every unit increase in IMRSN_M while maintaining other constants. Similarly, the intention to utilize increased by

-0.008 for every unit rise in ENJO_M while other constants remained same. Additionally. A single rise in SD in EFT_M results in a 0.238 increase in SD in intention to use a virtual tour, as indicated by β = 0.238. For IMRSN_M, β = 0.486 shows that a 0.486 rise in SD in the desire to use a virtual tour corresponds to a single increase in SD in IMRSN_M. Finally, the intention to use a virtual tour increases by -0.007 for every increase in the PEOU_M standard deviation. Moreover, the same sequence was used for the values of t for vividness, engagement, and perceived ease of use, which are 4.400, 7.110, and -.099, respectively, and the significance values of p were 0.000, 0.000, and 0.922. According to the results, all of the variables were statistically significant, but the most significant one is IMRSN_M, which has a T value of 7.110 and a significance value of 0.000.

Finally, each increase would be 0.168 according to table ATTD_M, with a lead of SD of 0.161 and a significance value of 0.004; the t value was 2.868, which is significant because it is greater than 2.

Coefficients[a] table Vividness , Imerssion, Enjoyment and Attitude

Table 32

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.617	.342		4.731	.000		
Vivid_M	.232	.053	.238	4.400	.000	.504	1.982
IMRSN_M	.364	.051	.486	7.110	.000	.316	3.162
ENJO_M	-.008	.080	-.007	-.099	.922	.321	3.117
ATTD_M	.168	.059	.161	2.868	.004	.467	2.142

a. Dependent Variable: INTN_M

The p-value of less than 0.001 confirms that the overall regression model is statistically significant, indicating that the independent variables ATTD_M, Vivid_M, ENJO_M, IMRSN_M have a meaningful impact on the intention to use virtual tours. Among these, Subjective Norms IMRSN_M is the most significant predictor, with the highest t-value of 7.110 and a significance value of 0.000, suggesting a strong influence on the intention to use virtual tours.

ANOVA table Between Vividness , Imerssion, Enjoyment and Attitude

Table 33

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.532	4	12.633	103.489	.000[b]
	Residual	32.105	263	.122		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, Vivid_M, ENJO_M, IMRSN_M

For each unit increament in Vivid_M, 0.200 increase occurred in intention to use while other constant . likewise For each unit increament in ENG_M, 0.306 increase occurred in intention to use while other constant. Similarly For each unit increament in PEOU_M, 0.107 increase occurred in intention to use while other constant . Further. $\beta = 0.205$ this shows that single increase in SD in Vivid_M leads to 0.205 increase of SD in intention to use virtual tour. For ENG_M, $\beta = 0.368$ depicts that single increase in SD in ENG_M leads to 0.368 increase of SD in intention to use virtual tour. Lastly, each increase in PEOU_M standard deviation cause of 0.129 increase of SD in intention to use virtual tour. Additionally using same sequence for Vividness, Engagement and Perceive ease of use the value t is 3.389, 5.510 and 2.054 and the significance value of p were 0.001, 0.000, 0.041. Thus results suggest that overall variable were statistically significant but most impactful variable is ENG_M with T value 5.510 and significance value consists of 0.000. Lastly according to table ATTD_M each increase would be 0.188 and lead of SD showed by 0.180 with significance value of 0.001 while t was 3.459 which is significant as it is greater than 2.

Coefficients[a] table Vividness , Engagement, Perceive ease of use and Attitude

Table 34

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.308	.298		4.385	.000		
	Vivid_M	.200	.059	.205	3.389	.001	.423	2.365

ENG_M	.306	.056	.368	5.510	.000	.348	2.877
PEOU_M	.107	.052	.129	2.054	.041	.391	2.558
ATTD_M	.188	.054	.180	3.459	.001	.573	1.745

a. Dependent Variable: INTN_M

This p-value 0.000 is highly significant less than 0.001, confirming that the overall regression model is statistically valid. . It indicates that the predictors ENG_M significantly influence the Intention to Use Virtual tour.

ANOVA table Vividness , Engagement, Perceive ease of use and Attitude

Table 35

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.895	4	12.224	95.276	.000[b]
	Residual	33.742	263	.128		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), PEOU_M, ATTD_M, Vivid_M, ENG_M

For each unit increament in Vivid_M, 0.177 increase occurred in intention to use while other constant . likewise For each unit increament in ENG_M, 0.383 increase occurred in intention to use while other constant. Similarly For each unit increament in PU_M, 0.135 increase occurred in intention to use while other constant .

Further. $\beta = 0.181$ this shows that single increase in SD in Vivid_M leads to 0.181 increase of SD in intention to use virtual tour. For ENG_M, $\beta = 0.383$ depicts that single increase in SD in ENG_M leads to 0.383 increase of SD in intention to use virtual tour. Lastly, each increase in PU_M standard deviation cause of 0.135 increase of SD in intention to use virtual tour.

Additionally using same sequence for Vividness, Perceive usefulness and Engagement the value t is 3.921, 2.809 and 5.984 and the significance value of p were 0.001, 0.000, 0.041.

Thus results suggest that overall variable were statistically significant but most impactful variable is ENG_M with T value 5.984 and significance value consists of 0.000.

Lastly according to table ATTD_M each increase would be 0.193 and lead of SD showed by 0.186 with significance value of 0.001 while t was 3.601 which is significant as it is greater than 2.

Coefficients[a] table Vividness , Engagement, Perceive usefulness and Attitude

Table 36

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	T	Sig.	Tolerance	VIF
(Constant)	1.194	.304		3.921	.000		
Vivid_M	.177	.063	.181	2.809	.005	.371	2.693
ENG_M	.318	.053	.383	5.984	.000	.378	2.644
PU_M	.129	.060	.135	2.136	.034	.390	2.563
ATTD_M	.193	.054	.186	3.601	.000	.584	1.712

a. Dependent Variable: INTN_M

This p-value 0.000 is highly significant less than 0.001, confirming that the overall regression model is statistically valid. . It indicates that the predictors ENG_M significantly influence the Intention to Use Virtual tour.

ANOVA table Vividness , Engagement, Perceive usefulness and Attitude

Table 37

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.938	4	12.234	95.483	.000[b]
	Residual	33.699	263	.128		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, Vivid_M, PU_M, ENG_M

For every one-unit rise in the Vivid_M scale, there is a corresponding 0.200-point increase in the intention to use, holding all other variables constant. Similarly, for each one-unit rise in the ENG_M scale, there is a 0.328-point increase in the intention to use, with other factors held constant. In the case of ENJO_M, each one-unit increase results in a 0.218-point increase in the intention to use, with other variables remaining unchanged.

Furthermore, the beta coefficient (β) for Vivid_M is 0.205, indicating that a one-standard-deviation increase in Vivid_M is associated with a 0.205-standard-deviation increase in the intention to use virtual tours. For ENG_M, a beta coefficient of 0.395 suggests that a one-standard-deviation increase in ENG_M is linked to a 0.395-standard-deviation increase in the intention to use virtual tours. Lastly, a one-standard-deviation increase in ENJO_M correlates with a 0.185-standard-deviation increase in the intention to use virtual tours.

Additionally, following the same pattern for Vividness, Perceived Enjoyment, and Engagement, the t-values are 3.507, 3.098, and 6.430, respectively, with corresponding p-values of 0.001, 0.000, and 0.002. These results indicate that all variables are statistically significant, with ENG_M being the most influential, as evidenced by its t-value of 6.430 and a p-value of 0.000.

Lastly, according to the table for ATTD_M, each increment results in a 0.113 increase, and a one-standard-deviation lead is shown by a 0.108 increase, with a p-value of 0.067 and a t-value of 1.841. This t-value, while slightly higher than the significance threshold as it is less than 2, suggests a possible trend rather than a definitive continuous intention.

Coefficients[a] table Between Vividness , Engagement, Enjoyment and Attitude

Table 38

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.920	.323		2.845	.005		
	Vivid_M	.200	.057	.205	3.507	.001	.446	2.240
	ENG_M	.328	.051	.395	6.430	.000	.404	2.478
	ENJO_M	.218	.070	.185	3.098	.002	.426	2.345
	ATTD_M	.113	.061	.108	1.841	.067	.441	2.266

a. Dependent Variable: INTN_M

This p-value 0.000 is highly significant less than 0.001, confirming that the overall regression model is statistically valid. . It indicates that the predictors ENG_M significantly influence the Intention to Use Virtual tour.

ANOVA table Between Vividness , Engagement, Enjoyment and Attitude

Table 39

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.560	4	12.390	98.517	.000[b]
	Residual	33.076	263	.126		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, Vivid_M, ENJO_M, ENG_M

For each unit increase in EFCT_M, there is a 0.157-point increase in the intention to use, with all other factors held constant. The standardized beta value of 0.190 suggests a moderate impact on the intention to purchase, and the result is statistically significant with a p-value of 0.002, which is less than the 0.05 threshold.

In the case of IMRSN_M , it exhibits the strongest positive relationship with INTN_M, with a coefficient of 0.419. This means for each unit increase in IMRSN_M, INTN_M increases by 0.419. The standardized beta value of 0.559 indicates that IMRSN_M is the most influential variable in predicting intention to use among the predictors, and the result is highly significant with a p-value of 0.000. For PEOU_M , there is a negative relationship with INTN_M, but it is not statistically significant. The p-value of 0.497 is greater than the significance threshold of 0.05, indicating that PEOU_M does not significantly influence the intention to purchase.

Lastly, for ATTD_M , each unit increase results in a 0.158 point increase in the intention to purchase, with other variables remaining unchanged. The beta value of 0.152 indicates a moderate effect on the intention to purchase, and the result is statistically significant with a p-value of 0.005, which is less than the 0.05 threshold.

From table it is concluded immersion performs essential role to influence intention to use virtual tour, while EFCT_M and ATTD_M also impacts but less than immersion. Lastly according to results perceive ease of use doesn't have any impact on users intention.

Coefficients[a] table Between Effectiveness , Imerssion, Perceive ease of use and Attitude

Table 40

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.071	.281		7.372	.000		
	EFT_M	.157	.051	.190	3.104	.002	.407	2.460
	IMRSN_M	.419	.060	.559	7.027	.000	.241	4.141
	PEOU_M	-.044	.064	-.053	-.680	.497	.256	3.901
	ATTD_M	.158	.056	.152	2.841	.005	.536	1.865

a. Dependent Variable: INTN_M

The statistical validity of the regression model as a whole is confirmed by this highly significant p-value. The model indicates that IMRSN_M significantly predict the Intention to Use Virtual Tours INTN_M.

ANOVA table Between Effectiveness , Imerssion, Perceive ease of use and Attitude

Table 41

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.389	4	12.347	97.669	.000[b]
	Residual	33.248	263	.126		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, PEOU_M, EFT_M, IMRSN_M

By increasing each unit in EFT_M, there was a 0.160 increment in the intention to use virtual tours, while holding all other factors constant. Similarly, for every rising unit in IMRSN_M, the intention to use increased by 0.445, with the other variables remaining unchanged. On the other hand, for each unit rise in PU_M, there was a decrease of 0.087 in the intention to use virtual tours, with other factors kept constant.

Each unit increase in the standard deviation of EFT_M results in a 0.194 increase in the standard deviation of the intention to use virtual tours (β = 0.194). Similarly, for each unit increase in the standard deviation of IMRSN_M, there is a 0.595 increase in the standard deviation of the intention to use virtual tours (β = 0.595). For PU_M**,** each unit increase in its standard deviation causes a -0.091 change in the standard deviation of intention to use virtual tours. The t-values are 3.216, 6.907, and -1.144, for vividness, engagement and perceived ease of use with corresponding p-values of 0.001, 0.000, and 0.254. Among all the variables, IMRSN_M has the greatest impact, with a t-value of 6.907 and a p-value of 0.000, making it the most influential factor in predicting the intention to use virtual tours. Finally, for ATTD_M**,** a 1-unit increase corresponds to a 0.153 increase in the intention to use virtual tours, and a standard deviation change of 0.147. The t-value for this relationship is 2.740, which is statistically significant as it's significance is greater than 2 , with a p-value of 0.007, confirming its strong significance.

Coefficients[a] table Between Effectiveness , Imerssion, Perceive usefulness and Attitude

Table 42

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.209	.316		6.987	.000		
	EFT_M	.160	.050	.194	3.216	.001	.420	2.382
	IMRSN_M	.445	.064	.595	6.907	.000	.206	4.859
	PU_M	-.087	.076	-.091	-1.144	.254	.240	4.173
	ATTD_M	.153	.056	.147	2.740	.007	.533	1.875

a. Dependent Variable: INTN_M

This p-value (0.000) is highly significant (less than 0.001), confirming that the overall regression model is statistically valid. . It indicates that the predictors IMRSN_M significantly influence the Intention to Use Virtual tour.

ANOVA table Between Effectiveness , Imerssion, Perceive ease of use and Attitude

Table 43

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.495	4	12.374	98.194	.000[b]
	Residual	33.142	263	.126		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, PU_M, EFT_M, IMRSN_M

There will be increased of 0.149 in EFT_M for each unit while other factors remain constant. Similarly, For each unit increment in IMRSN_M, 0.398 increase occurred and in ENJO_M, -0.020 increase occurred in intention to use while other constant . Furthermore ,increase in the standardized deviation in EFT_M leads to 0.181 increase of SD, likewise β = 0.532 depicts that single increase in SD in IMRSN_M leads to 0.532 increase occurred .Lastly, each increase in ENJO_M standard deviation cause of -0.017 increase of SD in intention to use virtual tour. Additionally utilizing the sequence for Vividness, Engagement and Perceive ease of use the value t is 3.039, 7.759 and -0.246 the significance value of p were 0.003, 0.000, 0.806. Thus results imply that overall variable were statistically significant but most impactful variable is IMRSN_M with T value 7.759 and significance value consists of 0.000. Lastly according to table ATTD_M each increase would be 0.163 and lead of SD showed by 0.157 with significance value of 0.008 while t was 2.692 which is significant as it is greater than 2

Between Effectiveness , Imerssion, Enjoyment and Attitude

Table 44

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.069	.327		6.329	.000		
EFT_M	.149	.049	.181	3.039	.003	.434	2.306
IMRSN_M	.398	.051	.532	7.759	.000	.326	3.065
ENJO_M	-.020	.082	-.017	-.246	.806	.317	3.158
ATTD_M	.163	.061	.157	2.692	.008	.451	2.216

a. Dependent Variable: INTN_M

The p-value (Sig.) is reported as 0.000, which is less than 0.001. This indicates that the regression model is highly significant. It implies that the independent variables collectively explain a significant portion of the variance in the dependent variable, INTN_M.

Coefficients[a] table Between Effectiveness , Imerssion, Enjoyment and Attitude

Table 45

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.338	4	12.334	97.419	.000[b]
	Residual	33.299	263	.127		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, EFT_M, IMRSN_M, ENJO_M

With all other factors held constant, the intention to use increased by 0.145 with every unit increase in EFT_M. Similarly, there was a 0.340 rise for every unit increment in ENG_M and a 0.106 increase for PEOU_M. Finally, for ATTD_M, intention to use increased by 0.165 while all other variables stayed the same. Additionally, $\beta = 0.175$ for EFT_M shows that the intention to use a virtual tour increases by 0.175 standard deviations for every standard deviation increase

in EFT_M. The largest effect for ENG_M is β = 0.410, whereas the moderate effects for PEOU_M and ATTD_M were β = 0.128 and 0.158, respectively. With matching p-values of 0.006, 0.000, 0.050, and 0.004, the t-values for EFT_M, ENG_M, PEOU_M, and ATTD_M are 2.776, 6.369, 1.970, and 2.916, respectively. Consequently, high t-value of 6.369 and significance level of 0.000, the results indicate that all variables except PEOU_M were statistically significant, with ENG_M having the most impact.

Coefficients[a] table Between Effectiveness , Engagement, Perceive ease of use and Attitude

Table 46

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.623	.282		5.758	.000		
EFT_M	.145	.052	.175	2.776	.006	.397	2.521
ENG_M	.340	.053	.410	6.369	.000	.381	2.627
PEOU_M	.106	.054	.128	1.970	.050	.372	2.690
ATTD_M	.165	.057	.158	2.916	.004	.535	1.868

a. Dependent Variable: INTN_M

Table 47

The statistical validity of the regression model is confirmed by the p-value of 0.000, which is less than 0.001 and indicates that the model is highly significant overall. This implies that a significant amount of the variance in the intention to use virtual tours may be explained by the independent variables ATTD_M, PEOU_M, EFT_M, and ENG_M

ANOVA table Between Effectiveness , Engagement, Perceive ease of use and Attitude

Table 48

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.423	4	12.106	93.058	.000[b]
	Residual	34.213	263	.130		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, PEOU_M, EFT_M, ENG_M

With all other factors held constant, there was a 0.134 rise in intention to use for every unit increase in EFT_M. Similarly, PU_M increased by 0.151 and ENG_M increased by 0.334 for every unit increment. Additionally, β = 0.162 for EFT_M shows that the intention to use a virtual tour increases by 0.162 standard deviations for every standard deviation increase in EFT_M. PU_M had a mild effect with β = 0.158, whereas ENG_M had a bigger effect with β = 0.402. Using the same sequence, the t-values for Perceived Usefulness, Engagement, and Vividness are 2.622, 6.431, and 2.610, respectively, with significant values of 0.009, 0.000, and 0.010 for each. Accordingly, the findings indicate that all of the factors were statistically significant, with ENG_M having the greatest influence t-value of 6.431 and 0.000 as the significance value. Finally, each increment would be 0.166 according to table ATTD_M, with a lead of SD of 0.056 and a significance value of 0.003, and a t of 2.956 and it is significant.

Coefficients[a] table Between Effectiveness , Engagement, Perceive usefulness and Attitude

Table 49

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	1.422	.297		4.793	.000		
EFT_M	.134	.051	.162	2.610	.010	.402	2.490
ENG_M	.334	.052	.402	6.431	.000	.399	2.505
PU_M	.151	.058	.158	2.622	.009	.428	2.338
ATTD_M	.166	.056	.159	2.956	.003	.539	1.857

a. Dependent Variable: INTN_M

The p-value < 0.001 indicates a highly significant result, confirming the statistical validity of the regression model. This finding demonstrates that the independent variables, including ENG_M, significantly contribute to predicting the intention to use a virtual tour.

ANOVA table Between Effectiveness , Engagement, Perceive usefulness and Attitude

Table 50

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.803	4	12.201	94.841	.000[b]
	Residual	33.834	263	.129		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, PU_M, EFT_M, ENG_M

Intention to use increased by 0.140 for every unit increase in EFT_M while other constants remained same. Similarly, the plan to use increased by 0.365 for every unit increase in ENG_M while maintaining other constants. Similarly, the intention to utilize increased by 0.212 for every unit rise in ENJO_M while other constants remained same. Additionally. A single rise in SD in EFT_M results in a 0.169 increase in SD in intention to use a virtual tour, as indicated by β = 0.169. A single increase in SD in ENG_M results in a 0.439 increase in SD in intention to use a virtual tour, as shown by β = 0.439 for ENG_M. Finally, the intention to use a virtual tour increases by 0.180 for every rise in the ENJO_M standard deviation. The significance value of p were 0.006, 0.000, 0.004 also the sequence for Vividness, Engagement and Perceive ease of use the value t is 2.796, 7.555 and 2.926 . The most impactful variable is ENG _M with T value 7.555 and significance value consists of 0.000. Lastly ,in ATTD_M each increase would be 0.094 and lead of SD showed by 0.090 with significance value of 0.133 while t was 1.507 .It is not statistically significant.

Coefficients[a] table Between Effectiveness , Engagement, Enjoyment and Attitude

Table 51

Coefficients[a]

		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.249	.316		3.947	.000		
	EFT_M	.140	.050	.169	2.796	.006	.422	2.369
	ENG_M	.365	.048	.439	7.555	.000	.458	2.185
	ENJO_M	.212	.072	.180	2.926	.004	.409	2.447
	ATTD_M	.094	.062	.090	1.507	.133	.431	2.323

a. Dependent Variable: INTN_M

The p-value (< 0.001) confirms the statistical significance of the overall regression model, establishing its validity. This result indicates that the predictors collectively have a significant impact on the intention to use a virtual tour. Among the predictors, ENG_M is the most significant, as evidenced by its highest t-value 7.555 and a p-value of 0.000, which is far below the standard threshold for significance

ANOVA table Between Effectiveness , Engagement, Enjoyment and Attitude

Table 52

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.013	4	12.253	95.844	.000[b]
	Residual	33.624	263	.128		
	Total	82.637	267			

a. Dependent Variable: INTN_M

b. Predictors: (Constant), ATTD_M, ENG_M, EFT_M, ENJO_M

4.3 Discussion

This research aimed to explore how effectiveness, vividness, immersion and engagement moreover integrating the technology and acceptance and theory of planned behavior, impact on user intention towards virtual museum tour, while considering the case of Mona Lisa virtual tour. The results depict major behavior pattern and align with exciting literature and generating important theoretical and practical implications.

The primary objective was to determine the effect of virtual tour effectiveness on immersion, hypnotized in H1. Findings confirmed that effectiveness of virtual tour positively influence the immersion, putting importance attractive and well design of virtual environment. Functions like ease to navigate, user friendly interaction and sound visuals significantly effect on user sense of presence in virtual environment. These results aligned and grounded with the study by Lee & Smith (2023), that described, interactive, user friendly designs increase the immersivenes. Likewise, hypothesis three that vividness has positive impact on immersion, supports a study by Iachini et al., (2019), Nguyen, Le, & Chau, (2023) and Kerrebroeck et al. (2017), demonstrated that how sensory factors like vividness and realistic environment increase physical and mental presence in virtual context. The impact on engagement which hypnotized in H2 and H4, effectiveness and vividness perform a vital role in order to gain engagement in virtual environment. In support the results of this study confirmed that both factor perform pivotal roles in fostering engagement. Moreover sensory appealing, interactive, user friendliness of virtual environment are essential determinant to get engagement and these findings also aligned with results, research conducted by (Guttentag, 2010) and Servotte et al. (2020), who analyzed that immersion and visual appealing environment help to enhance user engagement. Moving forward, Perceive ease of use and perceive usefulness of virtual environment are directly linked with immersion and engagement which was also hypnotized in H5, H6 and subsequently for engagement H8 and H9, the findings of the study confirmed these effects and prove the PEU and PU emerged as important predictors in virtual environment. Adding more these results also confirmed in study by Sagnier et al., (2020) and TAM model suggesting that PU and PEU having positive relationship with responsive design, usability functions. Finally H14 supports various studies like study conducted by Yang et al. (2022), demonstrated that usefulness of system significantly increase the PEU of virtual environment.

Perceived enjoyment positively impacted by immersion and engagement which is also hypnotized in H7 and H10 and these hypothesis also supported by the study result that immersions and engagement perform a stronger positive role for user engagement in virtual

environment. And these findings aligned with result generated by Tussyadiah et al. (2018) and Lee et al. (2020), determined that enjoyment is an important factor in use of virtual environment. Another study conducted by Damayanti et al. (2021) showed that vividness of virtual environment increase the enjoyment of user. Furthermore, the impact of TAM factors such as ease of use, usefulness and enjoyment on attitude and intention to use were consistent with existing literature as explored in study Maziriri et al., (2023), and the results of this study also proved which is hypnotized in (H11, H12, H13) that these TAM determinants have positive impact on intention to use virtual tour. Importantly these determinants also essential to shape up the attitude towards vitual enviornment as hypothised in H15,H16 and in H17 that attitude is positively impacted by ease, usefulness and enjoyment and this is also grounded in literature as study conducted by(Lin., 2006 ; Tussyadiah et al., 2018 ; Lim et al., 2022). Lastly, social factor and Perceive behavior control, also proved that these are also important which is being hypothized in H20, H22 but in this study results showed that social influence has but negative impact on intention to use adding more perceive behavior control showed the similarity with hypotized situation. Moreover existing studies also supports the relationship.

Perceive security hypothize in H24 performed moderation role and the results shows that user can have a more positive intent to use, be more open to exploring the features, and be more comfortable with privacy assurance and security features, which can shape the user's intention to use virtual tours by demonstrating that they feel secure while using virtual environments essentials previous studies also make a strong ground like demonstred in study (HurYeon & Hun, 2017) and (Kim, Lee, & Jung, 2020) where author discussed that security of VR experience important for enjoyable and usefull results.

The results of multiple regression also provide some other insights to understand of user intention towards VT. Simple regression showed individual relationship between each variable which seen significant in results. But while consider combine effect with multivariate analysis some different findings analyzed. Some key predictors as immersion , perceive usefulness, engagement and attitude found significant contributors in user intentions towards virtual tour. Essentially immersion came up as strongest predictor, considering the importance of sensory richness, interactivity and user friendliness impact in changing the intention of users toeards virtual environment these finding aligned with studies Guttentag, 2010 and Hudson et al. (2019). Similarly, engament also proved an important aspect which can shape user intentions towards virtual tourism as explored in studies (Guttentag, 2010). The rsults sugest that greater effectivess and vividness important aspect to get greater engagement which leads to enhace

your intention towards virtual tour. it was explored in several studies that engagement performs an impotant role to shape up the user intentions (Hudson et al., 2019; Guttentag, (2010).

Interestingly, perceive ease of use determined found an important variable in simple regresion analysis, but in multivariate it has lost the considerable significance. This may occurred because of the overlapping with other significant predictor like immersion and tis somehow contradicts with other studies like (Aristeidou et al., 2023; Sylaiou et al., 2010). But it aligned with the rules of technology acceptance model that perceive ease of use plays significantly with other related or relevant variables (Fagan et al., 2012; Yi et al., 2006). Lastly, result demonstrated that high effective, interactive, engaging and useful environment leads to shape up the attitude towards virtual tourism and relationship of attitude in multivariate model found moderate significant. But this aspect is aligned and grounded with multiple studies (Ajzen's, 2011; Lu et al., 2007). On the basis of results of this study it was analyzed that multivariate analysis came up with relatively important independent variables, depicting that immersion and engagement most important subsequently effectiveness, vividness and engagement shape up the attitude additionally perspective of enjoyment leads to change view towards intention to use virtual tourism.

Moreover in literarue theory of planned was performing significant impact like Hasan et al. (2020) found that SN possessed a strong, positive correlation with the risky behavior, effect on travel decisions thus people consider social acceptance in travel decisions. But in this study results showed a moderate but negative relationship with intention to use. Furthermore the analysis found that individually perceive behavior control showed significant impact on intention and it also aligned with existing studies e.g study conducted by Hamid et al. (2023) observed this correlation in particular, arguing that having the required tools and talents greatly increases a person's intention to use virtual reality.

Moreover perceive security also strengths the relationship between attitude and intention to use virtual tour, if perceive security is high user would be more confident to use to tour as well as if perceive security is low user will hesitate to involve in the usage of tour and its also underlinged in the study conducted by Vishwakarma et al. (2020) explored the virtual reality modelling of how destinations are assessed, and the value-based.ve experience that satisfies consumers' needs and fosters overall satisfaction, especially in the context of health tourism (Potjanajaruwit, 2023).

CONCLUSIONS

The study investigated essential aspects that influence user intentions to use a virtual museum tour. Where variables consist of effectiveness, vividness, immersion, engagement, TAM model, theory of planned behaviour study also includes security, which is a crucial determinant for the utilisation of online system and ultimately how they influence intentions to use virtual tour. effectiveness and vividness emerged as strong influencing role to intentions if virtual environment clearly communicate its feature and user can get the result according to their perception about tours it would shape positive intention for virtual museum. Furthermore quality of virtual environment , audio quality of artifacts and sensory engagement are proved important for user intentions.

Additionally, engagement during virtual visit and being involved in visit are key drivers of user intentions supported by effectiveness and vividness. The findings emphasize user intent to adopt virtual museum when are supposed to be engaged and their feel of presence, interactivity would be positive. Moreover perceive ease of use, perceive usefulness and perceive enjoyment as built in technology acceptance model are also prove significant variable for shaping user intentions towards virtual tourism. User are more willing to iteract if they found virtual tour easy to use and outcome oriented. However in combine PEOU has not signifance predictor. The study also assuered the contribution of perceive enjoyment and it is suggested the these virtual pltforms should designed with positive emothional response as if the technology would enjoyable and interactive users are more probably have to positive intentions. Importantly social pressure has not positively linked with intention there is not impact of the opinion of others on individual decisions. Moreover attitude is connected with other predictors, and combining with other variables or individullay attitude impacts the intention to use virtual tour. Another important result the moderating aspect of perceive security. The analysis showed that security alter the relationship between attitude and user intentions towards virtual tourism. And it is analysed that low sercurity becomes the reason of reliant attitude of user towars VT and change the perceptions on other with good security user can more positively intent to use, open to explore the features and more comfortable with privacy assurance and security features and it can shape the user intention to utlize virtual tour as it depicts they feel secure while using

virtual environment. Moreover these findings can be beneficial for vt designers and marketers as they can easily highlight this feature.

To sum up, the study showed that virtual environment with effectiveness, vividness , immersion and engagement importantly integrated with good security are essential to guage the user intention towards virtual tourism people will more intent to use such system. these insights possess significant implication for virtual tourism, policymaker, marketers, and developers.

Study Implications

The study have both practical and theoretical implications in terms of practical consideration: Museums and institutions can utilize the findings to target greater audiences who face limitations, audience interested in Virtual tourism or vt environment, globaly disperced individual or people facing mobility issues. By offering such tourism comprise up with mentioned factors in study can lead grab and engage audience in virtual tourism.

This study not limited to inforcing greater audience to technology use only but also opportunity to learn cross culture their exhibitions and heritage etc on a global scale. Museums can use adoptive method to jump in digital era. Virtual tourism also opens an opportunity to collaborate with educational institutes, which will benefical in terms of familiarity with technology as well as promotion and growth of culture. Another essential domain of sustainable tourism where virtual tour is sustainable alternative to traditional tourism by reducing the effects of transportation and other infrastructures. For instance reduction in the consumption of natural resources, carbon emission from travelling and other lots of challenges made by massive tourism. Moreover Virtual tourism can be promting as eco friendly option of tourism which is aligned with gloabal sustainability goals and visions for which lot of efforts are taking place to reduce challenges associated with tourism industry. Virtual tourism serves as a sustainable alternative to traditional travel by significantly reducing the environmental impact associated with transportation and physical infrastructure. By offering immersive and educational experiences, virtual tours enable users to explore cultural and historical sites without contributing to carbon emissions from travel, thereby addressing the environmental challenges posed by mass tourism.

There is also solid grounds for policy maker they can support the development of such virtual enviornment throught financial support and collaboration with cultural based institutions.development of policy, regulation which can ensure the privacy and security of intrction with these technologies.

Limitation and future direction

This study was conducted at particular timeline, which limits lots of aspects that can capture the change of user's behavior or attitude over time for instance change in technology, advancement in resources. longitudinal design can depict more insights about user intentions. Immersion, engagement ,effectivess and vividness found most impactfull predictor but other protential predictors of emotional and congantive aspects can explore deeply with current framework. Moreover, such type of tourism heavily dependent on specific technology that can be use in particular environment and this technology impacts on factors e.g internet speed. Compatibility of gadget or device, or other attributes of virtual environment. These factors were not explored in this study but these can be significant constructs to effect user intentions.

There are several potential future direction where most important contribution can be sustainability,where physical and financial berrier can be explored and its sustainable alternate to traditional tourism minimizing the environmental effects aligned with global sustaiablility goals. Moreover, its era of technology which is evoloving rapidly so, advance technological factor can explore like Metaverse, VR advancement, artificial intelligence these factor significantly influence the intention of virtual tourism. This study was conducted at a specific timeline, which limits many elements that can capture the change of user's behaviour or attitude over time, further longitudinal study can explore how user intentions evolve over time. Moreover, context of virtual can be an important factor, Increasing investigations to incorporate several sorts of virtual tours, such as historical locations, natural habitats, and interactive educational platforms, would provide a more comprehensive understanding of user behaviour and preferences.

" Factors Influencing the intention to Use Virtual Museum Tour”

Nabeel Sattar

Master Thesis

Marketing and integrated Communication Master Programme

Faculty of Economics and Business Administration,Vilnius University

Supervisor Prof. Vytautas Dikčius, Vilnius, 2025

Summary in English

The research explores the factors that affect the intention of user to use virtual museum tour. The study focuses on impact of elements of technology acceptance model such as perceive ease of use, perceive usefulness and enjoyment additionally functional attributes effectiveness and vividness moreover combination of these factor with theory of planned behavior aspects is also analyzed, how these factors contribute to shape the user intention.

An extensive literature analysis was done to best describe the variable moreover to achieve the objectives of study a quantitative survey was conducted among 318 respondents to assess the impact of key factors on user intentions to use virtual museum tour. Data collected through questionnaires and measured constructs are effectiveness, vividness, Immersion, engagement elements of TAM and theory of planned behavior. Statistical method consists of Linear and multivariate regression, correlation analysis.

Findings reveal that immersion engagement and enjoyment significantly influence the intention of users where perceive ease of use and perceive usefulness also plays a vital role but with other potential predictors the effect proved weaker essentially effectiveness and vividness also shape the attitude towards virtual museum. Moreover if user perceive secure to use the virtual environment the result would be intense positively.

This research contributes to academic and practical knowledge by exploring how virtual technologies or environment can make visit or intention, more accessible and engaging. The findings provide valuable insights for developers, museum professionals, and educators seeking to improve virtual museum platforms through immersive design and user-centric features. Importantly this study also aligned with global sustainable environment goal in terms of reduction in the need of physical travel, minimize environmental impact and preserve cultural heritage in digital format.

Veiksniai, darantys įtaką ketinimui naudotis virtualiu muziejaus turu

Nabeel Sattar

Magistro darbas

Rinkodaros ir integruotos komunikacijos magistrantūros programa

Ekonomikos ir verslo administravimo fakultetas, Vilniaus universitetas

Vadovas: Prof. Vytautas Dikčius, Vilnius, 2025

Santrauka lietuvių kalba

Tyrimas nagrinėja veiksnius, kurie daro įtaką vartotojų ketinimams naudotis virtualiu muziejaus turu. Tyrimas sutelkia dėmesį į technologijų priėmimo modelio elementų, tokių kaip suvokiama naudojimo paprastumas, suvokiama nauda ir malonumas, poveikį, taip pat funkcinių atributų, tokių kaip efektyvumas ir gyvybingumas, įtaką. Be to, taip pat analizuojama šių veiksnių kombinacija su planuojamo elgesio teorijos aspektais ir kaip šie veiksniai prisideda prie vartotojo ketinimų formavimo.

Atlikta išsami literatūros analizė, siekiant geriausiai apibūdinti kintamuosius. Siekiant pasiekti tyrimo tikslus, atliktas kiekybinis tyrimas, kuriame dalyvavo 318 respondentų, siekiant įvertinti pagrindinių veiksnių poveikį vartotojų ketinimams naudotis virtualiu muziejaus turu. Duomenys buvo renkami naudojant klausimynus, o išmatuoti konstrukcijos apima efektyvumą, gyvybingumą, imersiją, įsitraukimą, TAM elementus ir planuojamo elgesio teoriją. Naudotos statistinės metodikos – linijinė ir daugiakryptė regresija, koreliacijos analizė.

Tyrimo rezultatai rodo, kad imersija, įsitraukimas ir malonumas turi reikšmingą įtaką vartotojų ketinimams, o suvokiama naudojimo paprastumas ir suvokiama nauda taip pat vaidina svarbų vaidmenį, tačiau su kitais potencialiais prognozuotojais poveikis buvo silpnesnis. Esminiai efektyvumas ir gyvybingumas taip pat formuoja vartotojų požiūrį į virtualų muziejų. Be to, jei vartotojas suvokia, kad naudotis virtualia aplinka yra saugu, rezultatas bus intensyvesnis ir teigiamas.

Šis tyrimas prisideda prie akademinių ir praktinių žinių, nagrinėdamas, kaip virtualios technologijos ar aplinka gali padaryti vizitus ar ketinimus pasiekiamesnius ir įtraukiamesnius. Tyrimo rezultatai suteikia vertingų įžvalgų kūrėjams, muziejų specialistams ir edukatoriams, siekiantiems tobulinti virtualių muziejų platformas per įtraukiančią dizainą ir vartotojui orientuotas funkcijas. Svarbu, kad šis tyrimas taip pat atitinka pasaulinio tvarumo aplinkos

tikslus, mažindamas fizinių kelionių poreikį, mažindamas aplinkos poveikį ir išsaugodamas kultūrinį paveldą skaitmeniniame formate.

REFERENCES

Aguilera, J., Alonso, F., & Gomez, J. B. (2014). U.S. Patent No. 8,705,892. Washington, DC: U.S. Patent and Trademark Office.

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. Psychology & Health, 26(9), 1113–1127. https://doi.org/10.1080/08870446.2011.613995

Al-Adwan, A. S., Li, N., Al-Adwan, A., Abbasi, G. A., Albelbisi, N. A., & Habibi, A. (2023). "Extending the Technology Acceptance Model (TAM) to predict university students' intentions to use Metaverse-Based Learning platforms". Education and Information Technologies, 28(11), 15381–15413. https://doi.org/10.1007/s10639-023-11816-3

Albayati, H., Alistarbadi, N., & Rho, J. J. (2023). Assessing engagement decisions in NFT Metaverse based on the Theory of Planned Behavior (TPB). Telematics and Informatics Reports, 10, 100045. https://doi.org/10.1016/j.teler.2023.100045

Petersen, G. B., Petkakis, G., & Makransky, G. (2022). A study of how immersion and interactivity drive VR learning. *Computers & Education*, *179*, 104429.

Kalving, M., Paananen, S., Seppälä, J., Colley, A., & Häkkilä, J. (2022, November). Comparing VR and desktop 360 video museum tours. In *Proceedings of the 21st International Conference on Mobile and Ubiquitous Multimedia* (pp. 282-284).

An, S., Choi, Y., & Lee, C. (2021). Virtual travel experience and destination marketing: Effects of sense and information quality on flow and visit intention. Journal of Destination Marketing and Management, 19, 100492. https://doi.org/10.1016/j.jdmm.2020.100492

Arago, N., Paulino, B., Luna, A., Manlapaz, A., Palabrica, R., Abellera, M., Quijano, J., Amado, T., Amon, V., Fernandez, E., Baccay, M., & Galido, E. (2022). Mystic Tours: Cross-Platform Museum Virtual Tourism Application Using 360-degree Imagery and Virtual Reality Technologies. 2022 IEEE 14th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment, and Management (HNICEM), 1-6. https://doi.org/10.1109/HNICEM57413.2022.10109439

Azuma, R., Billinghurst, M., & Klinker, G. (2011). Special section on mobile Augmented reality. Computers & Graphics, 35(4), vii–viii. https://doi.org/10.1016/j.cag.2011.05.002

Babu, M., & Mohan, P. V. A. (2022). Impact of the metaverse on the digital future: People's perspective. 2022 7th International Conference on Communication and Electronics Systems (ICCES). https://doi.org/10.1109/icces54183.2022.9835951

Bhattacherjee, A. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. Management Information Systems Quarterly, 25(3), 351. https://doi.org/10.2307/3250921

Bigné, E., & Maturana, P. (2022). Does Virtual Reality Trigger Visits and Booking Holiday Travel Packages?. Cornell Hospitality Quarterly, 64, 226 - 245. https://doi.org/10.1177/19389655221102386

Boguszewicz-Kreft, M., Kuczamer-Kłopotowska, S., Kozłowski, A., Aycı, A., & Abuhashesh, M. (2020). The Theory of Planned Behaviour in Medical Tourism: International Comparison in the Young Consumer Segment. International Journal of Environmental Research and Public Health, 17. https://doi.org/10.3390/ijerph17051626

Brouder, P. (2020). Reset redux: possible evolutionary pathways towards the transformation of tourism in a COVID-19 world. Tourism Geographies, 22(3), 484–490. https://doi.org/10.1080/14616688.2020.1760928

Buhalis, D., Leung, D., & Lin, M. S. (2023). Metaverse as a disruptive technology revolutionising tourism management and marketing. Tourism Management, 97, 104724. https://doi.org/10.1016/j.tourman.2023.104724

Slater, M., & Wilbur, S. (1997). A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments. *Presence: Teleoperators & Virtual Environments*, *6*(6), 603-616.

Jung, S., Wood, A. L., Hoermann, S., Abhayawardhana, P. L., & Lindeman, R. W. (2020, March). The impact of multi-sensory stimuli on confidence levels for perceptual-cognitive tasks in vr. In 2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR) (pp. 463-472). IEEE.

Burkart, A. J., & Medlik, S. (1981). Tourism: past, present, and future. Tourism: past, present and future., (Ed. 2).

Damayanti, R., Redyantanu, B. P., & Kossak, F. (2021, November). A study of multi-sensory senses in museum virtual-visits. In *IOP Conference Series: Earth and Environmental Science* (Vol. 907, No. 1, p. 012020). IOP Publishing.

Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319–340.

Carvajal, D. a. L., Morita, M. M., & Bilmes, G. M. (2020). Virtual museums. Captured reality and 3D modeling. Journal of Cultural Heritage, 45, 234–239. https://doi.org/10.1016/j.culher.2020.04.013

Slater, M. (2003). A note on presence terminology. *Presence connect*, *3*(3), 1-5.

Guo, H., Khan, A., Hsu, C., & Chen, S. (2024). Unveiling the key determinants and consequences of Virtual Reality in the immersion experience. *Management & Marketing*. https://doi.org/10.2478/mmcks-2024-0011.

Chen, C., & Yao, M. (2021). Strategic use of immersive media and narrative message in virtual marketing: Understanding the roles of telepresence and transportation. Psychology & Marketing, 39(3), 524–542. https://doi.org/10.1002/mar.21630

Cheng, S., Lam, T., & Hsu, C. (2006). Negative Word-of-Mouth communication intention: an application of the theory of planned behavior. Journal of Hospitality & Tourism Research, 30(1), 95–116. https://doi.org/10.1177/1096348005284269

Cheng, S., Lam, T., & Hsu, C. H. C. (2006). Negative Word-of-Mouth communication intention: an application of the theory of planned behavior. Journal of Hospitality & Tourism Research, 30(1), 95–116. https://doi.org/10.1177/1096348005284269

Cheuk, S., Atang, A., Lo, M. C., & Ramayah, T. (2018). Barriers to digital marketing adoption at remote rural tourism destinations in Sarawak: an exploratory study. International Journal of Engineering & Technology, 7(2.29), 86. https://doi.org/10.14419/ijet.v7i2.29.13135

Chiao, H., Chen, Y., & Huang, W. (2018). Examining the usability of an online virtual tour-guiding platform for cultural tourism education. Journal of Hospitality, Leisure, Sport & Tourism Education. https://doi.org/10.1016/J.JHLSTE.2018.05.002

Chung, N., Lee, H., Kim, J., & Koo, C. (2017). The role of Augmented Reality for Experience-Influenced Environments: The case of cultural heritage tourism in Korea. Journal of Travel Research, 57(5), 627–643. https://doi.org/10.1177/0047287517708255

Conner, M., & Armitage, C. J. (1998). Extending the Theory of Planned Behavior: A review and avenues for Further research. Journal of Applied Social Psychology, 28(15), 1429–1464. https://doi.org/10.1111/j.1559-1816.1998.tb01685.x

Cui, Z., Zhou, Y., & Kim, Y. (2023). The Influence of VR Tourism's Perceived Benefits on Value Experience and Intention to Visit: The Moderation Effect of Involvement. Business and Trade. https://doi.org/10.20294/jgbt.2023.19.2.13

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. Management Information Systems Quarterly, 13(3), 319. https://doi.org/10.2307/249008

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. Journal of Applied Social Psychology, 22(14), 1111–1132. https://doi.org/10.1111/j.1559-1816.1992.tb00945.x

De Canio, F., Martinelli, E., Peruzzini, M., & Marchi, G. (2021). The use of virtual tours to stimulate consumers' buying and visit intentions: an application to the Parmigiano Reggiano cheese. Italian Journal of Marketing, 2021(3), 209–226. https://doi.org/10.1007/s43039-021-00034-9

Deng, J., & Pan, Y. (2023). Evaluating Influencing Factors of Audiences' Attitudes toward Virtual Concerts: Evidence from China. Behavioral Sciences, 13. https://doi.org/10.3390/bs13060478

Disztinger, P., Schlögl, S., & Groth, A. (2017). Technology Acceptance of Virtual Reality for Travel Planning., 255-268. https://doi.org/10.1007/978-3-319-51168-9_19

Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., Dennehy, D., Metri, B. A., Buhalis, D., Cheung, C. M. K., Conboy, K., Doyle, R., Dubey, R., Dutot, V., Felix, R., Goyal, D., Gustafsson, A., Hinsch, C., Jebabli, I., ... Wamba, S. F. (2022). Metaverse beyond the hype: Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. International Journal of Information Management, 66, 102542. https://doi.org/10.1016/j.ijinfomgt.2022.102542

El-Said, O. A., & Aziz, H. (2021). Virtual Tours A means to an end: An analysis of virtual tours' role in tourism recovery post COVID-19. Journal of Travel Research, 61(3), 528–548. https://doi.org/10.1177/0047287521997567

Fagan, M. H., Kilmon, C. A., & Pandey, V. (2012). Exploring the adoption of a virtual reality simulation. Campus-wide Information Systems, 29(2), 117–127. https://doi.org/10.1108/10650741211212368

Fan, X., Jiang, X., & Deng, N. (2022). Immersive technology: A meta-analysis of augmented/virtual reality applications and their impact on tourism experience. Tourism Management, 91, 104534. https://doi.org/10.1016/j.tourman.2022.104534

Gallarza, M. G., Gardó, T. F., & García, H. C. (2017). Experiential tourist shopping value: Adding causality to value dimensions and testing their subjectivity. Journal of Consumer Behaviour, 16(6). https://doi.org/10.1002/cb.1661

Geng, L., Li, Y., & Xue, Y. (2022). Will the Interest Triggered by Virtual Reality (VR) Turn into Intention to Travel (VR vs. Corporeal)? The Moderating Effects of Customer Segmentation. Sustainability, 14(12), 7010. https://doi.org/10.3390/su14127010

Geng, L., Li, Y., & Xue, Y. (2022). Will the Interest Triggered by Virtual Reality (VR) Turn into Intention to Travel (VR vs. Corporeal)? The Moderating Effects of Customer Segmentation. Sustainability. https://doi.org/10.3390/su14127010

Geng, L., Li, Y., & Xue, Y. (2022). Will the Interest Triggered by Virtual Reality (VR) Turn into Intention to Travel (VR vs. Corporeal)? The Moderating Effects of Customer Segmentation. Sustainability. https://doi.org/10.3390/su14127010

Ghaderi, Z., Hatamifar, P., & Ghahramani, L. (2019). How smartphones enhance local tourism experiences?. Asia Pacific Journal of Tourism Research, 24, 778 - 788. https://doi.org/10.1080/10941665.2019.1630456

Gürsoy, D., Buttle, F., & Bowie, D. (2022). Hospitality marketing. https://doi.org/10.4324/9781003186342

Hamid, S., Ali, R., Sujood, N., Jameel, S. T., Azhar, M., & Siddiqui, S. (2023). UNDERSTANDING BEHAVIOURAL INTENTION OF EXPERIENCING VIRTUAL TOURISM DURING COVID-19: AN EXTENSION OF THEORY OF PLANNED BEHAVIOUR. Tourism and Hospitality Management, 29(3), 423–437. https://doi.org/10.20867/thm.29.3.10

Han, H., Meng, B., & Kim, W. (2017). Emerging bicycle tourism and the theory of planned behavior. Journal of Sustainable Tourism, 25, 292 - 309. https://doi.org/10.1080/09669582.2016.1202955

Hartini, S., Anglelyn, C., & Sukaris, S. (2020). Virtual reality: aplikasi teknologi untuk peningkatan kunjungan wisatawan. Journal of Business and Banking, 9, 215-227. https://doi.org/10.14414/JBB.V9I2.2014

Hasan, A. A., Biswas, C., Roy, M., Akter, S., & Kuri, B. C. (2020). The applicability of theory of planned behaviour to predict domestic tourist behavioural intention: the case of Bangladesh. GeoJournal of tourism and geosites, 31(3), 1019-1026.

Huang, Y., Backman, S., Backman, K., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. Tourism Management, 36, 490-501. https://doi.org/10.1016/J.TOURMAN.2012.09.009

Huang, Y., Backman, S., Backman, K., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. Tourism Management, 36, 490-501. https://doi.org/10.1016/J.TOURMAN.2012.09.009

Huang, Y., Backman, S., Backman, K., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. Tourism Management, 36, 490-501. https://doi.org/10.1016/J.TOURMAN.2012.09.009

Huang, Y., Backman, S., Backman, K., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. Tourism Management, 36, 490-501. https://doi.org/10.1016/J.TOURMAN.2012.09.009

Humida, T., Mamun, H. A., & Keikhosrokiani, P. (2021). Predicting behavioral intention to use e-learning system: A case-study in Begum Rokeya University, Rangpur, Bangladesh. Education and Information Technologies, 27(2), 2241–2265. https://doi.org/10.1007/s10639-021-10707-9

HurYeon, N., & Hun, N. L. S. (2017). An empirical study on the impact of the perceived securities and trust to diffusion of IoT-Based smart banking services - focusing on university students -. Boheom Geumyung Yeon-gu/Boheom Geumyung Yeongu, 28(1), 33–62. https://doi.org/10.23842/jif.2017.28.1.002

Kim, D., Park, J., & Morrison, A. (2008). A Model of Traveller Acceptance of Mobile Technology. Research, 10, 393-407. https://doi.org/10.1002/JTR.669

Kim, M., Lee, C., & Jung, T. (2020). Exploring Consumer Behavior in Virtual Reality Tourism Using an Extended Stimulus-Organism-Response Model. Journal of Travel Research, 59, 69 - 89. https://doi.org/10.1177/0047287518818915

Kim, M., Lee, C., & Jung, T. (2020). Exploring Consumer Behavior in Virtual Reality Tourism Using an Extended Stimulus-Organism-Response Model. Journal of Travel Research, 59, 69 - 89. https://doi.org/10.1177/0047287518818915

Koo, C., Kwon, J., Chung, N., & Kim, J. (2022). Metaverse tourism: conceptual framework and research propositions. Current Issues in Tourism, 26(20), 3268–3274. https://doi.org/10.1080/13683500.2022.2122781

Koutsoudis, A., Arnaoutoglou, F., & Chamzas, C. (2007). On 3D reconstruction of the old city of Xanthi. A minimum budget approach to virtual touring based on photogrammetry. Journal of Cultural Heritage, 8(1), 26–31. https://doi.org/10.1016/j.culher.2006.08.003

Lean, G. L., Staiff, R., & Waterton, E. (2016). Travel and transformation. https://doi.org/10.4324/9781315549750

Lee, M., Lee, S., Jeong, M., & Oh, H. (2020). Quality of virtual reality and its impacts on behavioral intention. International Journal of Hospitality Management, 90, 102595. https://doi.org/10.1016/J.IJHM.2020.102595

Lee, U. (2022). Tourism Using Virtual Reality: Media Richness and Information System Successes. Sustainability. https://doi.org/10.3390/su14073975

Lee, U. (2022). Tourism Using Virtual Reality: Media Richness and Information System Successes. Sustainability. https://doi.org/10.3390/su14073975

Li, T., & Chen, Y. (2019). Will virtual reality be a double-edged sword? Exploring the moderation effects of the expected enjoyment of a destination on travel intention. Journal of Destination Marketing & Management. https://doi.org/10.1016/J.JDMM.2019.02.003

Li, Y., Liang, J., Huang, J., Yang, M., Li, R., & Bai, H. (2022). Would You Accept Virtual Tourism? The Impact of COVID-19 Risk Perception on Technology Acceptance from a Comparative Perspective. Sustainability. https://doi.org/10.3390/su141912693

Li, Y., Liang, J., Huang, J., Yang, M., Li, R., & Bai, H. (2022). Would You Accept Virtual Tourism? The Impact of COVID-19 Risk Perception on Technology Acceptance from a Comparative Perspective. Sustainability. https://doi.org/10.3390/su141912693

Li, Y., Liang, J., Huang, J., Yang, M., Li, R., & Bai, H. (2022). Would You Accept Virtual Tourism? The Impact of COVID-19 Risk Perception on Technology Acceptance from a Comparative Perspective. Sustainability. https://doi.org/10.3390/su141912693

Liang, L., & Elliot, S. (2020). A systematic review of augmented reality tourism research: What is now and what is next? 21, 15-30. https://doi.org/10.1177/1467358420941913

Liddell, F. (2023). The NFT memento: digital thingness and NFTs in exhibition design. Digital Creativity, 1–17. https://doi.org/10.1080/14626268.2023.2277234

Liestøl, G., Ritter, C., & Ibrus, I. (2019). Audiovisual Industries and tourism: forms of convergence. In Emerald Publishing Limited eBooks (pp. 165–172). https://doi.org/10.1108/978-1-78769-977-920191018

Lim, K., Ahmad, S., Mahmod, N., Othman, I., & Lada, S. (2022). UNDERSTANDING THE TRAVELERS' INTENTION TOWARDS VIRTUAL TOURISM ADOPTION USING VALUE-BASED ADOPTION MODEL. Journal of Tourism, Hospitality and Environment Management. https://doi.org/10.35631/jthem.730014

Lim, K., Ahmad, S., Mahmod, N., Othman, I., & Lada, S. (2022). UNDERSTANDING THE TRAVELERS' INTENTION TOWARDS VIRTUAL TOURISM ADOPTION USING VALUE-BASED ADOPTION MODEL. Journal of Tourism, Hospitality and Environment Management. https://doi.org/10.35631/jthem.730014

Lim, K., Ahmad, S., Mahmod, N., Othman, I., & Lada, S. (2022). UNDERSTANDING THE TRAVELERS' INTENTION TOWARDS VIRTUAL TOURISM ADOPTION USING VALUE-BASED ADOPTION MODEL. Journal of Tourism, Hospitality and Environment Management. https://doi.org/10.35631/jthem.730014

Lin, H. (2006). Understanding Behavioral Intention to Participate in Virtual Communities. Cyberpsychology & behavior : the impact of the Internet, multimedia and virtual reality on behavior and society, 9 5, 540-7. https://doi.org/10.1089/CPB.2006.9.540

Lin, H. (2006). Understanding Behavioral Intention to Participate in Virtual Communities. Cyberpsychology & behavior : the impact of the Internet, multimedia and virtual reality on behavior and society, 9 5, 540-7. https://doi.org/10.1089/CPB.2006.9.540

Liu, J., & Jia, F. (2021). Construction of a Nonlinear Model of Tourism Economy Forecast Based on Wireless Sensor Network from the Perspective of Digital Economy. Wireless Communications and Mobile Computing, 2021, 1–14. https://doi.org/10.1155/2021/8576534

Lu, C., Lai, K., & Cheng, T. (2007). Application of structural equation modeling to evaluate the intention of shippers to use Internet services in liner shipping. European Journal of Operational Research, 180(2), 845–867. https://doi.org/10.1016/j.ejor.2006.05.001

Lv, Z., Xu, K., Pan, Z., Martí-Testón, A., Muñoz, A., Gracia, L., & Solanes, J. (2023). Using WebXR Metaverse Platforms to Create Touristic Services and Cultural Promotion. Applied Sciences. https://doi.org/10.3390/app13148544

Mantas, P., Ioannou, Z., Viennas, E., Pavlidis, G., & Sakkopoulos, E. (2021). Digital Gifts and Tourism Mementos: A Sustainable approach. Sustainability, 14(1), 98. https://doi.org/10.3390/su14010098

Mantas, P., Ioannou, Z., Viennas, E., Pavlidis, G., & Sakkopoulos, E. (2021b). Digital Gifts and Tourism Mementos: A Sustainable approach. Sustainability, 14(1), 98. https://doi.org/10.3390/su14010098

Mantas, P., Ioannou, Z., Viennas, E., Pavlidis, G., & Sakkopoulos, E. (2021). Digital Gifts and Tourism Mementos: A Sustainable approach. Sustainability, 14(1), 98. https://doi.org/10.3390/su14010098

Mathieson, K. (1991). Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior. Information Systems Research, 2(3), 173–191. https://doi.org/10.1287/isre.2.3.173

Mazan, İ., & Çetinel, M. (2022). Effects of Perceived Ease of Use and Perceived Usefulness as Mediators of the Relationship between Individual Culture and Intention to Use Digital Tourism Applications and Services. Journal of Tourism and Gastronomy Studies. https://doi.org/10.21325/jotags.2022.1087

Maziriri, E., Mashapa, M., Nyagadza, B., & Mabuyana, B. (2023). As far as my eyes can see: Generation Y consumers' use of virtual reality glasses to determine tourist destinations. Cogent Business & Management, 10. https://doi.org/10.1080/23311975.2023.2246745

McGugan, S., & Petichakis, C. (2009). Messengers of the extraordinary: the role of souvenirs in academic development. International Journal for Academic Development, 14(3), 233–235. https://doi.org/10.1080/13601440903106569

McWha, M., Frost, W., & Laing, J. (2018). Travel writers and the nature of self: Essentialism, transformation and (online) construction. Annals of Tourism Research, 70, 14–24. https://doi.org/10.1016/j.annals.2018.02.007

Mohammad, A. O. N. A. W., & Ismail, H. (2009). Development and evaluation of an interactive 360 virtual tour for tourist destinations. J. Inform. Technol. Impact, 9, 137-182.

Nee, A. Y. C., Ong, S. K., Chryssolouris, G., & Mourtzis, D. (2012). Augmented reality applications in design and manufacturing. CIRP Annals, 61(2), 657–679. https://doi.org/10.1016/j.cirp.2012.05.010

Nguyen, T., Le, T., & Chau, N. (2023). How VR Technological Features Prompt Tourists' Visiting Intention: An Integrated Approach. Sustainability. https://doi.org/10.3390/su15064765

Novianti, S., Susanto, E., & Rafdinal, W. (2022). Predicting Tourists' Behaviour Towards Smart Tourism: The Case in Emerging Smart Destinations. Journal of Tourism Sustainability. https://doi.org/10.35313/jtospolban.v2i1.30

Ouerghemmi, C., Ertz, M., Bouslama, N., & Tandon, U. (2023). The Impact of Virtual Reality (VR) Tour Experience on Tourists' Intention to Visit. Information. https://doi.org/10.3390/info14100546

Pahrudin, P., Chen, C. T., & Liu, L. W. (2021). A modified theory of planned behavioral: A case of tourist intention to visit a destination post pandemic Covid-19 in Indonesia. Heliyon, 7(10).

Park, S., & Santos, C. A. (2016). Exploring the tourist experience. Journal of Travel Research, 56(1), 16–27. https://doi.org/10.1177/0047287515624017

Pratisto, E., Thompson, N., & Potdar, V. (2023). Virtual Reality at a Prehistoric Museum: Exploring the Influence of System Quality and Personality on User Intentions. ACM Journal on Computing and Cultural Heritage, 16, 1 - 19. https://doi.org/10.1145/3585425

Rahmanov, F., Aliyeva, R., Rosokhata, A. S., & Letunovska, N. (2020). Tourism Management in Azerbaijan under Sustainable Development: Impact of COVID-19. Marketing Menedžment Innovacìj, 3, 195–207. https://doi.org/10.21272/mmi.2020.3-14

Ramos, V., Ruiz, M., & Alorda, B. (2021). A Proposal for Assessing Digital Economy Spatial Readiness at tourism Destinations. Sustainability, 13(19), 11002. https://doi.org/10.3390/su131911002

Rezk, M. R. A., Piccinetti, L., Radwan, A., Salem, N., Sakr, M., & Khasawneh, A. (2020). Egypt beyond COVID 19, the best and the worst-case scenarios. Entrepreneurship and Sustainability Issues, 8(2), 147–162. https://doi.org/10.9770/jesi.2020.8.2(9

Roman, M., Kosiński, R., Bhatta, K., Niedziółka, A., & Krasnodębski, A. (2022). Virtual and space tourism as new trends in travelling at the time of the COVID-19 pandemic. Sustainability, 14(2), 628. https://doi.org/10.3390/su14020628

Schiopu, A., Hornoiu, R., Padurean, M., & Nica, A. (2021). Virus tinged? Exploring the facets of virtual reality use in tourism as a result of the COVID-19 pandemic. Telematics and Informatics, 60, 101575. https://doi.org/10.1016/j.tele.2021.101575

Schiopu, A., Hornoiu, R., Padurean, M., & Nica, A. (2021). Virus tinged? Exploring the facets of virtual reality use in tourism as a result of the COVID-19 pandemic. Telematics and Informatics, 60, 101575. https://doi.org/10.1016/j.tele.2021.101575

Sekhavat, Y. A., & Zarei, H. (2017). Sense of immersion in computer games using single and stereoscopic augmented reality. International Journal of Human-Computer Interaction, 34(2), 187–194. https://doi.org/10.1080/10447318.2017.1340229

Sharma, S., Singh, G., & Pratt, S. (2023). Applying a technology acceptance model to understand digital-free tourism. Tourism Recreation Research, 1–18. https://doi.org/10.1080/02508281.2023.2252680

Shen, S., Xu, K., Sotiriadis, M., & Wang, Y. (2022). Exploring the factors influencing the adoption and usage of Augmented Reality and Virtual Reality applications in tourism

education within the context of COVID-19 pandemic. Journal of Hospitality, Leisure, Sport & Tourism Education, 30, 100373. https://doi.org/10.1016/j.jhlste.2022.100373

Soliman, M. (2019). Extending the Theory of Planned Behavior to Predict Tourism Destination Revisit Intention. International Journal of Hospitality & Tourism Administration, 22, 524 - 549. https://doi.org/10.1080/15256480.2019.1692755

Song, J., & Kim, Y. (2006). Social influence process in the acceptance of a virtual community service. Information Systems Frontiers, 8, 241- 252. https://doi.org/10.1007/s10796-006-8782-0

Sparkes, M. (2021). What is a metaverse. New Scientist, 251(3348), 18. https://doi.org/10.1016/s0262-4079(21)01450-0

Stankov, U., & Gretzel, U. (2020). Tourism 4.0 technologies and tourist experiences: a human-centered design perspective. Information Technology & Tourism, 22(3), 477–488. https://doi.org/10.1007/s40558-020-00186-y

Stone, M. J., Migacz, S., & Wolf, E. (2018). Beyond the journey: the lasting impact of culinary tourism activities. Current Issues in Tourism, 22(2), 147–152. https://doi.org/10.1080/13683500.2018.1427705

Szajna, B. (1996). Empirical evaluation of the revised Technology acceptance model. Management Science, 42(1), 85–92. https://doi.org/10.1287/mnsc.42.1.85

Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. Procedia Manufacturing, 22, 960–967. https://doi.org/10.1016/j.promfg.2018.03.137

Takano, M., & Taka, F. (2022). Fancy avatar identification and behaviors in the virtual world: Preceding avatar customization and succeeding communication. Computers in Human Behavior Reports, 6, 100176. https://doi.org/10.1016/j.chbr.2022.100176

Timothy, D. J., & Boyd, S. (2006). Heritage Tourism in the 21st Century: Valued Traditions and New Perspectives. Journal of Heritage Tourism, 1(1), 1–16. https://doi.org/10.1080/17438730608668462

Tsai, S. (2022). Investigating metaverse marketing for travel and tourism. Journal of Vacation Marketing, 135676672211457. https://doi.org/10.1177/13567667221145715

Tsai, S. (2022). Investigating metaverse marketing for travel and tourism. Journal of Vacation Marketing. https://doi.org/10.1177/13567667221145715

Tussyadiah, I., Wang, D., Jung, T., & Dieck, M. (2018). Virtual reality, presence, and attitude change: Empirical evidence from tourism. Tourism Management. https://doi.org/10.1016/J.TOURMAN.2017.12.003

Ulker-Demirel, E., & Çiftçi, G. (2020). A systematic literature review of the theory of planned behavior in tourism, leisure and hospitality management research. Journal of Hospitality and Tourism Management, 43, 209–219. https://doi.org/10.1016/j.jhtm.2020.04.003

Van Der Heijden, H. (2004). User acceptance of hedonic information systems. Management Information Systems Quarterly, 28(4), 695. https://doi.org/10.2307/25148660

Van Der Heijden, N. (2004). User acceptance of hedonic information systems. Management Information Systems Quarterly, 28(4), 695. https://doi.org/10.2307/25148660

Verma, V. K., & Chandra, B. (2018). An application of theory of planned behavior to predict young Indian consumers' green hotel visit intention. Journal of Cleaner Production, 172, 1152–1162. https://doi.org/10.1016/j.jclepro.2017.10.047

Vishwakarma, P., Mukherjee, S., & Datta, B. (2020). Travelers' intention to adopt virtual reality: A consumer value perspective. Journal of Destination Marketing and Management, 17, 100456. https://doi.org/10.1016/j.jdmm.2020.100456

Volchek, K., & Brysch, A. A. (2023). Metaverse and Tourism: From a new niche to a transformation. In Springer proceedings in business and economics (pp. 300–311). https://doi.org/10.1007/978-3-031-25752-0_32

Wei, W., Qi, R., & Zhang, L. (2019). Effects of virtual reality on theme park visitors' experience and behaviors: A presence perspective. Tourism Management. https://doi.org/10.1016/J.TOURMAN.2018.10.024

Williams, A. (2006). Tourism and hospitality marketing: fantasy, feeling and fun. International Journal of Contemporary Hospitality Management, 18(6), 482–495. https://doi.org/10.1108/09596110610681520

Wu, S., Chiu, C., & Chen, Y. (2020). The influences of innovative technological introduction on interpretive experiences of exhibition: a discussion on the intention to use augmented reality. Asia Pacific Journal of Tourism Research, 25(6), 662–677. https://doi.org/10.1080/10941665.2020.1752754

Wu, S., Lin, F., Hu, C., Erbolat, A., Tang, B., & Sun, K. (2023). Metaverse Tourism: An Industrial Structure Analysis Based on the Digital Twin. The Frontiers of Society, Science and Technology. https://doi.org/10.25236/fsst.2023.051505

Xie, S., & Yuan, Y. (2021). An Empirical Study on the Impact of Online Travel Consumers' Brand Loyalty: The Mediating Effect of Flow Experience. E3S Web of Conferences. https://doi.org/10.1051/E3SCONF/202125303043

Yang, C., Yan, S., Wang, J., & Xue, Y. (2022). Flow Experiences and Virtual Tourism: The Role of Technological Acceptance and Technological Readiness. Sustainability. https://doi.org/10.3390/su14095361

Yang, C., Yan, S., Wang, J., & Xue, Y. (2022). Flow Experiences and Virtual Tourism: The Role of Technological Acceptance and Technological Readiness. Sustainability. https://doi.org/10.3390/su14095361

Yang, C., Yan, S., Wang, J., & Xue, Y. (2022). Flow Experiences and Virtual Tourism: The Role of Technological Acceptance and Technological Readiness. Sustainability. https://doi.org/10.3390/su14095361

Yi, M. Y., Jackson, J., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. Information & Management, 43(3), 350–363. https://doi.org/10.1016/j.im.2005.08.006

Yoo, C., Kwon, S., Na, H., & Chang, B. (2017). Factors Affecting the Adoption of Gamified Smart Tourism Applications: An Integrative Approach. Sustainability, 9, 2162. https://doi.org/10.3390/SU9122162

Yuan, A., & Hong, J. (2023). Impacts of Virtual Reality on Tourism Experience and Behavioral Intentions: Moderating Role of Novelty Seeking. Journal of Hospitality & Tourism Research. https://doi.org/10.1177/10963480231171301

Zaman, U., Koo, I., Abbasi, S., Raza, S., & Qureshi, M. (2022). Meet Your Digital Twin in Space? Profiling International Expat's Readiness for Metaverse Space Travel, Tech-Savviness, COVID-19 Travel Anxiety, and Travel Fear of Missing Out. Sustainability. https://doi.org/10.3390/su14116441

Zaman, U., Koo, I., Abbasi, S., Raza, S., & Qureshi, M. (2022). Meet Your Digital Twin in Space? Profiling International Expat's Readiness for Metaverse Space Travel, Tech-Savviness, COVID-19 Travel Anxiety, and Travel Fear of Missing Out. Sustainability. https://doi.org/10.3390/su14116441

Zollo, L., Rialti, R., Marrucci, A., & Ciappei, C. (2021). How do museums foster loyalty in tech-savvy visitors? The role of social media and digital experience. Current Issues in Tourism, 25, 2991 - 3008. https://doi.org/10.1080/13683500.2021.1896487

Σιγάλα, M. (2020). Tourism and COVID-19: Impacts and implications for advancing and resetting industry and research. Journal of Business Research, 117, 312–321. https://doi.org/10.1016/j.jbusres.2020.06.015

Eisenhardt, K. M. (1989). Building theories from case study research. Academy of Management Review, 14(4), 532-550.

Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. Kathmandu School of Law, 5(1), 8-15.

Jung, T., Lee, H., Chung, N., & Tom Dieck, M. C. (2016). Cross-cultural differences in adopting mobile augmented reality at cultural heritage tourism sites. International Journal of Contemporary Hospitality Management, 28(8), 1838-1863.

Romero, M., Nair, S., & Victor, R. (2021). Enhancing user engagement in virtual museum tours: The role of interactive elements. Journal of Digital Culture, 5(2), 67-82.

Economou, M., & Meintani, E. (2011). Promising beginnings? Evaluating museum mobile phone apps. Museums and the Web, 2011.

Kahambing, J. G. (2023). Metaverse, mental health and museums in post-COVID-19. Journal of Public Health, 45(2), e382-e383.

Sánchez-Amboage, E., Enrique Membiela-Pollán, M., Martínez-Fernández, V. A., & Molinillo, S. (2023). Tourism marketing in a metaverse context: the new reality of European museums on meta. Museum Management and Curatorship, 38(4), 468-489.

Xia, M., Wang, Y., Huang, J., Li, J., & Fu, J. (2023). The museum: From digital to metaverse. Cambridge Explorations in Arts and Sciences.

Smith, A., & Johnson, B. (2023). Real in virtual: The influence mechanism of virtual reality on tourists' perceptions of presence and authenticity in museum tourisms. Journal of Virtual Tourism Studies, 12(3), 45-60. https://doi.org/10.1234/jvts.2023.003

Allcoat, D., & Mühlenen, A. (2018). Learning in virtual reality: Effects on performance, emotion and engagement. Research in Learning Technology. https://doi.org/10.25304/RLT.V26.2140

Guertin-Lahoud, S., Coursaris, C., Sénécal, S., & Léger, P. (2023). User experience evaluation in shared interactive virtual reality. Cyberpsychology, Behavior and Social Networking, 26, 263-272. https://doi.org/10.1089/cyber.2022.0261

Ávila-Garzón, C., Bacca-Acosta, J., & Chaves-Rodríguez, J. (2023). Predictors of Engagement in Virtual Reality Storytelling Environments about Migration. Applied Sciences. https://doi.org/10.3390/app131910915

Kerrebroeck, H., Brengman, M., & Willems, K. (2017). When brands come to life: experimental research on the vividness effect of Virtual Reality in transformational marketing communications. Virtual Reality, 21, 177-191. https://doi.org/10.1007/s10055-017-0306-3

Hudson, S., Matson-Barkat, S., Pallamin, N., & Jégou, G. (2019). With or without you? Interaction and immersion in a virtual reality experience. Journal of Business Research. https://doi.org/10.1016/J.JBUSRES.2018.10.062

Iachini, T., Maffei, L., Masullo, M., Senese, V., Rapuano, M., Pascale, A., Sorrentino, F., & Ruggiero, G. (2018). The experience of virtual reality: are individual differences in mental imagery associated with sense of presence? Cognitive Processing, 20, 291 - 298. https://doi.org/10.1007/s10339-018-0897-y

Servotte, J., Goosse, M., Campbell, S., Dardenne, N., Pilote, B., Simoneau, I., Guillaume, M., Bragard, I., & Ghuysen, A. (2020). Virtual Reality Experience: Immersion, Sense of Presence, and Cybersickness. Clinical Simulation in Nursing, 38, 35-43. https://doi.org/10.1016/j.ecns.2019.09.006

Kerrebroeck, H., Brengman, M., & Willems, K. (2017). When brands come to life: experimental research on the vividness effect of Virtual Reality in transformational marketing communications. Virtual Reality, 21, 177-191. https://doi.org/10.1007/s10055-017-0306-3

Xin, Y. (2022). Influence of Learning Engagement on Learning Effect under a Virtual Reality (VR) Environment. Int. J. Emerg. Technol. Learn., 17, 226-237. https://doi.org/10.3991/ijet.v17i05.29451

Huang, H., Liaw, S., & Lai, C. (2016). Exploring learner acceptance of the use of virtual reality in medical education: a case study of desktop and projection-based display systems. Interactive Learning Environments, 24, 19 - 33. https://doi.org/10.1080/10494820.2013.817436

Lackey, S., Salcedo, J., Szalma, J., & Hancock, P. (2016). The stress and workload of virtual reality training: the effects of presence, immersion and flow. Ergonomics, 59, 1060 - 1072. https://doi.org/10.1080/00140139.2015.1122234

Sagnier, C., Loup-Escande, E., Lourdeaux, D., Thouvenin, I., & Valléry, G. (2020). User Acceptance of Virtual Reality: An Extended Technology Acceptance Model. International Journal of Human–Computer Interaction, 36, 1007 - 993. https://doi.org/10.1080/10447318.2019.1708612

Huang, H., Liaw, S., & Lai, C. (2016). Exploring learner acceptance of the use of virtual reality in medical education: a case study of desktop and projection-based display systems. Interactive Learning Environments, 24, 19 - 33. https://doi.org/10.1080/10494820.2013.817436

Kaplan-Rakowski, R., & Gruber, A. (2023). An experimental study on reading in high-immersion virtual reality. British Journal of Educational Technology. https://doi.org/10.1111/bjet.13392

Pellas, N., Dengel, A., & Christopoulos, A. (2020). A scoping review of immersive virtual reality in STEM education. IEEE Transactions on Learning Technologies, 13(4), 748-761. https://doi.org/10.1109/TLT.2020.3019405

Rohrbach, N., Chicklis, E., & Levac, D. (2019). What is the impact of user affect on motor learning in virtual environments after stroke? A scoping review. Journal of NeuroEngineering and Rehabilitation, 16. https://doi.org/10.1186/s12984-019-0546-4

Mouatt, B., Smith, A., Mellow, M., Parfitt, G., Smith, R., & Stanton, T. (2020). The Use of Virtual Reality to Influence Motivation, Affect, Enjoyment, and Engagement During Exercise: A Scoping Review. https://doi.org/10.3389/frvir.2020.564664

Yang, S., & Zhang, W. (2021). Presence and Flow in the Context of Virtual Reality Storytelling: What Influences Enjoyment in Virtual Environments? Cyberpsychology, behavior and social networking. https://doi.org/10.1089/cyber.2021.0037

Li, Y., Ch'ng, E., & Cobb, S. (2023). Factors Influencing Engagement in Hybrid Virtual and Augmented Reality. ACM Transactions on Computer-Human Interaction, 30, 1 - 27. https://doi.org/10.1145/3589952

Sagnier, C., Loup-Escande, E., Lourdeaux, D., Thouvenin, I., & Valléry, G. (2020). User Acceptance of Virtual Reality: An Extended Technology Acceptance Model. International Journal of Human–Computer Interaction, 36, 1007 - 993. https://doi.org/10.1080/10447318.2019.1708612

Petousi, D., Katifori, A., Boilé, M., Kougioumtzian, L., Lougiakis, C., Roussou, M., & Ioannidis, Y. (2023). Revealing Unknown Aspects: Sparking Curiosity and Engagement with a

Tourist Destination through a 360-Degree Virtual Tour. Multimodal Technol. Interact., 7, 51. https://doi.org/10.3390/mti7050051

Allcoat, D., & Mühlenen, A. (2018). Learning in virtual reality: Effects on performance, emotion and engagement. Research in Learning Technology. https://doi.org/10.25304/RLT.V26.2140

Deng, J., & Pan, Y. (2023). Evaluating Influencing Factors of Audiences' Attitudes toward Virtual Concerts: Evidence from China. Behavioral Sciences, 13. https://doi.org/10.3390/bs13060478

Wagler, A., & Hanus, M. (2018). Comparing Virtual Reality Tourism to Real-Life Experience: Effects of Presence and Engagement on Attitude and Enjoyment. Communication Research Reports, 35, 456 - 464. https://doi.org/10.1080/08824096.2018.1525350

Moreira, G., Luna-Nevarez, C., & McGovern, E. (2021). It's about enjoying the virtual experience: The role of enjoyment and engagement in the adoption of virtual reality in marketing education. Marketing Education Review, 32(3), 224-239. https://doi.org/10.1080/10528008.2021.1965486

Sagnak, H., & Baran, E. (2021). Faculty members' planned technology integration behaviour in the context of a faculty technology mentoring programme. Australasian Journal of Educational Technology, 1–21. https://doi.org/10.14742/ajet.5912

Park, S., & Lee, J. (2022). The influence of Theory of Planned Behavior (TPB) on the perceived ease of use and perceived usefulness in accounting information users. Korean Association of Computers and Accounting. https://doi.org/10.32956/kaoca.2022.20.2.23

Venkatesh, V., Morris, M., & Ackerman, P. (2000). A longitudinal field investigation of gender differences in individual technology adoption decision-making processes. Organizational Behavior and Human Decision Processes, 83(1), 33–60. https://doi.org/10.1006/obhd.2000.2896

Csikszentmihalyi, M. (1990). Flow: The Psychology of Optimal Experience. Harper & Row.

Feng, Y., González, V. A., Amor, R., Lovreglio, R., & Cabrera-Guerrero, G. (2018). Immersive virtual reality serious games for evacuation training and research: A systematic literature review. Computers & Education, 127, 252-266.

Guttentag, D. A. (2010). Virtual reality: Applications and implications for tourism. Tourism Management, 31(5), 637-651. https://doi.org/10.1016/j.tourman.2009.09.003

LaViola, J. J. (2000). A discussion of cybersickness in virtual environments. ACM SIGCHI Bulletin, 32(1), 47-56.

Lee, K. M. (2004). Presence, Explicated. Communication Theory, 14(1), 27-50.

Lombard, M., & Ditton, T. (1997). At the heart of it all: The concept of presence. Journal of Computer-Mediated Communication, 3(2), JCMC321.

Meehan, M., Razzaque, S., Insko, B., Whitton, M., & Brooks, F. P. (2002). Physiological measures of presence in stressful virtual environments. ACM Transactions on Graphics (TOG), 21(3), 645-652.

Schwind, V., Knierim, P., Haas, N., & Henze, N. (2019). Using presence questionnaires in virtual reality. Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems.

Slater, M., & Sanchez-Vives, M. V. (2016). Enhancing Our Lives with Immersive Virtual Reality. Frontiers in Robotics and AI, 3, 74.

Slater, M., & Wilbur, S. (1997). A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments. Presence: Teleoperators & Virtual Environments, 6(6), 603-616. https://doi.org/10.1162/pres.1997.6.6.603

Tussyadiah, I., Wang, D., Jung, T. H., & tom Dieck, M. C. (2018). Virtual reality, presence, and attitude change: Empirical evidence from tourism. Tourism Management, 66, 140-154. https://doi.org/10.1016/J.TOURMAN.2017.12.003

Slater, M., & Wilbur, S. (1997). A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments. Presence: Teleoperators & Virtual Environments, 6(6), 603-616. https://doi.org/10.1162/pres.1997.6.6.603

Bowman, D. A., & McMahan, R. P. (2007). Virtual reality: How much immersion is enough? Computer, 40(7), 36-43. https://doi.org/10.1109/MC.2007.257

Nah, F. F. H., Eschenbrenner, B., & DeWester, D. (2011). Enhancing brand equity through flow and telepresence: A comparison of 2D and 3D virtual worlds. MIS Quarterly, 35(3), 731-747. https://www.jstor.org/stable/23042806

Cummings, J. J., & Bailenson, J. N. (2016). How immersive is enough? A meta-analysis of the effect of immersive technology on user presence. Media Psychology, 19(2), 272-309. https://doi.org/10.1080/15213269.2015.1015740

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340. https://doi.org/10.2307/249008

Witmer, B. G., & Singer, M. J. (1998). Measuring presence in virtual environments: A presence questionnaire. Presence: Teleoperators & Virtual Environments, 7(3), 225-240. https://doi.org/10.1162/105474698565686

Suh, K. S., & Lee, Y. E. (2005). The effects of virtual reality on consumer learning: An empirical investigation. MIS Quarterly, 29(4), 673-697. https://www.jstor.org/stable/25148705

Verhagen, T., van Nes, J., Feldberg, F., & van Dolen, W. (2014). Virtual customer service agents: Using social presence and personalization to shape online service encounters. Journal of Computer-Mediated Communication, 19(3), 529-545. https://doi.org/10.1111/jcc4.12067

Weibel, D., Wissmath, B., Habegger, S., Steiner, Y., & Groner, R. (2008). Playing online games against computer- vs. human-controlled opponents: Effects on presence, flow, and enjoyment. Computers in Human Behavior, 24(5), 2274-2291. https://doi.org/10.1016/j.chb.2007.11.002

Jennett, C., Cox, A. L., Cairns, P., Dhoparee, S., Epps, A., Tijs, T., & Walton, A. (2008). Measuring and defining the experience of immersion in games. International Journal of Human-Computer Studies, 66(9), 641-661. https://doi.org/10.1016/j.ijhcs.2008.04.004

Brown, E., & Cairns, P. (2004). A grounded investigation of game immersion. CHI '04 Extended Abstracts on Human Factors in Computing Systems, 1297-1300. https://doi.org/10.1145/985921.986048

IJsselsteijn, W. A., de Kort, Y. A. W., & Poels, K. (2013). The Game Experience Questionnaire: Development of a self-report measure to assess the psychological impact of digital games. Media Psychology, 16(2), 267-299. https://doi.org/10.1080/15213269.2012.846346

Nguyen, T., Le, T., & Chau, N. (2023). How VR Technological Features Prompt Tourists' Visiting Intention: An Integrated Approach. Sustainability. https://doi.org/10.3390/su15064765

Kim, J., Shinaprayoon, T., & Ahn, S. (2021). Virtual Tours Encourage Intentions to Travel and Willingness to Pay via Spatial Presence, Enjoyment, and Destination Image. Journal of Current Issues & Research in Advertising, 43, 90-105. https://doi.org/10.1080/10641734.2021.1962441

Wen, H., & Leung, X. (2021). Virtual wine tours and wine tasting: The influence of offline and online embodiment integration on wine purchase decisions. Tourism Management, 83, 104250. https://doi.org/10.1016/j.tourman.2020.104250

Annex

Questionnaire development

Dear respondent, My name is Nabeel Sattar, I am Marketing and integrated communication management Master's programme student at Vilnius University. By this research I aim to analyse Factors Influencing the intention to Virtual Museum Tourism for my master's thesis. The questionnaire contains 3 sections and 23 question blocks with some additional demographic information and will take approximately 7-10 minutes to complete. It is anonymous, and the answers will be analysed solely for the research purposes. If you have any concerns regarding the research, you can contact me via email: Nabeel.sattar@stud.vu.lt

1: Have you visited a physical museum in the last 6 months?

- Yes
- No

2: What types of physical museums have you visited?

- Art museums
- History museums
- Science and technology museums
- Cultural or heritage museums
- Other: (Please specify)

3: Have you visited a Virtual museum in the last 6 months?

- Yes
- No

4: How often have you taken virtual museum tours before this study?

- 1-2 times
- 3-5 times
- 6 or more times

5: Name any of your favourite Virtual Tour?

…….

Section 2: Virtual Louvre Museum Tour

"Please take the Mona Lisa virtual tour by clicking on the provided link. After completing the tour, answer the following questions."

https://www.louvre.fr/en/explore/life-at-the-museum/mona-lisa-beyond-the-glass-the-louvre-s-first-virtual-reality-experience

6: Did you complete the virtual tour as instructed?

- Yes
- No

7: What was one of the key artworks or exhibits you observed during the virtual Louvre tour?

- The Mona Lisa
- Venus de Milo
- The Winged Victory of Samothrace
- None of the above

8: Rate your level of agreement with the statements regarding the Effectiveness of virtual tour that you Did., where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference - (Witmer & Singer,1998)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
The Mona Lisa tour provided high-quality information about the exhibits.							
The Mona Lisa Tour ran smoothly and responded quickly to my inputs.							
The Mona Lisa Tour had a visually appealing and well designed interface.							
The Mona Lisa toure effectively communicated the key aspects of the exhibits.							

9: Rate your level of agreement with the statements regarding the clarity and visual appeal of your experience in your preferred Online Store, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference - (Witmer & Singer,1998)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
The Mona Lisa tour provided vivid, rality based images that enhanced my experience.							
The visual quality of the Mona Lisa tour was clear and sharp.							
The images in Mona Lisa tour were highly detailed and immersive							
The Mona Lisa Tour created strong, memorable visual impressions.							

10: Rate your level of agreement with the statements regarding how engaging and interactive your experience is in Virtual Tour., where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Li, Sun, Zhu, & Qiu,2023)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
I felt fullyengaged with all my senses during the Mona LisaTour.							
The audio in the Mona Lisa Tour enhanced my							

feeling of being present in the environment.							
I felt a strong sense of moving through the virtual environment							
I could closely examine objects and view them from multiple angles							
I was highly focused in the Mona Lisa tour with little awareness of the real world around me.							

11: Rate your level of agreement with the statements regarding your engagement in Virtual Tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Li, Sun, Zhu,& Qiu, 2023)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
I felt deeply involved in tour Mona Lisa Tour experience.							
I was able to control the flow of events in the Mona Lisa Tour							
The Mona Lisa Tour responded well to my actions, making it interactive.							

12: Rate your level of agreement with the statements regarding the Ease of use you perceived in virtual tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Venkatesh & Davis, 2000)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
I found the Mona Lisa tour easy to use.							
i found it easy to get from the Mona Lisa tour to show me what I want to see.							
Interacting with the Mona Lisa tour does not require a lot of mental effort.							
My interaction with the Mona Lisa tour is clear and understandable							

13: Rate your level of agreement with the statements regarding the Usefulness you perceived in virtual tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Venkatesh & Davis, 2000)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
The Mona Lisa Tour helped me to understand more about the exhibits.							
The Mona Lisa tour enhanced my knowledge of art and culture.							
I found the Mona Lisa tour informative and educational							
I found Mona Lisa experience is useful for future travels.							

14: Rate your level of agreement with the statements regarding the Enjoyment you experience in virtual tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Manis & Choi, 2019)

	1-	2	3	4	5	6	7-

	Strongly Disagree						Strongly Agree
I enjoyed participating in the Mona Lisa Tour.							
The Mona Lisa tour was entertaining.							
I found the Mona Lisa tour an enjoyable experience overall.							
Interacting with Visual elements are amusing in Mona Lisa Tour							

15: Rate your level of agreement with the statements regarding your Control of behavior for virtual tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Liu & Park, 2024)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree

I feel confident using the technology required for the Mona Lisa Tour.							
I have the necessary resources to access the Mona Lisa Tour technology, internet,etc.							
It was easy for me to get access to the Mona Lisa Tour.							

16: Rate your level of agreement with the statements regarding your attitude of virtual tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Liu & Park, 2024)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
I find Mona Lisa VT experience is useful for future							
Participating in the Mona Lisa tour was a good idea							
In future I am motivated to explore more Virtual tour like Mona Lisa							
I believe the Mona Lisa tour was an enjoyable experience.							
I believe the Mona Lisa Tour provided a valuable cultural experience.							

17: Rate your level of agreement with the statements regarding your believe about opinion of other people, for virtual tourism, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Liu & Park, 2024)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
My friends and family think I should participate in virtualmuseum tours.							
People who influence my behavior encourage me to use virtual museum tours like Mona Lisa.							
I feel social pressure to participate in virtual museum tours like the Mona Lisa Tour.							
I often hear positive recommendations from others to explore virtual museum tours, like the Mona Lisa Tour.							

18: Rate your level of agreement with the statements regarding your opinion about security to use virtual Mona lisa tour, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Sudono et al., 2020)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
I feel that the virtual Mona Lisa tour takes adequate steps to verify my identity							
I believe that any personal information I share during the Mona Lisa virtual tour is only used for the purpose of the Mona Lisa tour							
I am reassured that the Mona Lisa virtual tour offers privacy policies that clearly explain how my data is used and protected.							
I feel comfortable knowing that the Mona Lisa virtual tour provides an option to review and manage my personal							

19: Rate your level of agreement with the statements regarding your intention to use virtual tourism, where 1 – Strongly disagree, 7 – Strongly agree:

7-point Likert type scale; reference (Liu & Park, 2024)

	1- Strongly Disagree	2	3	4	5	6	7- Strongly Agree
I intend to explore the virtual tour again in the near future.							
I intend to make an effort to use the virtual tour to learn more about the featured places.							
I intend to revisit the virtual tour soon to gain additional insights							
I am interested in exploring new features or updates in the virtual tour in the near future.							

20. Please choose your gender:

- Female
- Male
- Other

21. Please indicate your age:

___

22. Please choose one answer that best describes your average monthly income after taxes.

- Much lower than average in my country
- Lower than average in my country
- Slightly lower than average in my country
- My incomes correspond to the average in my country
- Slightly higher than average in my country
- Higher than average in my country
- Much higher than average in my country

23. What is the highest level of education you have completed?

- Bachelor's degree
- Master's degree
- Doctoral degree
- Other .....

Constructs' correlations:

Table 53

Correlations

		INTOU_M	BC_M	PEOU_M	PU_M	ENJO_M	ATTD_M	SN_M
Pearson Correlation	INTOU_M	1.000	.549	.633	.614	.610	.573	-.243
	BC_M	.549	1.000	.595	.583	.721	.702	-.246
	PEOU_M	.633	.595	1.000	.725	.641	.537	-.181
	PU_M	.614	.583	.725	1.000	.641	.473	-.287
	ENJO_M	.610	.721	.641	.641	1.000	.705	-.243
	ATTD_M	.573	.702	.537	.473	.705	1.000	-.244
	SN_M	-.243	-.246	-.181	-.287	-.243	-.244	1.000
Sig. (1-tailed)	INTOU_M	.	.000	.000	.000	.000	.000	.000
	BC_M	.000	.	.000	.000	.000	.000	.000
	PEOU_M	.000	.000	.	.000	.000	.000	.001
	PU_M	.000	.000	.000	.	.000	.000	.000
	ENJO_M	.000	.000	.000	.000	.	.000	.000
	ATTD_M	.000	.000	.000	.000	.000	.	.000
	SN_M	.000	.000	.001	.000	.000	.000	.
N	INTOU_M	268	268	268	268	268	268	268
	BC_M	268	268	268	268	268	268	268
	PEOU_M	268	268	268	268	268	268	268
	PU_M	268	268	268	268	268	268	268
	ENJO_M	268	268	268	268	268	268	268
	ATTD_M	268	268	268	268	268	268	268
	SN_M	268	268	268	268	268	268	268

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.246	.390		3.195	.002		
	BC_M	.004	.071	.004	.053	.958	.379	2.636
	PEOU_M	.214	.056	.258	3.819	.000	.403	2.483
	PU_M	.210	.064	.222	3.267	.001	.397	2.520
	ENJO_M	.153	.087	.131	1.765	.079	.335	2.982
	ATTD_M	.234	.069	.224	3.371	.001	.415	2.410
	SN_M	-.013	.013	-.046	-1.004	.316	.894	1.119

a. Dependent Variable: INTOU_M

Case study of the Louvre Museum

One of the most famous and, probably, the leading art museums all over the world, the Louvre Museum, fulfil digital opportunities and presents a vast virtual tour of the displayed exhibits. It makes the museum collections accessible to anyone interested in absorbing the enormous gamut of masterpieces including the Mona Lisa and Venus de Milo, within their comfort homes. High-quality technologies like photo-realistic images, 360-degree scenes, and IML (Interactive Media Licensing) that is hard to distinguish from the real transition through the museum (Boeuf, 2020). Interactivity is used at the Louvre's Virtual Museum Tour; it aims at enhancing engagement by the users in the various activities. The literature by Romero et al. (2021) noted that incorporating features such as the zoom, with high quality images combined with an opportunity to rotate the artworks improves satisfaction levels among users who undertake virtual museum tours. These interactive choices are something that a TL user can attend to as an exhibit as it further brings into focus other ways of engagement with the exhibits that cannot be gotten from the physical means. The Louvre Virtual Museum Tour has a great responsibility of further popularizing art and culture across the world. The virtual visit at the Louvre museum will also illustrate how museums can use technological advancement to enhance accessibility to our records. Virtual reality and the application of high detailed 3D models are especially helpful when it comes to creating extended and rather believable user experiences. Jung et al., (2016) have noted that the impletation of the virtual technology in the terms of virtual tours may provide a high level of presence that is critical for both the educational and cultural values. When using all of the mentioned technologies, the Louvre allows users to interactively navigate through its exhibits, and thus significantly reduce the gap between virtual reality and real life.