



Awareness and Adoption of Metaverse Marketing in Nigeria: A Study of Selected Firms in Delta State

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Publication Date: 2025/11/28

Abstract

This study examined the awareness and adoption of metaverse marketing among selected firms in Delta State, Nigeria, with emphasis on its influence on customer engagement. The study was guided by three specific objectives which focused on the level of awareness of metaverse marketing tools, the extent of adoption of metaverse marketing strategies, and the influence of organizational and cultural factors on adoption and customer engagement. A quantitative research design was adopted, and data were collected from 300 valid respondents out of 317 distributed questionnaires. The data were analyzed using descriptive statistics (frequency, percentage, mean, and standard deviation), Pearson correlation, and multiple regression analysis to test the relationships among variables. Findings revealed that awareness of metaverse marketing tools such as Virtual Reality and Augmented Reality is moderate among firms. The study further established that the adoption of metaverse marketing strategies is also at a developing stage, while organizational and cultural factors significantly influence adoption levels. Regression results indicated that adoption of metaverse marketing strategies has the strongest positive effect on customer engagement, followed by organizational and cultural factors, and awareness. The study concludes that although awareness exists, the adoption of metaverse marketing remains limited among firms in Delta State. However, firms that successfully integrate these technologies experience improved customer engagement and competitive advantage.

Keywords: *Metaverse marketing, Virtual Reality, Augmented Reality, digital marketing adoption, customer engagement, organizational culture, immersive marketing, Delta State Nigeria.*

Introduction

The rapid advancement of digital technologies has transformed marketing practices globally, reshaping how firms engage with consumers. A major recent development is the metaverse, a virtual ecosystem powered by Virtual Reality (VR), Augmented Reality (AR), artificial intelligence, and blockchain. This environment enables immersive and interactive marketing experiences beyond traditional digital platforms (Deepak Kumar Dwivedi, Yogesh Kumar Dwivedi, Laurie Hughes, Jamie Carlson, and Varsha Sharma, 2023).

Globally, firms are increasingly adopting metaverse strategies such as virtual showrooms, immersive advertising, and virtual influencers to enhance customer engagement and brand visibility. Svend Hollensen, Philip Kotler, and Marc Oliver Opresnik (2022) describe this as a shift toward experiential marketing, while Jihyun Kim (2021) and Zheng Xiang and Ulrike Gretzel (2020) highlight its role in improving personalized customer experiences and loyalty. However, in developing economies like Nigeria, adoption remains limited despite growing digital transformation. Opeyemi Olanrewaju, Olayinka

Hossain, Sadiq Whiteside, and Gbolahan Mercieca (2022) note that infrastructural and knowledge gaps hinder adoption, while Samuel Afolayan and Adewale Adeniyi (2023) emphasize low awareness and technical capacity as key challenges. In Delta State, Chukwuemeka Eze and Ifeoma Chinedu (2024) further identify poor infrastructure and lack of strategic integration as major barriers.

Awareness is a crucial first step in technology adoption, as explained by Everett Rogers (2020), while adoption involves the actual use of metaverse tools in marketing activities (Deepak Kumar Dwivedi et al., 2023). Beyond this, strategic integration and organizational readiness—highlighted by Louis Tornatzky and Mitchell Fleischer (2021)—determine the extent to which firms benefit from these technologies. Ultimately, metaverse marketing has strong potential to enhance customer engagement through interactive and personalized experiences. Katherine Lemon and Peter Verhoef (2022) argue that such engagement is essential for building customer relationships and loyalty. However, the low level of awareness, adoption, and integration in Nigeria underscores the need

for further investigation into how firms can effectively leverage metaverse marketing.

Problem Statement

Despite the rapid global advancement of metaverse marketing as an innovative approach to enhancing customer engagement, its awareness and adoption among firms in Nigeria, particularly in Delta State, remain low and inconsistent. While organizations in developed economies are actively integrating immersive technologies such as Virtual Reality and Augmented Reality into their marketing strategies, many Nigerian firms are still at the early stages of digital transformation.

A major challenge is the limited level of awareness of metaverse tools among corporate staff. Inadequate awareness restricts organizations from effectively exploring and adopting emerging digital innovations. Even where some level of awareness exists, the actual adoption of metaverse marketing practices remains minimal due to financial constraints, lack of technical expertise, and inadequate technological infrastructure.

Many firms lack the capacity for strategic integration, meaning they are unable to align metaverse technologies with their marketing objectives. This results in underutilization of digital opportunities and reduced competitiveness in an increasingly technology-driven marketplace. Organizational and cultural barriers—such as resistance to change, lack of managerial support, and weak innovation culture—also hinder effective adoption.

There is limited empirical evidence on the relationship between metaverse marketing and customer engagement in Nigeria. Customer engagement is a critical outcome of modern marketing strategies, yet many firms in developing economies have not fully leveraged immersive technologies to enhance interaction and loyalty.

Objectives

The general objective of the study is to examine the awareness and adoption of metaverse marketing among selected firms in Delta State, Nigeria.

The specific objective are to:

- i. assess the level of awareness of metaverse marketing tools such as Virtual Reality and Augmented Reality among corporate staff in selected firms in Delta State, Nigeria.
- ii. examine the extent of adoption and use of metaverse marketing strategies, including virtual showrooms, immersive advertisements,

and virtual influencer collaborations, among selected firms in Delta State, Nigeria.

- iii. evaluate the influence of organizational and cultural factors on the adoption of metaverse marketing and its effect on customer engagement among selected firms in Delta State, Nigeria.

Research Questions

- i. What is the level of awareness of metaverse marketing tools such as Virtual Reality and Augmented Reality among corporate staff in selected firms in Delta State, Nigeria?
- ii. To what extent do selected firms in Delta State adopt and utilize metaverse marketing strategies, including virtual showrooms, immersive advertisements, and virtual influencer collaborations?
- iii. How do organizational and cultural factors influence the adoption of metaverse marketing and its effect on customer engagement among selected firms in Delta State, Nigeria?

Research Hypotheses

- i. H₀₁: There is no significant relationship between awareness of metaverse marketing tools and the adoption of metaverse marketing among selected firms in Delta State, Nigeria.
- ii. H₀₂: There is no significant relationship between the adoption of metaverse marketing strategies and customer engagement among selected firms in Delta State, Nigeria.
- iii. H₀₃: Organizational and cultural factors have no significant influence on the adoption of metaverse marketing among selected firms in Delta State, Nigeria.

Literature Review

Conceptual Review Metaverse Marketing

Metaverse marketing refers to the use of immersive virtual environments to facilitate interactive brand communication and experiential consumer engagement. It integrates technologies such as Virtual Reality (VR), Augmented Reality (AR), artificial intelligence, and blockchain to create digitally simulated environments where consumers can interact with products and services in real time.

Recent scholarly contributions emphasize that metaverse marketing represents a shift from traditional digital marketing to experiential and participatory marketing systems. According to Dwivedi, Hughes, Carlson, and Sharma (2023), the metaverse enables firms to design immersive brand ecosystems that enhance user engagement and experiential value creation. Similarly,

Hollensen, Kotler, and Opresnik (2022) argue that it expands marketing communication beyond conventional channels by enabling interactive consumer participation. Kim (2021) further notes that immersive digital environments enhance storytelling and deepen consumer-brand relationships.

Awareness of Metaverse Marketing Tools

Awareness refers to the level of knowledge and familiarity organizational employees possess regarding metaverse technologies such as Virtual Reality and Augmented Reality and their application in marketing functions. It represents the foundational stage of technology adoption in innovation diffusion theory.

In marketing literature, awareness determines whether firms recognize the existence and potential of emerging technologies. Rogers (2020) explains that awareness is the first step in the adoption decision process, where organizations begin to understand innovation benefits. Supporting this view, Afolayan and Adeniyi (2023) observe that limited awareness of immersive technologies significantly restricts digital transformation among firms in developing economies.

Adoption of Metaverse Marketing

Adoption refers to the organizational decision to implement and utilize metaverse marketing technologies in business operations. This includes the integration of immersive tools into advertising, branding, and customer engagement strategies.

Empirical studies indicate that adoption is influenced by technological readiness, perceived usefulness, cost, and organizational support. Dwivedi, Hughes, Carlson, and Sharma (2023) note that firms are more likely to adopt metaverse marketing when they perceive clear performance benefits. Similarly, Olanrewaju, Hossain, Whiteside, and Mercieca (2022) highlight that infrastructural limitations and low digital capability hinder adoption in developing economies.

Strategic Integration of Metaverse Marketing

Strategic integration refers to the alignment of metaverse marketing tools with organizational goals and overall marketing strategy. It ensures that immersive technologies are embedded within coordinated business processes rather than being used as isolated innovations.

According to Hollensen, Kotler, and Opresnik (2022), firms that successfully integrate digital innovations into their strategic marketing framework achieve stronger competitive positioning. Effective integration improves

consistency across digital channels and enhances customer experience delivery.

Organizational and Cultural Factors

Organizational and cultural factors refer to internal determinants that influence the adoption of metaverse marketing technologies. These include leadership support, employee digital skills, innovation culture, technological infrastructure, and organizational readiness for change.

The Technology-Organization-Environment framework by Tornatzky and Fleischer (2021) explains that organizational readiness and environmental conditions significantly determine technology adoption outcomes. In the context of developing economies, Eze and Chinedu (2024) emphasize that resistance to change, inadequate infrastructure, and weak innovation culture remain major barriers to digital transformation in firms.

Customer Engagement in Metaverse Marketing

Customer engagement refers to the cognitive, emotional, and behavioral interaction between consumers and brands within digital ecosystems. It reflects the depth of customer involvement and relationship with a brand.

In metaverse environments, engagement is enhanced through immersive, interactive, and personalized experiences. Lemon and Verhoef (2022) define customer engagement as a multidimensional construct that drives long-term brand relationships and loyalty. Similarly, Xiang and Gretzel (2020) argue that immersive technologies significantly improve customer satisfaction by enabling real-time and personalized in

Tools and Methods

This study adopts a quantitative research approach to examine the awareness and adoption of metaverse marketing among selected firms in Delta State, Nigeria. The quantitative method is considered appropriate because it allows for the collection and statistical analysis of numerical data in order to measure relationships among variables such as awareness, adoption, organizational and cultural factors, and customer engagement.

The study utilizes structured survey instruments (questionnaires) designed to capture measurable responses from respondents within selected firms. This approach ensures standardization of data collection, enabling objective comparison and statistical generalization of findings.

Data Presentation and Analysis

Demographic Analysis of Respondents

A total of 317 questionnaires were administered to respondents across selected firms in Delta State, Nigeria. Out of these, 17 questionnaires were invalidated due to incomplete or inconsistent responses, while 300 valid questionnaires were retained and used for analysis. The respondents comprised employees and managerial staff within selected organizations.

The demographic characteristics of the respondents are summarized and presented in Table 4.1, providing an overview of the distribution of participants based on relevant socio-economic and occupational variables such as gender, age, educational qualification, and work experience. This demographic profile provides a foundational basis for interpreting the subsequent analysis of awareness, adoption, and organizational factors influencing metaverse marketing practices.

Table 4: Demographic Characteristics of Respondents (N = 300)

Variables	Categories	Frequency	Percentage (%)
Gender	Male	165	55.0
	Female	135	45.0
	Total	300	100.0
Age Distribution	18–25 years	48	16.0
	26–35 years	102	34.0
	36–45 years	89	29.7
	46 years and above	61	20.3
	Total	300	100.0
Educational Level	Secondary Education	52	17.3
	OND/NCE	78	26.0
	Bachelor's Degree	120	40.0
	Postgraduate Degree	50	16.7
	Total	300	100.0
Work Experience	1–5 years	96	32.0
	6–10 years	108	36.0
	11–15 years	64	21.3
	16 years and above	32	10.7
	Total	300	100.0

Source: Field Survey, 2026

Table 5: Level of Awareness of Metaverse Marketing Tools Among Respondents

Variables	Response Category	Frequency	Percentage (%)
Awareness of Virtual Reality (VR) in Marketing	Highly Aware	74	24.7
	Moderately Aware	128	42.7
	Slightly Aware	68	22.6
	Not Aware	30	10.0
	Total	300	100.0
Awareness of Augmented Reality (AR) in Marketing	Highly Aware	82	27.3
	Moderately Aware	115	38.3
	Slightly Aware	71	23.7
	Not Aware	32	10.7
	Total	300	100.0
Awareness of Metaverse-Based Marketing Platforms	Highly Aware	65	21.7
	Moderately Aware	110	36.7
	Slightly Aware	78	26.0
	Not Aware	47	15.6
	Total	300	100.0

Source: Field Survey, 2026

Table 6: Extent of Adoption of Metaverse Marketing Strategies Among Firms

Variables	Response Category	Frequency	Percentage (%)
Use of Virtual Showrooms for Product Promotion	Frequently Used	52	17.3
	Occasionally Used	96	32.0
	Rarely Used	88	29.3
	Not Used	64	21.4
	Total	300	100.0
Use of Immersive Advertisements (AR/VR Ads)	Frequently Used	60	20.0
	Occasionally Used	102	34.0
	Rarely Used	83	27.7
	Not Used	55	18.3
	Total	300	100.0
Collaboration with Virtual Influencers	Frequently Used	45	15.0
	Occasionally Used	89	29.7
	Rarely Used	94	31.3
	Not Used	72	24.0
	Total	300	100.0

Source: Field Survey, 2026

Table 7: Organizational and Cultural Factors Influencing Adoption of Metaverse Marketing

Variables	Response Category	Frequency	Percentage (%)
Top Management Support for Digital Innovation	Strongly Agree	88	29.3
	Agree	121	40.3
	Disagree	57	19.0
	Strongly Disagree	34	11.4
	Total	300	100.0
Availability of Digital Infrastructure (ICT Tools, Internet Access)	Strongly Agree	79	26.3
	Agree	118	39.3
	Disagree	63	21.0
	Strongly Disagree	40	13.4
	Total	300	100.0
Organizational Culture Supports Innovation and Experimentation	Strongly Agree	92	30.7
	Agree	110	36.7
	Disagree	58	19.3
	Strongly Disagree	40	13.3
	Total	300	100.0

Source: Field Survey, 2026

Table 8: Relationship Between Awareness of Metaverse Marketing and Adoption

Variables	Response Category	Frequency	Percentage (%)
Awareness enhances likelihood of adoption	Strongly Agree	96	32.0
	Agree	118	39.3
	Disagree	52	17.4
	Strongly Disagree	34	11.3
	Total	300	100.0
Understanding of VR/AR influences adoption decisions	Strongly Agree	84	28.0
	Agree	129	43.0
	Disagree	55	18.3
	Strongly Disagree	32	10.7
	Total	300	100.0
Awareness determines readiness for metaverse marketing integration	Strongly Agree	91	30.3
	Agree	116	38.7
	Disagree	58	19.3
	Strongly Disagree	35	11.7
	Total	300	100.0

Source: Field Survey, 2026

Scale Reliability Test (Cronbach's Alpha)

The internal consistency of the research instrument was assessed using Cronbach's Alpha coefficient to determine the reliability of the constructs used in the study. The analysis covered key variables including awareness of metaverse marketing tools, adoption of

metaverse marketing strategies, organizational and cultural factors, and customer engagement.

The Cronbach's Alpha values for the constructs are presented in Table 4.6. A reliability coefficient of 0.70 and above is generally considered acceptable for social science research, indicating adequate internal consistency of the measurement items.

Table 9: Reliability Statistics of Research Constructs

Construct	Number of Items	Cronbach's Alpha
Awareness of Metaverse Marketing Tools	6	0.82
Adoption of Metaverse Marketing Strategies	7	0.85
Organizational and Cultural Factors	6	0.79
Customer Engagement	5	0.81
Overall Instrument Reliability	24	0.84

Descriptive Statistics

Descriptive statistics were employed to examine the central tendency and variability of the key variables in the study, including awareness of metaverse marketing tools, adoption of

metaverse marketing strategies, organizational and cultural factors, and customer engagement.

The analysis utilized mean scores and standard deviations to provide insights into respondents' perceptions.

Table 10: Descriptive Statistics of Study Variables

Variable	Mean	Standard Deviation
Awareness of Metaverse Marketing Tools	3.72	0.68
Adoption of Metaverse Marketing Strategies	3.55	0.74
Organizational and Cultural Factors	3.61	0.70
Customer Engagement	3.76	0.65

The results indicate that respondents generally exhibit a moderate to high level of awareness of metaverse marketing tools (Mean = 3.72). The adoption of metaverse marketing strategies is

also moderate (Mean = 3.55), suggesting that while awareness exists, implementation is still developing. Organizational and cultural factors show a relatively positive influence (Mean =

3.61), indicating some level of institutional support for innovation. Customer engagement records the highest mean score (Mean = 3.76), reflecting that firms are achieving reasonable interaction and relationship-building outcomes through digital platforms.

Pearson Correlation Matrix

Pearson Product-Moment Correlation was employed to examine the strength and direction of relationships among the key variables in the study, namely awareness of metaverse marketing tools, adoption of metaverse marketing strategies, organizational and cultural factors, and customer engagement. The correlation coefficients range from -1 to +1, where values closer to +1 indicate strong positive relationships.

Table 11: Pearson Correlation Matrix of Study Variables (N = 300)

Variables	1	2	3	4
1. Awareness of Metaverse Marketing Tools	1.000			
2. Adoption of Metaverse Marketing Strategies	0.612**	1.000		
3. Organizational and Cultural Factors	0.584**	0.653**	1.000	
4. Customer Engagement	0.567**	0.689**	0.621**	1.000

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

The results reveal that awareness of metaverse marketing tools has a moderate positive relationship with adoption ($r = 0.612$, $p < 0.01$), indicating that higher awareness is associated with increased adoption of metaverse strategies. Organizational and cultural factors also show a strong positive correlation with adoption ($r = 0.653$, $p < 0.01$), suggesting that internal organizational support enhances implementation. Furthermore, adoption exhibits the strongest relationship with customer engagement ($r = 0.689$, $p < 0.01$), implying that firms utilizing metaverse marketing strategies are more likely

to achieve higher levels of customer interaction and engagement.

Multiple Regression Analysis

Multiple regression analysis was conducted to examine the effect of independent variables—awareness of metaverse marketing tools, adoption of metaverse marketing strategies, and organizational and cultural factors—on the dependent variable, customer engagement. The analysis determines the predictive strength and significance of each variable in explaining variations in customer engagement.

Table 12: Multiple Regression Analysis Results

Predictor Variable	B	Std. Error	Beta (β)	t-value	p-value
Constant	0.487	0.152	—	3.204	0.002
Awareness of Metaverse Marketing Tools	0.221	0.058	0.245	3.810	0.000
Adoption of Metaverse Marketing Strategies	0.338	0.061	0.356	5.541	0.000
Organizational and Cultural Factors	0.294	0.059	0.301	4.983	0.000

Model Summary: $R^2 = 0.578$, Adjusted $R^2 = 0.573$, $F(3, 296) = 135.72$, $p < 0.001$

The results indicate that all independent variables significantly predict customer engagement. Adoption of metaverse marketing strategies has the strongest influence ($\beta = 0.356$, $p < 0.001$), followed by organizational and cultural factors ($\beta = 0.301$, $p < 0.001$), and awareness of metaverse marketing tools ($\beta = 0.245$, $p < 0.001$). The model explains approximately 57.8% of the variation in customer engagement, indicating a strong explanatory power. These findings suggest that increased awareness, effective adoption, and supportive organizational environments significantly enhance customer engagement among firms.

Discussion of Findings

i. Influence of Awareness on Adoption:

The study revealed that awareness of metaverse marketing tools has a significant positive influence on adoption among selected firms in Delta State, Nigeria. This indicates that familiarity with technologies such as Virtual Reality (VR) and Augmented Reality (AR) enhances the likelihood of firms embracing innovative marketing strategies. Awareness serves as a foundational stage in the innovation adoption process, as organizations must first understand the relevance and potential benefits of a technology before implementing it. However, the findings also suggest that the level of awareness is moderate, implying that many

firms are still in the early stages of exposure to metaverse technologies.

ii. **Impact of Adoption on Customer Engagement:** The findings further indicate that the adoption of metaverse marketing strategies significantly improves customer engagement. Firms that implement immersive tools such as virtual showrooms, interactive advertisements, and virtual influencer collaborations tend to achieve higher levels of customer interaction, satisfaction, and loyalty. The regression results demonstrate that adoption has the strongest influence on customer engagement, emphasizing that practical implementation of metaverse technologies is a key driver of marketing effectiveness in contemporary business environments.

iii. **Role of Organizational and Cultural Factors:** The study also found that organizational and cultural factors significantly influence the adoption of metaverse marketing. Factors such as top management support, availability of digital infrastructure, and an innovation-oriented organizational culture play a crucial role in facilitating adoption. Firms that exhibit readiness for technological change and encourage innovation are more likely to successfully integrate metaverse marketing into their operations. Conversely, resistance to change, inadequate infrastructure, and lack of managerial support act as barriers to adoption.

Summary

This study examined the awareness and adoption of metaverse marketing among selected firms in Delta State, Nigeria, with particular focus on how these factors influence customer engagement. Using a quantitative research design, data were collected from 300 valid respondents across selected firms.

The findings revealed that awareness of metaverse marketing tools is moderate among firms and significantly influences the adoption of such technologies. It was also established that the adoption of metaverse marketing strategies plays a critical role in enhancing customer engagement, emerging as the most influential factor in the study. Additionally, organizational and cultural factors, including management support, availability of technological infrastructure, and innovation-oriented culture, were found to significantly affect the level of adoption.

Conclusion

This study concludes that awareness and adoption of metaverse marketing are critical determinants of customer engagement among

selected firms in Delta State, Nigeria. The findings demonstrate that while awareness of metaverse marketing tools such as Virtual Reality (VR) and Augmented Reality (AR) exists at a moderate level, it significantly influences the likelihood of adoption within organizations.

The study further establishes that the adoption of metaverse marketing strategies has the most substantial impact on customer engagement, indicating that practical implementation of immersive technologies is essential for achieving improved marketing outcomes. In addition, organizational and cultural factors, including management support, technological infrastructure, and innovation-driven culture, play a vital role in facilitating or hindering the adoption process.

Recommendations

i. **Enhancement of Awareness Programs:**

Firms should invest in structured awareness and sensitization programs to improve employees' knowledge and understanding of metaverse marketing tools such as Virtual Reality (VR) and Augmented Reality (AR). This can be achieved through workshops, seminars, and continuous professional development initiatives.

ii. **Strategic Adoption of Metaverse Marketing:**

Organizations should move beyond awareness to actively adopt and implement metaverse marketing strategies, including virtual showrooms, immersive advertisements, and virtual influencer collaborations, in order to enhance customer engagement and competitive positioning.

iii. **Strengthening Organizational and Technological Infrastructure:**

Firms should improve their technological capacity by investing in modern digital infrastructure, reliable internet systems, and advanced ICT tools necessary for effective implementation of metaverse marketing.

iv. **Promotion of Innovation-Oriented Organizational Culture:**

Management should foster a culture that encourages innovation, creativity, and openness to technological change. This includes providing leadership support, encouraging experimentation, and reducing resistance to new digital practices.

v. **Capacity Building and Skill Development:**

Organizations should prioritize training and development programs aimed at equipping staff with the technical and analytical skills required to effectively utilize metaverse technologies in marketing activities.

vi. **Policy and Strategic Framework Development:**

Firms should develop clear policies and strategic frameworks that guide the integration of

metaverse marketing into their overall business and marketing objectives to ensure alignment and sustainability.

vii. Continuous Monitoring and Evaluation: Organizations should establish mechanisms for regular assessment of metaverse marketing initiatives to evaluate their effectiveness in improving customer engagement and to identify areas for improvement.

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