Indonesian Journal of Business and Entrepreneurship, Vol. 11 No. 2, May 2025
Permalink/DOI: http://dx.doi.org/10.17358/IJBE.11.2.454

Available online at
http://journal.ipb.ac.id/index.php/ijbe

THE CHANGE OF VISITOR INTENTION TOWARD VIRTUAL REALITY USING THE THEORY OF THE ACCEPTANCE MODEL

Aisyah Nur Azizah[1], Eko Ruddy Cahyadi, Heti Mulyati

Department of Management, Faculty of Economics and Management, IPB University
Jl. Agatis Kampus IPB, Dramaga, Bogor 16680, Indonesia

Article history:

Received
7 October 2024

Revised
3 February 2025

Accepted
17 February 2025

Available online
31 May 2025

ABSTRACT

Background: Virtual Reality (VR) is one of the technologies that has experienced significant growth during Industry 4.0. The total value of tourism-related digital industries is estimated to reach US$210 billion by 2025.
Purpose: The purpose of this research is to analyze the factors that contribute to VR usage with the Extended Technology Acceptance Model and to analyze changes in the usage intention of VR.
Design/methodology/approach: The factors contributing to the utilization of VR in this study can be analyzed using the Extended Technology Acceptance Model (TAM) approach through Structural Equation Modeling Partial Least Squares (SEM-PLS) analysis. The sample of this study was 115 respondents who had visited Malang Night Paradise and showed an interest in Adventure Land, which offered the use of VR.
Findings/result: This study revealed that several factors affecting the changes in the usage intention of VR are identified from the change in the hypothesis of perceived usefulness, which no longer has an effect on attitude toward using and price willingness to pay.
Conclusion: This phenomenon is attributed to a decline in attractiveness, changes in user familiarity with VR, negative experiences, changes in market conditions, and economic fluctuations.
Originality/value (state of the art): This study was conducted in 2022 and 2023 to measure changes in the usage intention of VR, given that the modernization of information and communication technology in the current digital era has transformed human interaction with their environments.

Keywords: structural equation modelling, partial least squares, technology acceptance model, tourism, usage intention, virtual reality

How to Cite:
Azizah A. N., Cahyadi E. R., & Mulyati H. (2025). The Change of Visitor Intention Toward Virtual Reality Using The Theory of The Acceptance Model. Indonesian Journal of Business and Entrepreneurship (IJBE), 11(2), 454. https://doi.org/10.17358/ijbe.11.2.454

[1] Corresponding author:
Email: nurazizahaisyah@apps.ipb.ac.id

INTRODUCTION

Industrial Revolution 4.0 is a new chapter in the history of the industrial revolution. The First Industrial Revolution (1750-1830) introduced railways and steam engines; the Second Industrial Revolution (1870-1900) brought forth communication equipment, electricity, oil, and chemistry; and the Third Industrial Revolution (1960-1990) introduced computers, the Internet, and mobile phones. Currently, Industrial Revolution 4.0 encompasses technologies such as the Internet of Things (IoT), Virtual Reality (VR), Augmented Reality (AR), technology-based business models, mobile technology, big data, and Artificial Intelligence (AI) (Eddyono 2020).

This era has changed the management of tourism destinations, with Internet penetration in Indonesia reaching 221 million users in 2024, an increase of 1.31% from the previous year (Indonesian Internet Service Providers Association, 2024). Digitalization is crucial for the tourism sector, especially after the COVID-19 pandemic, which encourages the adoption of technology to improve the consumer experience (Kemenparekraf 2022). VR was developed as part of smart tourism to provide information about destinations and attractions while showing its potential to become a new tourism service (Pestek dan Sarvan 2020). According to the World Economic Forum, the total value of tourism-related digital industries will reach US$210 billion by 2025. VR is also widely used in industrial simulation applications, driving simulations, product design and prototyping, education, public health, medical training, exergaming, fitness and sports, therapy and meditation, social interaction, and entertainment (Hamad dan Jia 2022). Unfortunately, there is still a general lack of understanding regarding the strengths and limitations of VR as a technology across various application domains. This is due to the fact that advancements in information and communication technology in the current digital era have transformed the way humans interact with their environment.

Virtual Reality (VR) is one of the major advances in information technology that is expected to affect the development of the tourism industry. VR allows users to interact with a virtual world simulation, providing an experience similar to that of being in a real location (Hartini et al. 2020). VR was developed as a component of smart tourism to present information about destinations and attractions, and shows its potential as a new service in the tourism sector (Pestek and Sarvan, 2020). VR is used in planning, management, promotion, education, and creation of tourist experiences (Loureiro et al. 2020). Virtual reality is now being used to enhance the travel experience, offering destinations, attractions, and businesses with additional new marketing tools, transforming consumer interactions, and creating a new tourism model (Calisto dan Sarkar 2024).

VR has been widely used in travel and adventure, entertainment, live events, home design, education, games, meetings, shopping, and sports. The World Economic Forum predicts that the digital tourism industry will reach US$210 billion by 2025; hence, understanding the role of VR in the tourism industry is necessary. The success of a technology for a company can be measured by examining the intention and willingness of the user to adopt the technology.

This study adopts the Extended TAM model previously developed by Manis dan Choi (2019), Fussell dan Truong (2022), and Syahrul Gafur et al. (2023). The variables used in this study are also adopted from previous research, specifically the variables of curiosity, price willingness to pay, perceived ease of use, perceived usefulness, perceived enjoyment, attitude towards using, and behavioral intention to use.

The Technology Acceptance Model (TAM) was developed by Davis in 1989. This model analyzes the acceptance of new technologies. TAM assesses variables such as Perceived Usefulness (PU), Perceived Ease of Use (PEOU), attitude toward use (ATU), Behavioral Intention to Use (BITU), and Actual Technology Usage (AU). VR users tend to use VR for tourism activities due to hedonic motivation. This study improved the TAM by adding variables such as perceived enjoyment, curiosity, and willingness to pay.

This research adopts an extended Technology Acceptance Model approach to understand each factor that contributes to VR acceptance in Malang Night Paradise. Data were collected from 2022 to 2023 to analyze changes in the usage intention of VR using the SEM-PLS analysis method. This is because the modernization of information and communication technology in the digital era has changed the way humans interact with their environments.

Based on the description, the purpose of this research is to (1) analyze the characteristics of VR users at Malang Night Paradise, (2) analyze the factors that contribute to VR usage with the Extended Technology Acceptance Model, and (3) analyze changes in the usage intention of VR.

METHODS

This research was carried out between 2022 and 2023, with visitors to Malang Night Paradise as the object of research. This research collected data from the same respondents within that time frame to analyze the behavioral changes of VR users towards the usage intention of VR technology. This study used quantitative and qualitative data to describe the phenomena observed in this research. Quantitative data is processed using SEM analysis to analyze the factors that contribute to VR usage with the Extended Technology Acceptance Model and to analyze changes in the usage intention of VR. Meanwhile, qualitative data is used to analyze the characteristics of VR users at Malang Night Paradise. This study uses two types of data sources. The questionnaires completed by the selected respondents were used as the primary data source. Books, theses, journals, news articles, and websites were used as secondary data sources.

Data were collected through the distribution of questionnaires to visitors from the Malang Night Paradise. A purposive sampling technique was applied in this study to select the research samples with the criterion that the respondents had visited Malang Night Paradise and showed an interest in Adventure Land that offered the use of VR. The minimum number of respondents required was determined using the Lemeshow formula, which resulted in 96 respondents. In the first year of data collection, 125 participants were included. However, during the second data collection period, only 115 respondents were contacted again. Approximately 9% of the respondents could not be contacted; hence, second-year data could not be collected from them. To improve the accuracy of the study, the researcher added 19 samples from the minimum sample, bringing the total number of respondents to 115. The data collection from the same respondents within that time frame is intended to analyze the behavioral changes of VR users towards the usage intention of VR technology.

The analytical approach used in this study was the SEM-PLS analysis. Measurements were carried out using a 5-point tiered Likert scale, where a higher selected score indicates a greater level of agreement with the statement (Strongly Disagree – Strongly Agree). SEM-PLS analysis using SmartPLS4 aimed to verify the hypothesis in this study to identify the factors that influence the usage of VR. The stages of data analysis using the SEM-PLS method are as follows: (1) designing the structural model (inner model) and measurement model (outer model), (2) constructing a flowchart, and (3) goodness of fit evaluation. An indicator is considered valid if its loading factor is above 0.70 and the Average Variance Extracted (AVE) is greater than 0.50. If the construct does not meet these criteria, indicators with the lowest loading factor are eliminated. After this process, the construct is recalculated for the final model. In this study, the AVE value exceeds 0.50, indicating that over 50% of the indicator variables are explained by their latent variables, thus meeting the requirements for good convergent validity. Reliability is assessed using Cronbach's alpha, with values above 0.70 confirming internal consistency and composite reliability. Discriminant validity is evaluated by analyzing the cross-loading value, ensuring that a construct's correlation with its indicator is higher than with other constructs. Structural model testing involves observing R-squared and T-statistics values from the bootstrapping process, with the R-squared value indicating the model's prediction strength. In addition, this analysis was conducted twice, in 2022 and 2023, to evaluate the change in the usage intention of VR technology.

The success of a technology is measured by the interest in adopting the technology. The factors contributing to the utilization of VR in this study can be analyzed using the Extended Technology Acceptance Model (TAM) approach through Structural Equation Modeling Partial Least Squares (SEM-PLS) analysis over two years. The research framework is illustrated in Figure 1.

The variables specified in this study refer to earlier studies and a collection of various theories on the usage of VR. This study improved TAM by adding variables such as perceived enjoyment, curiosity, and price willingness to pay. The arrangement of hypotheses in this study is based on theory and previous research, which are described as follows. Table 1 lists the operational variables used in this study.

According to the study by Manis dan Choi (2019) and Syahrul Gafur et al. (2023) on the acceptance of VR technology, several variables in the Extended TAM model have a significant impact. These include the variable of curiosity, which influences the perceived ease of use, the variable of perceived ease of use, which affects the perceived usefulness and enjoyment, the variable of perceived enjoyment, which influences both the perceived usefulness and attitude toward using, and the variable of perceived usefulness, which impacts attitude toward using. Manis dan Choi (2019) and Syahrul Gafur et al. (2023) also found that price willingness to pay is not influenced by the variables of perceived usefulness, perceived ease of use, and perceived enjoyment. Therefore, the researcher aims to examine whether the variable price willingness to pay is influenced by these three variables in this research.

Previous research also found that variable perceived ease of use and perceived enjoyment affect perceived usefulness, perceived enjoyment affects attitude towards using, perceived usefulness affects attitude towards using, and attitude towards using affects behavioral intention to use in virtual reality usage (Fussell dan Truong 2022). Based on the previous research, the hypothesis that can be proposed is as follows:

H1: Curiosity affects perceived ease of use (PEOU) in virtual reality usage.
H2: Perceived ease of use (PEOU) affects perceived usefulness (PU) in virtual reality usage.
H3: Perceived ease of use (PEOU) affects perceived enjoyment (PE) in virtual reality usage.
H4: Perceived usefulness (PU) affects price willingness to pay (PWTP) in virtual reality usage.
H5: Perceived enjoyment (PE) affects perceived usefulness (PU) in virtual reality usage.
H6: Perceived ease of use (PEOU) affects Price willingness to pay (PWTP) in virtual reality usage.
H7: Perceived enjoyment (PE) affects Price willingness to pay (PWTP) in virtual reality usage.
H8: Perceived usefulness (PU) affects attitude toward using (ATU) in virtual reality usage.
H9: Perceived enjoyment (PE) affects attitude toward using (ATU) in virtual reality usage.
H10: Price willingness to pay (PWTP) affects attitude toward using (ATU) in virtual reality usage.
H11: Attitude towards using (ATU) affects behavioral intention to use (BITU) in virtual reality usage.

In the industrial era 4.0, human activities cannot be separated from technology, one of which is the tourism industry. VR has been developed significantly for the tourism sector. According to the World Economic Forum, the total value of the tourism-related digital industry will reach US$210 billion by 2025. The success of a technology for a company can be measured by the user's willingness to accept and use the technology. So, an approach is needed to find out the factors that influence user acceptance of virtual reality. The approach model that can be used is the Extended Technology Acceptance Model (TAM) through Structural Equation Modeling Partial Least Squares (SEM PLS) analysis. This research was taken twice in 2022 and 2023. This is useful for analyzing changes in VR user behavior regarding the acceptance of VR technology in Malang Night Paradise. The research framework can be seen in Figure 1.

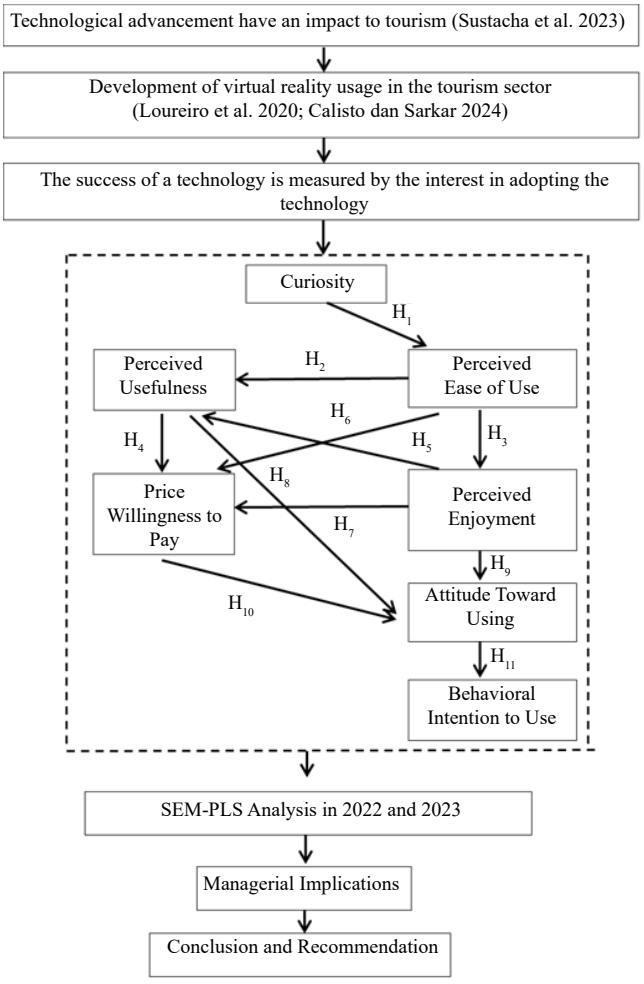

Figure 1. Theoretical Framework

Table 1. Operational Research Variables

Variable	Indicators	Notation	Source
Price Willingness To Pay	Willingness to pay	PWTP1	Manis and Choi (2019)
	Price considerations	PWTP2	
	Value of product/service	PWTP3	
	Reasonable price	PWTP4	
Curiosity	Curious on VR technology	C1	Manis and Choi (2019); Syahrul Gafur et al. (2023).
	Regularly seeking information	C2	
	Willingness to try	C3	
	Curious on the latest news	C4	
Perceived Ease of Use	VR glasses are easy to use	PEOU1	Manis and Choi (2019); Fussell and Truong (2022); Syahrul Gafur et al. (2023).
	Guided and assisted by officers	PEOU2	
	Convenient and strategic location	PEOU3	
	Online ticket booking	PEOU4	
	Information Contact	PEOU5	
	Complete amenities	PEOU6	
Perceived Usefulness	Saves time	PU1	Manis and Choi (2019); Kim and Hall (2019)
	Lower expenses	PU2	
	Providing hands-on experience	PU3	
	Delivering a unique experience	PU4	
	Showing a 360o vision	PU5	
Perceived Enjoyment	Engaging	PE1	Manis and Choi (2019); Kim and Hall (2019); Hartini et al. (2020); Fussell and Truong (2022); Syahrul Gafur et al. (2023)
	Provides entertainment	PE2	
	Creates lasting Impression	PE3	
	Comfortable VR glasses	PE4	
	Provides a clear, crisp, and original-like image	PE5	
	Comfortable chair	PE6	
	Safe seat equipped with harness	PE7	
	Clear sound	PE8	
Attitude Toward Using	Tempted	ATU1	Manis and Choi (2019); Kim and Hall (2019); Hartini et al. (2020); Syahrul Gafur et al. (2023)
	Fleeting Time	ATU2	
	Relieving worries	ATU3	
	Oblivious	ATU4	
	Satisfied	ATU5	
Behavioral Intention to Use	Reusing	BITU1	Manis and Choi (2019); Hartini et al. (2020); Kim and Hall (2019); Fussell and Truong (2022)
	Recommending	BITU2	
	Motivate the use	BITU3	

RESULTS

In this study, it was found that Gen-Z dominated the use of VR, with as many as 67 people. Gen-Z is a generational group born between 1997 and 2012. The age of Gen-Z patients ranged from 12 to 27 years. Gen-Z dominates in the use of VR because it is in accordance with its characteristics as a digital native who is keen on technological advances (Gentina and Parry, 2021). Figure 2 shows the distribution of the generation groups in this study.

The analysis used to measure the usage intention in VR technology is SEM-PLS through the adoption of the SmartPLS4 application. SEM-PLS Flowchart of this study is shown in Figure 3. The analysis of the measurement model or outer model aimed to confirm that each indicator had a relationship with its latent variable. The measurement model was evaluated in three stages: convergent validity, discriminant validity, and composite reliability. The convergent validity test was conducted using SmartPLS 4 software to evaluate the relationship between the internal and construct scores.

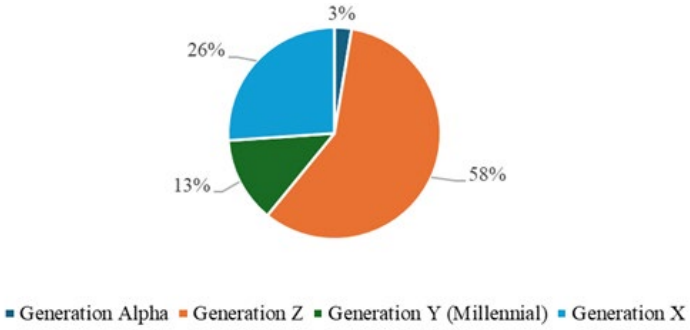

Figure 2. Distribution of Generation Groups

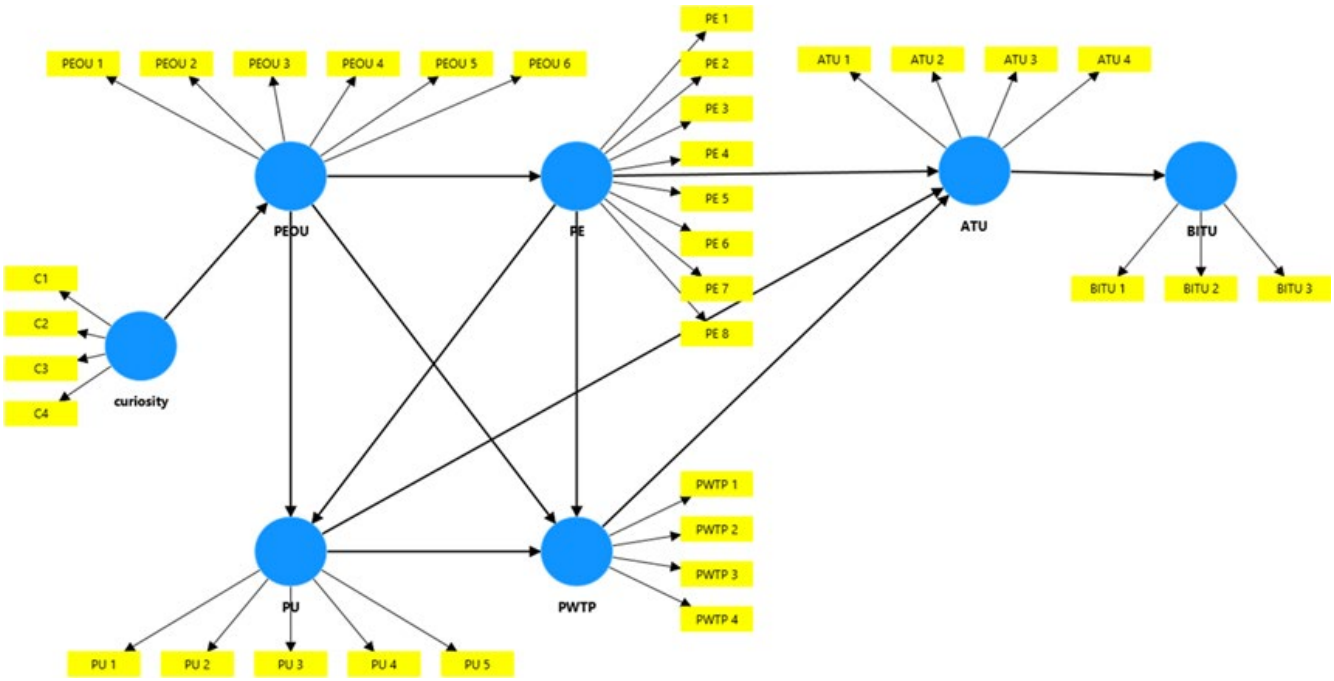

Figure 3. SEM-PLS Flowchart

The SEM-PLS measurement method was carried out in 2022 and 2023 to analyze changes in the intention to use VR. The final results of the model and first-year research loading factor values are presented in Figure 4. Figure 5 shows the final results of the model and the loading factor value of the second-year research.

Based on these two studies, it is known that the price willingness variable is influenced by the dimension of willingness to pay and the value of the product/ service. This is reinforced by previous research, which mentioned that tourists tend to be willing to pay for VR usage in tourism because of several factors, such as gender, marital status, education level, and income. VR is also considered a price-sensitive product (Azizah dan Cahyadi 2023). VR is often considered a luxury or entertainment item rather than a basic need (Ulmasruroh 2020). In this study, the majority of the respondents had a proper educational background. Individuals with a strong educational background tend to have a better understanding of the importance of economic value and how to effectively utilize resources (Simanjuntak, 2009). Therefore, it can be said that VR has a good product value.

The curiosity variable was greatly influenced by the dimension of willingness to try. People with high curiosity tend to be better prepared to try VR because they want to know what this technology can offer. This is in line with the characteristics of Gen-Z, as the majority of respondents in this study, namely, digital natives who are keen on technological advances (Gentina and Perry, 2021).

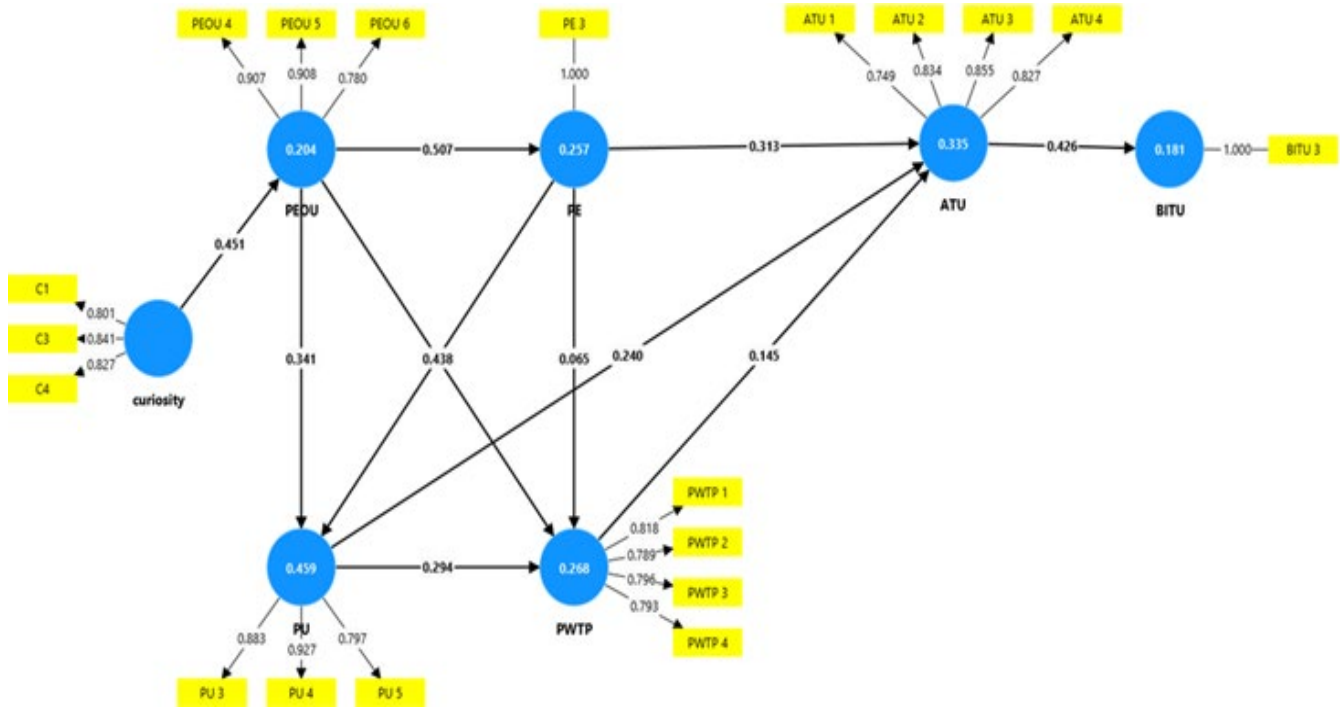

Figure 4. Model and Final Calculation of Loading Factor in the First Year of Research (Price Willingness To Pay (PWTP); Curiosity (C);Perceived Ease of Use (PEOU);Perceived Usefulness (PU); Perceived Enjoyment (PE); Attitude Toward Using (ATU); Behavioral Intention to Use (BITU))

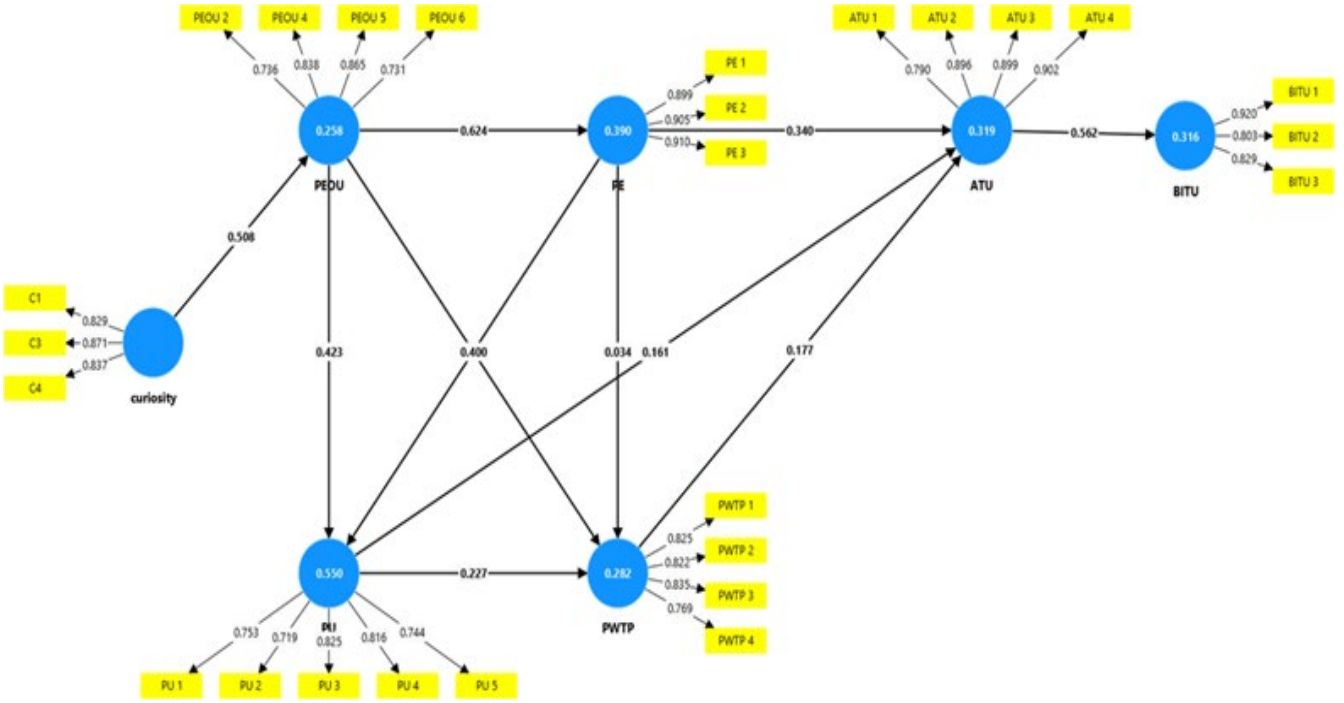

Figure 5. Model and Final Calculation of Loading Factor in the Second Year of Research (Price Willingness To Pay (PWTP); Curiosity (C);Perceived Ease of Use (PEOU);Perceived Usefulness (PU); Perceived Enjoyment (PE); Attitude Toward Using (ATU); Behavioral Intention to Use (BITU))

The perceived ease-of-use variable is influenced by the dimensions of information contact. High-quality information, such as accurate, relevant, and easily accessible information, can improve the perception of convenience for users and assist individuals in decision-making to visit tourism destinations appropriately (Zheng et al. 2013; Chen et al. 2014). Contact information can be obtained through the use of Instagram social media (Santoso et al. 2022).

Based on both studies, the perceived usefulness variable is influenced by the dimensions of providing unique and direct experiences to explore virtually. VR provides a unique experience that is useful in various sectors, such as tourism, education, planning, marketing, entertainment, and others (Loureiro et al. 2020). VR can also provide interactive live experiences to explore virtually, such as visiting distant tourist attractions, museums, and historical places as an alternative to learning (Loureiro et al. 2020). There are other equipment to further support VR users in obtaining more realistic live experiences, such as VR roller coaster chairs, controllers, sensors, computers, and headsets.

The latent variable of Perceived Enjoyment (PE) is reflected by the impressive dimension (PE 3), with a loading factor value of 1. This indicates that this dimension has a perfect correlation with the latent variable of perceived enjoyment; hence, the impressive dimension has a significant and reliable influence in measuring perceived enjoyment.

The variable of attitude towards use was influenced by the dimension of relieving worries and forgetting. The reaction of relieving worries is one of the attitudes towards the use of VR. In a study by Utami and Oktarisa (2021), worry was a form of psychological individual reaction when feeling anxious. The use of VR as a form of CBT in the medical world is beneficial for reducing anxiety levels. Novita et al. (2024) showed that VR causes cybersickness. Cybersickness is a form of motion sickness that occurs because of exposure to a virtual environment. The symptoms include dizziness, nausea, fatigue, vomiting, and disorientation. This is a form of attitude towards the use of VR. VR users can experience disorientation, where they feel confused or unable to distinguish between the real and virtual worlds. This is often the case for users involved in games or simulations involving fast movements, heights, or unusual situations. Based on these two studies, it is known that the intention to use a variable is influenced by the dimensions of usage encouragement and reuse. Sobarna's (2021) research showed that the utilization of VR tourism is increasing because it provides an immersive and interactive experience. This can increase the tourists' motivation to use VR.

After the bootstrapping stage, a T-statistical significance evaluation was performed to determine the relationships between the variables. Table 2 compares the results of the direct effect SEM-PLS of the Hypothesis, and Table 3 shows the total effects SEM-PLS Analysis.

Table 2. The Direct Effect SEM-PLS Analysis of the Hypothesis

Variable Relationships	2022			2023		
	Original Sample	T Statistics	P values	Original Sample	T Statistics	P values
C → PEOU	0.451	7.005	0.000	0.508	6.263	0.000
PEOU → PU	0.341	4.388	0.000	0.423	5.487	0.000
PEOU → PE	0.507	7.348	0.000	0.624	9.396	0.000
PU → PWTP	0.294	2.340	0.019	0.227	1.501	0.133
PE → PU	0.438	5.501	0.000	0.400	5.204	0.000
PEOU → PWTP	0.241	2.127	0.033	0.325	2.304	0.021
PE → PWTP	0.065	0.553	0.580	0.034	0.244	0.808
PU → ATU	0.240	2.060	0.039	0.161	1.231	0.218
PE → ATU	0.313	3.146	0.002	0.340	2.599	0.009
PWTP → ATU	0.145	1.482	0.138	0.177	1.247	0.213
ATU → BITU	0.426	4.859	0.000	0.562	9.303	0.000

Note: Price Willingness To Pay (PWTP); Curiosity (C);Perceived Ease of Use (PEOU);Perceived Usefulness (PU); Perceived Enjoyment (PE); Attitude Toward Using (ATU); Behavioral Intention to Use (BITU)

Table 3. The Total Effects SEM-PLS Analysis

Variable Relationships	2022			2023		
	Original Sample	T Statistics	P Values	Original Sample	T Statistics	P Values
ATU → BITU	0.426	4.859	0.000	0.562	9.303	0.000
PE → ATU	0.447	5.665	0.000	0.426	4.376	0.000
PE → BITU	0.190	3.908	0.000	0.240	4.084	0.000
PE → PU	0.438	5.501	0.000	0.400	5.204	0.000
PE → PWTP	0.194	2.017	0.044	0.125	0.890	0.374
PEOU → ATU	0.358	6.200	0.000	0.409	6.262	0.000
PEOU → BITU	0.152	3.591	0.000	0.230	4.497	0.000
PEOU → PE	0.507	7.348	0.000	0.624	9.396	0.000
PEOU → PU	0.563	8.566	0.000	0.673	12.390	0.000
PEOU → PWTP	0.440	5.450	0.000	0.499	7.747	0.000
PU → ATU	0.283	2.655	0.008	0.201	1.590	0.112
PU → BITU	0.120	2.100	0.036	0.113	1.544	0.123
PU → PWTP	0.294	2.340	0.019	0.227	1.501	0.133
PWTP → ATU	0.145	1.482	0.138	0.177	1.247	0.213
PWTP → BITU	0.062	1.420	0.156	0.100	1.167	0.243
C → ATU	0.161	4.079	0.000	0.208	3.522	0.000
C → BITU	0.069	2.790	0.005	0.117	2.907	0.004
C → PE	0.229	4.922	0.000	0.317	4.314	0.000
C → PEOU	0.451	7.005	0.000	0.508	6.263	0.000
C → PU	0.254	4.963	0.000	0.341	4.857	0.000
C → PWTP	0.198	3.436	0.001	0.253	3.877	0.000

Note: Price Willingness To Pay (PWTP); Curiosity (C);Perceived Ease of Use (PEOU);Perceived Usefulness (PU); Perceived Enjoyment (PE); Attitude Toward Using (ATU); Behavioral Intention to Use (BITU)

Table 3 shows that three hypotheses in this research have changed from significant to insignificant at a certain time. The hypothesis of perceived usefulness had no significant direct effect on attitudes toward use and no indirect effect on behavioral intention to use. These results were influenced by various factors. First, there is a decline in new attractiveness because the novelty factor fades over time or because of the lack of new innovation. This condition was in accordance with what happened at the research location, and the VR content offered did not vary. Innovation plays a crucial role in increasing the usefulness of products or services. Innovation helps the tourism industry achieve optimal performance, improve operational efficiency, improve quality and customer satisfaction, and expand its market share (Achmad 2023).

Second, the change in familiarity with VR enables users to become more familiar and better understand its benefits. This is in accordance with the characteristics of Gen-Z, which is widely known as digital savvy or is easily adapted to technology (Buhalis and Karatay, 2022). However, they considered VR to be temporary and complementary. The underlying reason behind this opinion is that Gen-Z highly regards sensory factors in experiencing tourism and is worried about the effects of VR, such as radiation hazards. This is supported by the research of Buhalis and Karatay (2022), who argue that Gen-Z has risk aversion.

The hypothesis of perceived enjoyment had no significant effect on the price willingness to pay variable. This occurs due to the negative experiences encountered by tourists, such as technical problems and inconveniences. This happened at the research site. According to some of the VR respondents, the equipment they were using at the time was less compatible and uncomfortable. Examples include smelly VR head straps and a lack of clarity in content presentation. Maintenance management of tourist facilities is necessary to ensure that the quality of the facilities is in good condition. The aim is to maintain and improve the safety, comfort, and satisfaction of tourists (Sugiama et al. 2022).

The perceived usefulness effect on the price willingness to pay variable was not significant. This was caused by various factors. First, there are changes in the market conditions. In this study, the content offered by VR did not vary; hence, there is a need for innovation by management to attract visitors' intention to use VR. VR innovation in the tourism sector is necessary to overcome dynamic market conditions by creating new ideas that provide added value and improve effectiveness and competitive advantage for companies. Innovation helps the tourism industry in achieving optimal performance, improving operational efficiency, improving quality and customer satisfaction, and expanding market share (Achmad 2023).

Second, there have been economic changes. Under good economic conditions, consumers tend to have higher incomes. This encourages consumers to pay eagerly for new technologies such as VR. Conversely, in a recession or a bad economy, consumers tend to reduce spending on goods and services that are not categorized as primary needs, such as VR. This is supported by human nature to satisfy basic needs first before fulfilling more complex needs later (Ulmasruroh 2020).

Managerial Implications

Companies can take strategic steps to enhance business performance in relation to the use of VR. Based on the findings, management can focus on aspects that can improve the enjoyment, comfort, utility, and curiosity of tourists regarding VR. This has a positive impact on users' attitudes and interest in VR. The enjoyment and comfort of using VR can be enhanced by providing demonstration sessions or tutorials via video to introduce VR and its usage, thereby reducing users' fear or confusion. Companies can also implement maintenance management for tourist facilities to ensure that the quality of the facilities remains in good, safe, and well-maintained condition. The utility of VR can be improved by analyzing the costs of implementing VR technology against the benefits obtained in the form of user satisfaction and increased visitation. Additionally, innovative VR content also contributes to enhancing the utility and curiosity of tourists regarding VR. Innovation in VR further helps address the dynamic market conditions. This is expected to be able to encourage the company's business performance efforts to be more optimal in improving its business performance through strategic steps that can be taken in this research.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

Referring to the findings of this study, which have been described in the Discussion section, several conclusions were obtained. First, factors that influence the usage of VR through the extended technology acceptance model in this study are that the variable of curiosity variable had a significant effect on perceived ease of use. The curiosity of tourists towards VR can be fulfilled by providing demonstration sessions, video tutorials, or guidance from employees on how to use VR, so that tourists feel comfortable using VR without experiencing fear or confusion. When tourists experience ease of use with VR, they will perceive enjoyment and usefulness from the technology, as they feel satisfied and pleased. This means that the perceived ease of use variable has a significant effect on perceived enjoyment and perceived usefulness. These variables are able to enhance tourists' attitudes and interest in using VR, therefore, companies need to focus on comfort, usefulness, ease of use, and fulfilling tourists' curiosity in order to achieve optimal business performance.

Second, two hypotheses in this study revealed the change in visitor intention toward VR using the acceptance model. The effect of perceived usefulness on the variables of attitude toward using and willingness to pay became insignificant. This phenomenon is attributed to a decline in attractiveness, changes in user familiarity with VR, negative experiences, changes in market conditions, and economic fluctuations.

Recommendations

Potential recommendations for future research should consider the following points: 1) an increase in the number of samples in future research will result in a more varied distribution of respondents; 2) develop models by adding more research variables and indicators to obtain better results; 3) needs to enrich its knowledge to create new innovations in VR usage and conducting maintenance management of tourist facilities is necessary to ensure that the quality of facilities is in good condition.

FUNDING STATEMENT: This research received no specific grant from public, commercial, or not-for-profit funding agencies.

CONFLICTS OF INTEREST: The author declares no conflict of interest.

REFERENCES

Achmad F. 2023. Peran Inovasi dalam Meningkatkan Kinerja Industri Pariwisata Berkelanjutan di Indonesia. Jurnal Multidisiplin West Science. 2(03):150–157. https://doi.org/10.58812/jmws.v2i03.244

Asosiasi Penyelenggara Jasa Internet Indonesia. 2024. Survei Internet APJII 2024. [2024 Feb 1]. https://survei.apjii.or.id/.

Azizah AN, Cahyadi ER. 2023. Preferensi dan Willingness To Pay Wisatawan Terhadap Virtual Reality di Malang Night Paradise Pasca Pandemi. Jurnal Aplikasi Bisnis dan Manajemen. 9(1):261–272. https://doi.org/10.17358/jabm.9.1.261

Buhalis D, Karatay N. 2022. Mixed Reality (MR) for Generation Z in Cultural Heritage Tourism Towards Metaverse. Di dalam: Information and Communication Technologies in Tourism 2022. Springer International Publishing. hlm 16–27. https://doi.org/10.1007/978-3-030-94751-4_2

Calisto M de L, Sarkar S. 2024. A systematic review of virtual reality in tourism and hospitality: The known and the paths to follow. International Journal of Hospitality Management. 116. https://doi.org/10.1016/j.ijhm.2023.103623

Eddyono F. 2020. Pengelolaan Destinasi Pariwisata. pertama. Jakarta: Uwais Inspirasi Indonesia.

Fussell SG, Truong D. 2022. Using virtual reality for dynamic learning: an extended technology acceptance model. Virtual Real. 26(1):249–267. https://doi.org/10.1007/s10055-021-00554-x

Gentina E, Parry E. 2021 Apr 12. Generation Z: when it comes to behaviour, not all digital natives look alike. [diakses 2024 Jul 20]. https://theconversation.com/generation-z-when-it-comes-to-behaviour-not-all-digital-natives-look-alike-155694.

Hamad A, Jia B. 2022. How Virtual Reality Technology Has Changed Our Lives: An Overview of the Current and Potential Applications and Limitations. International Journal of Environmental Research and Public Health, 19(18), 11278. https://doi.org/10.3390/ijerph191811278

Hartini S, Anglelyn C, Sukaris S. 2020. Virtual reality: aplikasi teknologi untuk peningkatan kunjungan wisatawan. Journal of Business and Banking. 9(2):215. https://doi.org/10.14414/jbb.v9i2.2014

Kemenparekraf. 2022. Tren Industri Pariwisata 2022-2023. Jakarta. [2023 Apr 10]. https://kemenparekraf.go.id/pustaka/buku-tren-pariwisata-2022-2023.

Kim MJ, Hall CM. 2019. A hedonic motivation model in virtual reality tourism: Comparing visitors and non-visitors. International Journal of Information Management. 46:236–249. https://doi.org/10.1016/j.ijinfomgt.2018.11.016

Loureiro SMC, Guerreiro J, Ali F. 2020. 20 years of research on virtual reality and augmented reality in tourism context: A text-mining approach. Tourism Management. 77 August 2019:1–21. https://doi.org/10.1016/j.tourman.2019.104028

Manis K, Choi D. 2019. The virtual reality hardware acceptance model (VR-HAM): Extending and individuating the technology acceptance model (TAM) for virtual reality hardware. Journal of Business Research 100:503–513. https://doi.org/10.1016/j.jbusres.2018.10.021

Novita R, Noviana D, Wildani H, Fitria M, Liani W, Muliyani W, Fauzi NF, Febri, Beli GJ. 2024. Analisis Cybersickness Pada Permainan Beat Saber Virtual Reality di Game Blink Playstation Padang. Jurnal Humaniora, Sosial dan Bisnis. 2(8):816–827.

Pestek A, Sarvan M. 2020. Virtual reality and modern tourism. Journal of Tourism Futures. 7(2):245–250. https://doi.org/10.1108/JTF-01-2020-0004

Santoso A, Sulistyawati AI, Vydia V. 2022. Instagram as Social Media and His Role in The Tourism Promotion. Indonesian Journal of Business and Entrepreneurship. 8(3):415–420. https://doi.org/10.17358/ijbe.8.3.415

Sobarna A. 2021. Pengaruh Wisata Virtual Reality (VR) Terhadap Niat Berperilaku Wisatawan. Di dalam: Prosiding The 12th Industrial Research Workshop and National Seminar. Bandung. hlm 1336–1344.

Sugiama AG, Oktavia HC, Karlina M. 2022. The Effect of Tourism Infrastructure Asset Quality on Tourist Satisfaction: A Case on Forest Tourism in Tasikmalaya Regency. International Journal of Applied Sciences in Tourism and Events. 6(1):65–71. https://doi.org/10.31940/ijaste.v6i1.65-71

Sustacha I, Baños-Pino JF, Del Valle E. 2023. The role of technology in enhancing the tourism experience in smart destinations: A meta-analysis. Journal

of Destination Marketing and Management. 30. https://doi.org/10.1016/j.jdmm.2023.100817

Syahrul Gafur H, Sari H, Yudhistira T. 2023. Will in-flight virtual reality increase the enjoyment of flight for anxious passengers? Cogent Business and Management. 10(2). https://doi.org/10.1080/23311975.2023.2210895.

Ulmasruroh DA. 2020. Manajemen Sumber Daya Manusia Pada Organisasi Bisnis. Asset: Jurnal Imiah Bidang Manajemen dan Bisnis. 3(2):19–35. https://doi.org/10.24269/asset.v3i2.3031

Utami ES, Oktarisa F. 2021. Virtual Reality Berbasis Cognitive Behavior Therapy untuk Menurunkan Kecamasan Berbicara di Depan Umum. Jurnal Konseling Pendidikan Islam. 2(2):259–267. https://doi.org/10.32806/jkpi.v2i2.45