The Effects of Virtual Reality Technology on Visitor Satisfaction in the Theme Park

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ABSTRACT

Virtual reality (VR) has been an innovative concept in theme park attractions. It has revolutionized all facets of the human experience, including entertainment. As virtual reality becomes more popular among theme parks, it is essential to comprehend how user engagement is evolving within these settings. This research aims to gain further insights into VR experiences in theme parks by examining two factors affecting user satisfaction: functional and experiential quality of virtual reality. Data was collected quantitatively from 120 tourists who had used VR technology at the theme park and evaluated using the Statistical Package for Social Sciences (SPSS). The study discovered that both functional and experiential characteristics have an essential influence on visitors' satisfaction at the theme park.

Keywords: virtual reality, theme park, satisfaction, experiential quality, functional quality

INTRODUCTION

Virtual Reality (VR) started more than 20 years ago in Air Force and university laboratories and is also known as Artificial Reality, Cyberspace, or Synthetic Reality (Franchi, 1994). This technology provides a computer-generated sensory experience that fully immerses participants, making it hard for them to tell the difference between a "virtual" experience and a real one. VR uses computer graphics, sounds, and images to simulate real-life situations electronically, allowing people to interact with and explore almost natural environments (Franchi, 1994). The combination of visual, auditory, and sometimes physical elements makes the experience unique and convincing, enabling users to engage with simulated scenarios in ways that closely mimic real-life interactions. The Virtual reality (VR) application in the theme park enhances the experience by providing immersive and interactive attractions that elevate entertainment and engagement. This technology is being utilized to create unique rides, virtual tours, and augmented reality (AR) features that enrich the overall visitor experience. Studies indicate that these interactive VR experiences increase visitor engagement and satisfaction by providing personalized and participatory entertainment (De Carvalho et al., 2017). VR also provides virtual tours and previews of theme parks, allowing potential visitors to explore attractions before their visit. This can help plan visits and increase anticipation. Research has shown that virtual previews can enhance visitor expectations and overall satisfaction with the visit (Guttentag, 2010).

Investigating theme park guests' experiences and behavioral intentions for virtual reality applications is imperative, as theme parks are crucial tourist destinations with limited attention (Mohd et al., 2023). According to Wei et. al. 2019, he has found two main gaps in current VR research. First, although many VR studies have been done in areas like e-commerce (Biocca et al., 2001), education and training (Merchant et al., 2014), and psychology and therapy (Power et al., 2008), there is less research on VR in hospitality and tourism, with a few recent exceptions (Tom Dieck et al., 2016). Secondly, in recent years, more studies have examined how VR can enhance user experiences at museums, cultural heritage sites, shopping centers, and art galleries (Lee

H. et al., 2019; Tom Dieck et al., 2016). Therefore, exploring theme park visitors' experiences and behaviors related to VR applications that focus on satisfaction is essential.

Research Questions

1. How does the functional quality of virtual reality technology impact visitor satisfaction in a theme park?
2. How does the experiential quality of virtual reality technology impact visitor satisfaction in a theme park?

LITERATURE REVIEW

Virtual Reality Applications in Tourism

Virtual reality (VR) is revolutionizing the tourism industry by providing unique experiences that enhance travel planning, marketing, and even virtual visits. This technology allows potential travellers to explore destinations, accommodations, and activities in a highly interactive way, transforming how tourism services are marketed and consumed. VR significantly impacts travelers' decision-making processes by offering virtual tours, providing a realistic sense of the destination's environment and attractions. For instance, a study by Flavián et al. (2020) found that virtual tours can increase confidence and excitement about the trip. VR is also a powerful tool for tourism marketing, allowing travel companies and destinations to create compelling, unique promotional content that captures the attention of potential tourists more effectively than traditional media. Research by Tussyadiah et al. (2018) indicates that VR experiences in tourism marketing led to higher engagement and better retention of information among potential travelers. This enhanced engagement can result in a stronger connection to the destination and a greater likelihood of booking actual trips. For those unable to travel due to physical, financial, or other constraints, VR offers the possibility of virtual tourism, including virtual museum tours, city explorations, and guided adventures in natural settings. Studies show that VR can provide a satisfying alternative to physical travel, offering educational and emotional benefits similar to actual travel experiences (Guttentag, 2010). By making travel experiences accessible to a broader audience, VR is transforming the tourism industry and democratizing access to global destinations.

Functional Quality

Functional quality in virtual reality (VR) theme parks includes efficacy, efficiency, effectiveness, and vividness. Efficacy refers to the ability of VR systems to achieve desired outcomes, such as providing realistic simulations or interactive environments. Li et al. (2018) highlight the importance of hardware and software integration for seamless user experiences, emphasizing the role of technical proficiency in enhancing efficacy. Efficiency concerns the ease and speed with which users can navigate VR environments and accomplish tasks. A study by Chen et al. (2019) suggests that intuitive user interfaces and responsive controls contribute to greater efficiency, increasing user satisfaction and engagement. Compelling VR experiences fulfill users' expectations and objectives, with Kim et al. (2023) noting that providing a variety of material and customization choices is crucial for improving efficacy and accommodating a range of user preferences and interests. Vividness refers to the perceptual richness and realism of VR environments. Biocca et al. (1995) indicate that vividness is enhanced by consistency in space and sensory accuracy, which can lead to users' absorption and higher emotional reactions. In conclusion, the functional quality of VR theme parks hinges on the seamless integration of hardware and software, intuitive user interfaces, diverse content, and sensory accuracy, all of which contribute to a compelling and satisfying user experience. In summary, the functional quality of a virtual reality theme park hinges on the efficacy of integrated hardware and software, the efficiency of intuitive user interfaces, the effectiveness of customizable experiences, and the vividness of perceptually rich environments.

Experiential Quality

Experiential quality in virtual reality (VR) environments encompasses temporal dissociation, focused immersion, heightened enjoyment, control, curiosity, and participation, offering valuable insights into users'

subjective experiences. Temporal dissociation refers to the altered perception of time during VR immersion, where users may lose track of time due to their profound involvement. Focused immersion involves users dedicating their full attention to the virtual surroundings and avoiding outside distractions. Tamborini et al. (2011) found that interactive storytelling and narrative coherence significantly promote focused immersion, enhancing user happiness and engagement. Heightened enjoyment in VR reflects the positive affective responses and emotional gratification users derive from their experiences. Gorini et al. (2011) suggest that social engagement and personalized content can boost satisfaction by fostering emotional bonds and attachment to virtual settings. In VR environments, control refers to the autonomy and agency users feel due to their ability to manipulate and interact with virtual objects. Bowman et al. (2007) found that responsive feedback mechanisms and intuitive gestural interfaces enhance user control, creating a sense of empowerment and engagement. Curiosity and participation in VR are driven by users' natural desire to explore and interact with virtual content, fuelled by a sense of novelty and discovery. Lyons E et al. (2015) emphasize the importance of interactive challenges and rewards in fostering active experimentation and discovery, stimulating curiosity and engagement. Collectively, these aspects of experiential quality; temporal dissociation, focused immersion, heightened enjoyment, control, curiosity, and participation; highlight the intricate dynamics of user experiences within VR environments and underline the potential of VR to offer deeply engaging and emotionally fulfilling experiences.

Overall Satisfaction

Regarding virtual reality experiences in theme parks, overall satisfaction captures consumers' complete understanding of their interactions with the technology. Research conducted by Wei et al. (2019) highlights the significance of user-friendliness, system performance, and content quality in determining overall satisfaction. Furthermore, the novelty and excitement of VR experiences greatly influence consumers' happiness levels (Choi et. al., 2018). For entertainment venues looking to maximize their VR offerings and improve customer experiences, it is essential to understand the factors influencing their overall satisfaction.

Research Framework

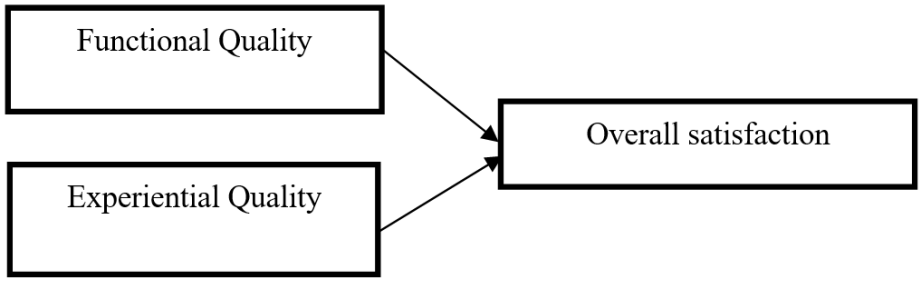

Figure 1: Research framework

The framework depicted in Figure 1 is the relationship between functional quality, experiential quality, and overall satisfaction in virtual reality (VR) at the theme park. The framework was modified from Wei et al. (2019). Functional and experiential quality are the independent variables influencing the dependent variable, overall satisfaction. Functional quality encompasses elements such as VR systems' efficacy, efficiency, effectiveness, and vividness. Experiential quality pertains to the users' subjective experiences and emotional responses while engaging with the VR environments. Together, these independent variables contribute to users' overall satisfaction, indicating that both the technical performance and the immersive experience play critical roles in shaping user contentment in VR theme parks.

METHODOLOGY

Research Design

This study used a survey to collect data from visitors who have experienced VR attractions at the theme park—a structured questionnaire measured visitors' satisfaction with VR in their theme park experience. Furthermore,

the data were analyzed using statistical software. Descriptive statistics summarized demographic details and survey responses. SPSS compared VR experiences across different groups, and a two-way ANOVA, correlation, and regression analysis examined the relationship between VR experience factors (like immersion and enjoyment) and overall visitor satisfaction.

Moreover, this research paper followed ethical guidelines strictly. Participants learned about the study's purpose, ensured anonymity, and were allowed to withdraw anytime without consequences. Consent was obtained before collecting data (Lee, 2019). The study's findings will offer insights into enhancing theme park experiences with VR and guide theme park management in optimizing VR attractions to meet visitor expectations and improve satisfaction (Kim, 2023).

Population and sample size

According to the Ministry of Tourism, Arts and Culture (MOTAC) statistics, Selangor welcomed over 7.56 million tourists in the first four months of 2024, marking a growth of 27.5% compared to the same period in the previous year. The sample-to-variable ratio rule of thumb will be used to determine the sample size for the study. The sample-to-variable ratio suggests having at least five observations for each variable, but it is better to have 15 or 25 observations per variable (Memon et al., 2020; Hair et al., 2019). This means that while a minimum of five respondents per variable is required, 15 to 25 respondents per variable are recommended. This aligns with Tabachnick and Fidell (2013), who stated that five subjects per variable are the "bare minimum" for hierarchical or multiple regression analysis. Although the 5:1 ratio is easy to meet, students should aim for higher ratios (like 15:1 or 20:1) when deciding on their sample size for research. This research gathered information from visitors who have experienced virtual reality at a theme park. Additionally, the youth group of as many respondents will be the researcher's primary emphasis, which spans the age of 18 to 60 years old.

Instrument Development

The researcher used questionnaires to collect data because they are efficient for large groups of people. For example, the questionnaire needs to be well-designed and planned to avoid getting insufficient data (Pallant, 2020). In this study, the researcher used online Google Form questionnaires on respondents who experienced virtual reality activities at the theme park. These surveys were reliant primarily on primary data, which was directly obtained from the respondents. An introductory cover page was provided through the Google platform, explaining the research objectives and asking participants to complete an online questionnaire concerning their VR experience at the theme park. At the conclusion of the cover page was a web link that interested persons could use to access the questionnaire. Respondents should provide their email addresses that show that their data was collected accurately.

Additionally, collecting email addresses is vital in validating respondents' experiences and improving collected data reliability. After the cover page, screening questions were used to filter the respondents. As a result, the researcher revised the questions to conduct the current study, which aims to investigate existing VR and theme park research that has provided measurement scales to assess VR experience, feeling of presence, satisfaction, and revisit intention. To that end, this research adopted a quantitative survey methodology for hypothesis testing.

The questionnaires have been divided into three distinct parts or sections. Section A of the questionnaire is the first portion to be completed. This section will use a nominal scale, and the questions will be about the respondent's relevant information. Regarding the variables, the researcher used a scale based on ordinal numbers. Rating points on a Likert scale are used to evaluate Sections B and C, ranging from 1 to 5, where (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). In Section B, the questions will be about the impact of exploring virtual reality experiences in the theme park. Lastly, Section C will focus on customer satisfaction for enhancing VR at the theme park.

Reliability Analysis

The researcher checked and revised the questionnaire for the pilot test to improve it before continuing with the actual study. The reliability test for each item was measured using the pilot research data. The pilot test was also verified using the reliability coefficient, which is Cronbach's alpha. In this study, the researcher used the Statistical Package for Social Sciences system known as SPSS to analyze the data collected from 25 respondents. Researchers will execute a reliability test to determine the solution to the research topic. Reliability and stability tests have been set up to ensure the testing's precision. Table 1 shows the Cronbach Alpha value for all variables from 0.761 to 0.946.

Table 1: Cronbach Alpha

VARIABLE	Cronbach's Alpha	N of Items
Functional Quality	0.761	9
Experiential Quality	0.880	10
Overall theme park satisfaction	0.946	5

Data Collection

The primary data were collected from guests who have experienced going to virtual reality theme parks. This questionnaire survey selected all the visitors who attended the virtual reality theme park. In addition, the researcher asked the visitors for permission before administering the questionnaire. After obtaining the approval from the visitors, the questionnaires were given to the visitors who attended the virtual reality theme park. The purpose of this study was stated in the questionnaire. The researcher informed the visitors that their participation in this study was voluntary and all the information would be kept confidential. The researcher collected the answered questionnaires, and the questionnaires were checked to ensure that the respondents answered all the questions. A total of 120 respondents were recorded in the survey.

Data Analysis

Quantitative data collected through the questionnaire were analyzed using descriptive statistics, including means, standard deviations, and frequencies. Inferential statistics, such as two-way ANOVA, correlation, and regression analysis, were employed to examine the relationships between variables. Qualitative data from the interviews were transcribed verbatim and analyzed thematically using SPSS systems. Themes and patterns were identified through iterative coding and constant comparison.

FINDINGS

Respondent Profile

Table 2 presents the demographic characteristics of respondents. Participants in this study must be local tourists or foreign tourists aged 18 and older and have experience with virtual reality (VR). Prospective participants not meeting these criteria will be disqualified from joining the study. Individuals who are not between the ages of 18 and 60, those who lack knowledge of VR technology, and those with disabilities that prevent the use of VR will be excluded.

Table 2: Demographic characteristics of respondents

Characteristics		Frequency	Percentage
Gender	Male	33	27.5
	Female	87	72.5
Age	18 - 25	64	53.3

	26 - 35	27	22.5
	36 – 45	9	7.5
	46 – 55	18	15
	55 and above	2	1.7
Education Level	STPM/Matriks/Asasi Diploma	8 31	6.7 25.8
	Degree	71	59.2
	Master	6	5
	Other	4	3.3
Nationality	Citizen Not A Citizen	114 6	95 5
Income	Rm 0 – Rm 999 Rm 1000 – Rm 2000	62 23	51.7 19.2
	Rm 3000 – Rm 4000	21	17.5
	Rm 5000 +	14	11.7
Marital Status	Single Married	81 39	67.5 32.5

In this study, 72.5% of the respondents were female and 27.5% were male. According to age groups, most respondents were between 18 to 25 years old, with 53.3%. This was followed by the 26 to 35 age group, making up 22.5%, and the least number of respondents were in the 55 and above age group, with only 1.7%. Based on education level, 59.2% of the respondents were degree graduates. Most respondents were citizens, with 95%. Most respondents earned between RM 0 and RM 999 in income, making up 51.7%. Lastly, 67.5% of the respondents were single, while 32.5% were married. Thus, it can be concluded that there is no bias in this study.

Descriptive Analysis

Table 3 presents the descriptive statistics for the Functional Quality variable. The table provided, item "The VR imagery that occurred was clear/detailed/well-defined," has the highest mean at 4.53, indicating that respondents rated this item the highest on average. Conversely, "There were any technical issues (e.g., lag, crashes) with the VR attractions" has the lowest mean at 1.67, showing that it received the lowest average rating. The standard deviation, which measures the dispersion of data points around the mean, is highest for "I have experienced any physical discomfort (e.g., motion sickness, eye strain) while using the VR system" at 1.100, indicating a wide spread of responses for this item. Meanwhile, "The graphics and environments in the VR attractions are realistic and high-quality" has the lowest standard deviation at 0.561, suggesting that responses were more consistently close to the mean.

Table 3: Descriptive Statistics Functional Quality

Items	N	Mean	Std. Deviation
1. The VR system worked smoothly	120	4.36	.619
2. It was comfortable to use the VR gear	120	4.29	.703
3. The VR system provided authentic audio settings	120	4.31	.719
4. I've experienced any physical discomfort (e.g., motion sickness, eye strain) while using the VR system	120	2.37	1.100
5. The VR system provides high-quality information	120	4.37	.621
6. The VR attractions enhance your overall theme park experience compared to traditional attractions.	120	4.05	.798

7. The graphics and environments in the VR attractions are realistic and high-quality	120	4.43	.561
8. The VR imagery that occurred was clear/detailed/well- defined	120	4.53	.608
9. There were any technical issues (e.g., lag, crashes) with the VR attractions	120	1.67	.640

Table 4 presents the descriptive statistics for the experiential quality variable. From the table, the item with the highest mean is "I had fun with the VR at the theme park," at 4.45, indicating that respondents, on average, rated this item the highest. On the other hand, an item with the lowest mean is "I screamed during this VR experience at the theme park," at 3.79, suggesting that it received the lowest average rating. The standard deviation, which measures the dispersion of data points around the mean, is highest for "I screamed during this VR experience at the theme park" at 1.076, indicating a wide spread of responses for this item. Meanwhile, "The VR were very responsive to my input" has the lowest standard deviation at 0.637, suggesting that responses were more consistently close to the mean.

Table 4: Descriptive Statistics Experiential Quality

Items	N	Mean	Std. Deviation
1. Time appeared to go by very quickly	120	4.17	.774
2. I've experienced a distortion of time (i.e., losing track of time) while immersed in the VR environment	120	3.82	.907
3. I was able to block out most other distractions	120	4.12	.724
4. I was absorbed in this VR environment	120	4.32	.809
5. I had fun with the VR at the theme park	120	4.45	.659
6. I felt that this VR experience at the theme park was very interesting	120	4.35	.718
7. While playing, I felt in control	120	4.22	.750
8. The VR were very responsive to my input	120	4.32	.637
9. The VR experience at the theme park excites my curiosity.	120	4.32	.673
10. I screamed during this VR experience at the theme park	120	3.79	1.076

Based on the Table 5, the item "The trip to the theme park was enjoyable" has the highest mean at 4.50, indicating that respondents, on average, rated this item the highest. On the contrary, "The experience at this recalled theme park exceeds expectations" has the lowest mean at 4.29, suggesting that it received the lowest average rating. The standard deviation, which measures the dispersion of data points around the mean, is highest for "The experience at this recalled theme park exceeds expectations" at 0.793, indicating a wide spread of responses for this item. Meanwhile, "The trip to the theme park was enjoyable" has the lowest standard deviation at 0.635, suggesting that responses were more consistently close to the mean.

Table 5: Descriptive Statistics Overall Satisfaction

Items	N	Mean	Std. Deviation
1. The experience at this recalled theme park exceeds expectations	120	4.29	.793
2. The trip to theme park to experience VR technology was worthwhile.	120	4.43	.644
3. The trip to the theme park was satisfying	120	4.39	.737
4. The trip to the theme park was enjoyable	120	4.50	.635
5. It was worthwhile to be at the theme park	120	4.47	.686

Tests of Between-Subjects Effects – Two-Way ANOVA

A two-way ANOVA examined the effect of gender, income and education level on Functional Quality of VR Experience (Table 6). Based on the table, the findings were that there was no statistically significant difference in mean Functional Quality between males and females (p=0.155), different incomes p=0.527), and different education levels (p=0.896). In other interactions, the test shows that there was no a statistically significant interaction between the effects of education level and income on Functional Quality of VR experience, F (8, 95) = 0.511 , p = 0.846, between the effects of gender and education level on Functional Quality of VR experience, F (5, 95) = 0.273 , p = 0.845 and also between the effects of gender and income on Functional Quality of VR experience, F (3, 95) = 1.446 , p = 0.234 and between the effects of gender, income and education level on Functional Quality of VR experience, F (5, 95) = 1.697 , p = 0.143

Table 6: Tests between Subject Effects

Tests of Between-Subjects Effects						
Dependent Variable: Functional Quality						
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**
Corrected Model	3.113[a]	26	.120	1.051	.413	.223
Intercept	594.500	1	594.500	5220.257	.000	.982
Education Level	**.068**	**3**	**.023**	**.200**	**.896**	**.006**
Income	**.255**	**3**	**.085**	**.746**	**.527**	**.023**
Gender	**.234**	**1**	**.234**	**2.053**	**.155**	**.021**
EducationLevel * Income	**.465**	**8**	**.058**	**.511**	**.846**	**.041**
EducationLevel * Gender	**.093**	**3**	**.031**	**.273**	**.845**	**.009**
Income * Gender	**.494**	**3**	**.165**	**1.446**	**.234**	**.044**
EducationLevel * Income * Gender	**.966**	**5**	**.193**	**1.697**	**.143**	**.082**
Error	10.819	95	.114			
Total	1805.802	122				
Corrected Total	13.932	121				
a. R Squared = .223 (Adjusted R Squared = .011)						

Then, a two-way ANOVA was conducted on the second interaction between the gender, income and education level and Experiential Quality of VR Experience. Based on Table 7, there was no a statistically significant difference in mean Experiential Quality between males and females (p=0.971) and different education levels (p=0.807). However, there was a significant difference in mean of Experiential Quality between visitors who have different income levels, F (3,95) = 3.343, (p=0.022)

The other interactions show a non-significant interaction between the education level and income on Experiential Quality of VR experience, F (8, 95) = 0.934, p = 0.493, then, between the education level and gender on Experiential Quality of VR experience, F (3, 95) = 0.851, p = 0.469. There was also a non-significant interaction between the effects of income and gender on the Experiential Quality of VR experience, F (3, 95) = 1.298, p = 0.280. Lastly, the interaction between income, education level and gender on Experiential Quality of VR experience were also not significant, F (5, 95) = 0.530, p = 0.753

Table 7: The Tests of Between Subject Effects

Tests of Between-Subjects Effects						
Dependent Variable: Experiential Quality						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	6.863[a]	26	.264	.980	.501	.212
Intercept	709.929	1	709.929	2636.841	.000	.965
EducationLevel	**.263**	**3**	**.088**	**.326**	**.807**	**.010**
Income	**2.700**	**3**	**.900**	**3.343**	**.022**	**.095**
Gender	**.000**	**1**	**.000**	**.001**	**.971**	**.000**
EducationLevel * Income	**2.011**	**8**	**.251**	**.934**	**.493**	**.073**
EducationLevel * Gender	**.687**	**3**	**.229**	**.851**	**.469**	**.026**
Income * Gender	**1.049**	**3**	**.350**	**1.298**	**.280**	**.039**
EducationLevel * Income * Gender	**.713**	**5**	**.143**	**.530**	**.753**	**.027**
Error	25.577	95	.269			
Total	2184.520	122				
Corrected Total	32.440	121				
a. R Squared = .212 (Adjusted R Squared = -.004)						

Correlation and regression analysis

Table 8 present the correlation analysis between MEANFQ (Functional Quality), MEANEQ (Experiential Quality), and MEANOVERALL (Overall Satisfaction) reveals significant positive relationships among these variables. The Pearson correlation coefficient between MEANFQ and MEANEQ is 0.630, indicating a strong positive relationship, while the correlation between MEANFQ and MEANOVERALL is 0.588, indicating a moderately. Strong positive relationship. Both correlations are significant at the 0.01 level with p-values less than 0.000, based on a sample size of 120. Furthermore, the analysis shows an even stronger positive correlation between MEANEQ and MEANOVERALL, with a Pearson coefficient of 0.744, also significant at the 0.01 level ($p < 0.000$). This suggests that higher MEANEQ values are closely associated with higher MEANOVERALL values. The strength and significance of these correlations highlight the robust linear relationships among the variables. In conclusion, the significant positive correlations among MEANFQ (Functional Quality), MEANEQ (Experiential Quality), and MEANOVERALL (Overall Satisfaction) underscore the consistent linear relationships between these measures. The strongest correlation is observed between MEANEQ and MEANOVERALL, suggesting that MEANEQ is a key contributor to overall scores. Therefore, a significant positive relationship exists between Functional Quality, Experiential Quality, and Overall Satisfaction.

Table 8: Correlations Analysis

ITEMS	Functional Quality		Experiential Quality	Overall satisfaction
Functional Quality	Pearson Correlation	1	.630**	.588**
	Sig. (2- tailed)		.000	.000
	N	120	120	120
Experiential Quality	Pearson Correlation	.630**	1	.744**
	Sig. (2- tailed)	.000		.000
	N	120	120	120
	Sig. (2- tailed)	.000	.000	.000

	N	120	120	120
Overall satisfaction	Pearson Correlation	.588**	.744**	1
	Sig. (2- tailed)	.000	.000	
	N	120	120	120
	N	120	120	120

**. Correlation is significant at the 0.01 level (2-tailed).

A simple linear regression analysis evaluated how the VR experience's Functional and Experiential Quality could predict overall satisfaction (Table 9). A significant regression was found (F(2,122)=63.067 p= 0.000). The R^2 was 0.508 indicating that Overall Satisfaction explained 0.51% of the variance in Experiential Quality. The regression equation was: Experiential Quality =(0.79 + 0.688).

Table 9: Regression Analysis

Dependent variable	Independent variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
Overall Satisfaction	Functional Quality	.193	.135	.117	1.431	.155
	Experiential quality	.688	.089	.633	7.733	.000

R^2= 0.508 Adjusted R^2 = 0.500

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.944	2	9.972	63.067	.000[b]
	Residual	19.290	122	.158		
	Total	39.234	124			

DISCUSSION & CONCLUSION

In summary, this study explores how virtual reality (VR) technology might improve guests' experiences at theme parks. The main objective is comprehending how VR's experience and functional aspects affect visitors' overall pleasure. The use of virtual reality (VR) at theme parks presents a unique chance to create immersive and exciting experiences for guests as the technology continues to revolutionize several industries, including entertainment (Kim et al,2019). The study points out two critical holes in the current state of VR research: the need to particularly understand VR's effects on visitors to theme parks, and the paucity of VR research in the hospitality and tourist sectors. By filling in these gaps, this study hopes to offer insightful information about how VR might be successfully incorporated into theme park environments to enhance guest happiness (Wei et al., 2019)

The main goal of the research questions is to determine how visitor happiness is affected by virtual reality's functional and experience aspects. At the same time, experiential quality relates to users' emotional reactions and general satisfaction with the VR experience, functional quality concerns VR systems' technical performance and efficacy. The study makes the crucial assumption that both functional and experiential features greatly influence total visitor satisfaction. The researcher employed online surveys to collect data from people who had used virtual reality in theme parks. Through email address verification, the survey ensured the veracity of the primary data acquired. Three elements comprised the questionnaire: consumer happiness, the impact of virtual reality experiences, and demographic data. A Likert scale was used to gauge the responses, enabling a thorough examination of the experiences and satisfaction levels of the visitors.

The research's conclusions highlight the significance of both experiential and functional features in determining total visitor happiness. An excellent VR system should be effective, efficient, and visually appealing to maximize visitor satisfaction (Tussyadiah et al., 2018). Furthermore, virtual reality encounters' immersive and affective elements are vital in raising contentment. Theme Park owners who want to use VR technology to give their guests memorable and entertaining experiences will find these insights helpful (Tom Dieck et. Al., 2016). In conclusion, this study shows how immersive and exciting VR attractions can change theme park experiences. Theme parks may differentiate themselves in a competitive sector and improve tourist happiness by emphasizing both virtual reality's technical and experience components. This study lays the groundwork for future investigations into the use of virtual reality in the travel and hospitality industries, opening the door to creative and fascinating advancements.

RECOMMENDATIONS

First and foremost, theme parks must offer an extensive selection of VR experiences suitable for various tastes and passions to realize virtual reality's possibilities fully. This could encompass everything from simulated gets to virtual gaming activities. Providing an extensive variety of virtual reality attractions will ensure that everyone who visits may find something interesting and captivating. Furthermore, theme parks might employ interactive feedback techniques, such as post- experience survey forms or in-app evaluations, to learn how satisfied visitors are with VR- enhanced attractions. By obtaining immediate feedback from visitors, the park can identify areas in need of improvement and adjust upcoming VR experiences to suit visitor preferences better

LIMITATIONS OF STUDY/ FUTURE RESEARCH

When analyzing the results of this study, it is crucial to consider several significant limitations. Initially, questions about respondents' most memorable VR experiences at theme parks may have biassed their responses. Additionally, a few respondents declined to participate in the survey, which reduced the amount of information we had. While the information was collected using online surveys, questions over the sincerity of the responses have been raised. The journals and sources we used presented problems as well. Several had inconsistent reporting styles, confusing terms, unsuitable data, and unclear explanations of their methods, making it hard to reproduce their research and appropriately interpret the findings. To worsen problems, some journals needed updated information or charged funds to access. We needed to filter through multiple resources as a result, which increased the possibility of mistakes and made comparisons complicated. To find ways to overcome these challenges, we conducted comprehensive, precise, and current research by consulting professionals, checking data from multiple sources, accessing full papers through library resources, and focusing on recent studies. The following research may also explore how virtual reality influences tourists' perceptions and motivation to return. To overcome the limitations of gathering information, researchers should interact more happily to motivate increased survey participation.

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