



AUGMENTED REALITY MARKETING AND BRAND LOYALTY IN THE NIGERIAN BEAUTY INDUSTRY

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ABSTRACT

This study investigated the impact of Augmented Reality Marketing on Brand Loyalty in the Nigerian Beauty Industry Particularly Virtual Try-On (VTO)-AR feature. An online-based survey research design was adopted for the study. The population comprises of two hundred (200) consumers who buy Beauty products in Nigeria with a sample size of One hundred (100) respondents. Purposive sampling techniques was utilized for the study. The study was driven by primary and secondary data. The data was analyzed using correlation and multiple regression analysis as analytical tools. Findings revealed that Interactivity has a significant effect on brand loyalty, Innovativeness has significant effect on brand loyalty, Vividness has significant effect on Brand Loyalty and AE experience has significant effect on Brand Loyalty. The study concluded that Fostering Interactivity through digital platforms, loyalty programs, and responsive customer service is crucial for brand success in the competitive beauty market. The study recommends that Beauty brands should invest in interactive digital strategies such as social media marketing, live chats, and influencer collaborations to create a dynamic customer experience.

1.0 Introduction

In today's rapidly evolving marketing landscape, businesses seek innovative strategies to capture consumer attention, foster engagement, and cultivate brand loyalty (Tushar et al., 2023). Augmented reality (AR) emerges as a transformative tool in this pursuit, offering unparalleled opportunities to redefine customer experiences and elevate brand engagement to unprecedented levels (Uribe, Labra, & Manzur, 2022). As markets become increasingly competitive, the integration of AR presents a promising avenue for businesses to differentiate themselves and tap into a vast array of untapped possibilities (Lavoye et al., 2023).

At its essence, augmented reality represents a convergence of virtual elements with real-

world environments, reshaping how brands interact with consumers and deliver immersive brand experiences (Amer et al., 2023). Unlike virtual reality (VR), which immerses users in entirely digital environments, AR overlays digital content onto physical surroundings, blurring the boundaries between the virtual and physical realms (Nah & Siau, 2019). This seamless integration enables marketers to create interactive experiences that resonate with consumers on a deeper emotional level (Kazmi et al., 2021).

By leveraging AR technologies, marketers can bridge the gap between online and offline channels, captivating consumers across multiple touchpoints (Koumpouros, 2024). Whether through interactive product

demonstrations, immersive brand activations, or gamified experiences, AR empowers brands to engage consumers in unprecedented ways (Meng & Xiao, 2020). This heightened interactivity enhances brand visibility and memorability and fosters deeper connections and emotional attachments, driving increased brand loyalty and advocacy (Ahn, Bailenson, & Park, 2014).

Moreover, the widespread adoption of AR-enabled devices has democratized access to AR experiences, making this technology more accessible and ubiquitous than ever (Alesanco-Llorente et al., 2023). With most consumers carrying AR-capable devices, brands have a unique opportunity to reach and engage global audiences (Luo & Zhang, 2024). From retail environments to social media platforms, AR experiences can seamlessly integrate into various touchpoints along the consumer journey, enriching interactions and driving conversions (Chiu & Cho, 2022).

Furthermore, the immersive and interactive nature of AR experiences enables brands to gather valuable data and insights into consumer behavior and preferences (Martinez-Garcia, Horrach-Rosselló, & Mulet-Forteza, 2023). By tracking user interactions within AR environments, marketers can better understand customer preferences and purchase intent (Yuan & Lin, 2018). This data-driven approach allows brands consumers (Uribe et al., 2022). Through a comprehensive understanding of AR's potential, businesses can develop strategic approaches to effectively integrate AR into their marketing efforts (Lavoye et al., 2023). Ultimately, the goal is to empower marketers to create memorable brand experiences that drive meaningful engagement and loyalty in today's digital age (Amer et al., 2023).

Brand loyalty is the result of a consumer's consistent preference for a brand, often stemming from positive experiences and trust (Kim et al., 2020). Brand loyalty is a

measure of assessment in a brand. Consumer brand loyalty is an option compared to other brands and customers repeat purchases of the same brand and from other brands. Likewise, brand loyalty is not constant and must be strengthened. Product brand loyalty can also affect the perception of customers who are more loyal and will excel and lead from the brand as a superior value from another offering.

Brand loyalty provides valuable and strategic value in the potential to reduce marketing costs, influence Commerce and the ability to attract new customers. Compared to traditional marketing along with information asymmetry, the key issue facing digital marketing is not to make information reach more potential buyers but how to transform considerable one-time buyers into long-lasting loyal customers, which is dependent on brand loyalty building.

Through a comprehensive understanding of AR's potential, businesses can develop strategic approaches to effectively integrate AR into their marketing efforts (Lavoye et al., 2023). Ultimately, the goal is to empower marketers to create memorable brand experiences that drive meaningful engagement and loyalty in today's digital age (Amer et al., 2023).

1.2 Statement of the Problem

The Nigerian Beauty Industry is rapidly evolving, driven by increasing consumer interest in innovative technologies and personalized shopping experiences. As completion intensifies, brands are seeking ways to differentiate themselves and foster deeper connections with customers. One potential solution is the use of Augmented Reality (AR) Marketing which allows consumers to interact with virtual beauty products in immersive ways, such as trying on makeup virtually or visualizing beauty products in real-time environments.

Odiase (2024) examined AR-driven experiential marketing and its effects on consumer engagement and brand loyalty across industries in Nigeria; discusses opportunities and implementation challenges for SMEs. Damian-Okoro (2025) also investigated how AR enhances customer interactions in online shopping in Nigeria and concluded AR can significantly improve consumer engagement, confidence and satisfaction in e-commerce contexts. Many existing Nigerian studies are cross-industry (retail/e-commerce) or general AR adoption studies. If my study restricts to beauty and personal care (virtual try-ons, AR makeup filters), it will contribute a focused, industry-specific empirical picture that those broader studies lack and adds external validity for beauty firms.

However, despite its growing presence globally, AR marketing remains underexplored in the context of the Nigerian Beauty Industry. Given these gaps in knowledge, it is critical to investigate the effect of AR marketing on Brand Loyalty in the Nigerian Beauty Industry.

1.3 Research Objectives

The general objective of the study is to examine the effect of Augmented Reality Marketing on Brand Loyalty in the Nigerian Beauty Industry. The Specific objectives are to;

- (i) Determine the extent to which interactivity has effect on brand loyalty in the Nigerian Beauty Industry
- (ii) Examine the effect of innovativeness on brand loyalty in the Nigerian Beauty Industry
- (iii) Find out the extent to which vividness has effect on brand loyalty in the Nigerian Beauty Industry
- (iv) Determine the extent to which AR experience has effect on brand loyalty in the Nigerian Beauty Industry

1.4 Statement of the Hypotheses

- HO₁. There is no significant effect of interactivity on brand loyalty.
- HO₂. There is no significant effect of innovativeness on brand loyalty.
- HO₃. There is no significant effect of vividness on brand loyalty.
- HO₄. There is no significant effect of AR experience on brand loyalty.

2.0 Literature Review

2.1 Conceptual and Empirical Literature Review

i. Augmented Reality Marketing

Augmented reality marketing refers to the application of AR in marketing to enhance consumers' experiences, increase their satisfaction, shape their behavior, and boost companies' revenues (Huang and Liao, 2015; Javornik, 2016).

Marketing is becoming more and more digital day by day is an indicator of digital transformation in marketing activities. Marketing activities such as e-commerce, online brand communities, digital advertising tactics, live chat services, and mobile services can be given as examples (Lamberton & Stephen, 2016).

AR marketing is a strategic company capability that can bring different perspectives to user behaviour. AR marketing is an open and flexible marketing activity that encompasses many AR techniques and technologies, emphasizing the integration of different types of digital and physical content without specifying requirements for interaction or levels of realism. The goal of AR marketing is to achieve corporate goals. AR marketing can be used in commercial, profit-oriented, non-profit, or, more generally, ideas marketing. AR Marketing can also enhance and extend established marketing approaches ranging from advertising to content marketing to storytelling. In this sense, AR marketing can be applied to company-provided (e.g., virtual mirrors in stores) or user-provided

technologies (e.g., mobile devices such as tablets and smart glasses) (Rauschnabel et al., 2019). AR Marketing can address multiple goals throughout the customer journey, such as branding customers, triggering purchases, and improving after-sales service (BCG, 2018).

ii. Brand Loyalty

In the marketing literature, the concept of brand loyalty has been acknowledged as a significant construct for at least four decades (Maheshwari et al., 2014). Based on its importance, a remarkable number of researchers, have attested to its various benefits for firms. For instance, Sutikno (2011), opined that through positive word of mouth, brand loyal customers assist companies in promoting their products and services. Kabiraj & Shanmugan (2011), stated that it improves profitability for businesses. Whereas, Iglesias et al. (2011), suggested that brand loyalty allows companies to gain a competitive advantage in the market. These few examples show the positive influence that, brand loyalty can have on the success and survival of firms in business.

Despite, the mutual agreement between researchers about the importance of brand loyalty, it is observed that academicians and marketing practitioners do not have a common definition of the concept. Investigation from past literature reveals that, most researchers believe brand loyalty can either be spurious or true (Iglesias et al., 2011; Maheshwari et al., 2014). Recent marketing literature by Bechan & Hoque (2016), Yee & Mansori (2016) and Alhedhaif (2016), reported that spurious loyalty is motivated by situational circumstances like price. Whereas, Gillani et al. (2013), Jawahar & Tamizhjothi (2013) and Malik et al. (2013), suggested that true loyalty is driven by previous psychological and emotional attachment of consumers to a particular brand. Therefore, a brand loyal customer is one who is committed to a brand, while a spurious consumer lacks any form of attachment to a particular brand, i.e., he/she

can easily switch brands if another brand is more convenient to purchase or of better quality. However, other researchers like Khraim (2011) and Mohuiddin et al. (2014) argued that brand loyalty can be perceived from other dimensions such as value etc. Based on the investigated opinions, it is evident that brand loyalty is a multi-dimensional concept. Nonetheless, true and spurious brand loyalty remain the most acknowledged dimensions in recent marketing literature.

Maheshwari et al. (2014), highlighted that because brand loyalty was a multi-dimensional construct, it required a set of multivariate measurements for its evaluation. This is as a result of the subjective nature of the concept. For instance, a consumer might be loyal to a specific brand because of the perceived trust for the brand. Whereas, another consumer's brand loyalty might stem from the satisfaction derived from the product. However, examination of past literature revealed that, researchers are not in common agreement about the standard measurements to use. For example, Yee & Mansori (2016), Joelle (2016) and Ramiz (2014), suggested that high satisfaction levels among consumers have a positive influence on the repurchase intentions for a brand. This means that when customers are happy and satisfied with a particular brand, they are less likely to switch to other brands and they will inform their friends/families to purchase the product. Furthermore, authors such as Belanger et al. (2002), Chaudhuri & Holbrook (2001) demonstrated that trust plays a major role in the achievement of customer loyalty. To develop long lasting relationships with brands, consumers need to feel assured that the products they are buying are of good quality. Therefore, there is a direct link between brand loyalty and consumer trust. In contrast, Malik et al. (2013), Wel et. al., (2011) and Iglesias et al. (2011) opined that brand loyalty can be measured in the context of consumers previous experiences and their commitment to repurchase a specific product consistently

in future. From the literature, the researcher was able to identify a lack of agreement among scholars in relation to the definitions and measures of brand loyalty. However, based on the nature of the cosmetic market, measures such as brand trust, commitment, customer experience and satisfaction are important.

Brand loyalty is the extent to which consumers consistently choose a specific brand over competitors, driven by positive experiences and emotional connections (Kim et al., 2020). It represents a critical metric for business success, as loyal customers contribute to higher lifetime value, reduced marketing costs, and positive word-of-mouth promotion. AR has emerged as a powerful tool for cultivating brand loyalty by delivering unique, memorable experiences that differentiate brands in competitive markets (Huang & Liao, 2017).

Brand loyalty is referred to the deep internal commitment of consumers towards a brand for repurchases and its consistent usage despite of ready availability of alternatives (Guo & Wang, 2023). Brand-loyal consumers are even seen to go out of their way if it is required for the acquisition of products from their cherished brand (Kim et al., 2020; Mel et al., 2022; Ibrahim & Aljarah, 2023). For example, each time a smart phone is launched in the US from Apple brand, a large number of brand-loyal consumers are seen inline waiting hours together outside Apple stores for purchases (Kim et al., 2020; Mel et al., 2022). In today's competitive market space where the monopoly of brands and products has become things of the past, brand loyalty serves as the only alternative to survive in fierce competition (Khandai et al., 2022; Ibrahim & Aljarah, 2023). Brand loyalty helps in ensuring a sustainable consumer base from which branded organizations can reap steady profits (Khandai et al., 2022; Guo & Wang, 2023).

Brand loyalty is core to marketing because through brand loyalty it can be ascertained whether the needs and wants of the

consumers have been successfully met or not (Khandai et al., 2022; Ibrahim & Aljarah, 2023). Only when the consumers' needs and wants are satisfied, they will engage in repurchases and consistent brand usage (Khandai et al., 2022; Ibrahim & Aljarah, 2023). Several scholars (Van der Westhuizen, 2018; Mostafa & Kasamani 2020; Siahaan et al., 2023; Ibrahim & Aljarah, 2023) have suggested it is fruitful to understand the process through which brand loyalty is attained in consumers, especially through the lens of self-brand connection. When the self-brand connection is formed in a consumer, the brand gets incorporated into his self-identity, and then, remaining loyal to the brand means remaining loyal to one's own identity (Van der Westhuizen, 2018; Mostafa & Kasamani, 2020; Siahaan et al., 2023). Remaining brand loyal helps consumers thereafter maintain their self-identities (Siahaan et al., 2023; Ibrahim & Aljarah, 2023).

The role of AR in enhancing brand loyalty lies in its ability to create personalized and immersive brand interactions. For instance, AR-driven campaigns allow consumers to experience products in unique ways, such as virtually test-driving a car or exploring a hotel room before booking. These experiences build trust and emotional attachment, which are key drivers of brand loyalty (Rauschnabel et al., 2018). Moreover, AR enables brands to maintain ongoing engagement through gamified experiences, reward systems, and exclusive content, further strengthening loyalty.

While AR's impact on brand loyalty is well-documented, challenges remain. Studies highlight the need for brands to balance technological innovation with accessibility and user-friendliness to ensure widespread adoption (Pantano et al., 2018). Additionally, the effectiveness of AR in fostering loyalty across different demographics and cultural contexts remains underexplored, presenting opportunities for future research (Scholz & Duffy, 2018).

Independent Variable

Dependent Variable

Augmented Reality Marketing

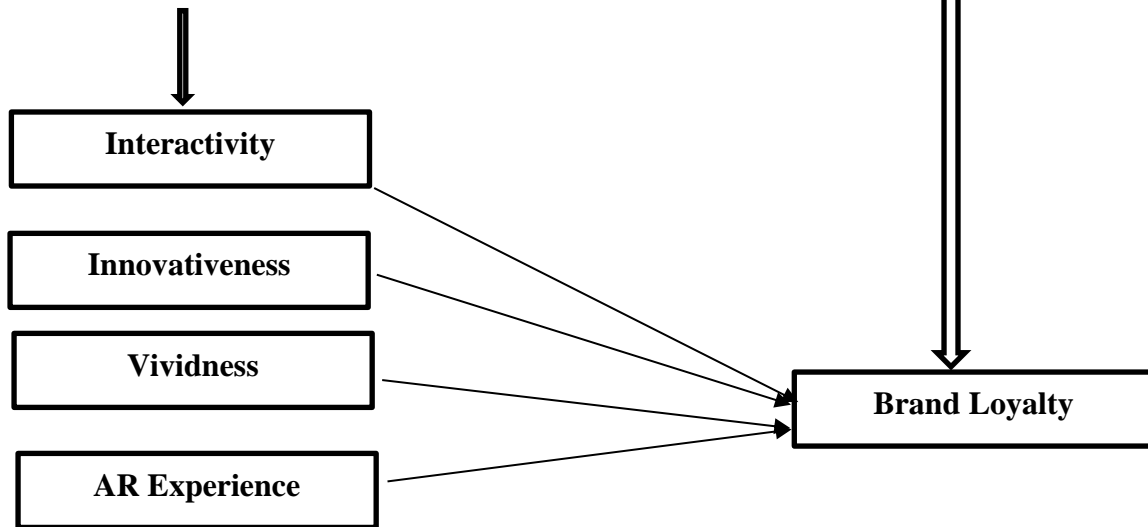


Fig. 1 Conceptual Framework of Augmented Reality Marketing and Brand Loyalty

Source: Researcher’s model (2025)

iii. Interactivity and brand loyalty

Interactivity is defined as how customers can interact with the seller and participate in the existing environment (Song & Zinkhan, 2008). Furthermore, interactivity level depends on the seller and the customer's environment (Butt et al., 2021, Park & Yoo, 2020). The in-time responses to queries and situations in a retail setting environment can also be regarded as interactivity (Pillai et al., 2020). Consumers may feel more satisfied with the use of humanist experience in retail services (Gardiazabal et al., 2020). Employee service can have a positive impact on the firm and the customer. As a result, the role of perceived interactivity is critical in human-to-human interaction. The previous studies have predicted positive outcomes of customer interaction with brands services in the light of artificial intelligence (Pantano & Pizzi, 2020, Prentice et al., 2020b). Innovative retail technologies such as augmented reality (AR) can interact with customers and respond to their needs and desires (Rauschnabel, 2018). The mechanical function, such as AR, can stimulate the customer and engage in an immersive

experience due to its advanced technology (Riva et al., 2016, Song et al., 2019).

AR-based services can interact and respond to the customer's needs and desires, producing results that can influence positive satisfaction. Hence, it can predict that the current framework will give valuable insights into consumer behaviour interactions with the employee and AR-based services. Whether it's a human-to-human or AR-based service touchpoint in a retail setting, the level of interactivity is critical for exchanging information between the organization and the customer (Dholakia & Zhao, 2009, Park & Yoo, 2020).

Mobile AR applications are recognizable for a high level of interactivity, which promises a favorable user experience. Regarding interactivity, Park and Yo (2020) explored its effects on shopping behavior in mental imagery context. The authors suggest that controllability and playfulness positively influence mental imagery. AR amplifies the interactivity ladder with the brand, but also among users. Greater interactivity is achieved in bringing the brand’s offering in a personally relevant context, within the

desired environment. Also, it can be supported by getting control over the simulated experience.

iv. Innovativeness and Brand Loyalty

Innovation takes a vital role in the development of technologies nowadays. In terms of technology, innovation; is defined as people's willingness to try new technologies. Innovation plays an important role in the development of technology. Functions such as innovation, attitudes, needs, and experiences ensure home shopping methods. Therefore, consumers who embrace innovation may be more likely to perceive AR apps as practical, easy, and fun. Consumers who are open to innovations and consumers who are eager and curious to try innovations attach importance to the functional features of AR applications (Eru, Topuz & Cop 2022).

v. Vividness and Brand loyalty

Vivid, sensory-rich experiences such as high-quality visuals, sounds, or tactile sensations in AR hold consumers' attention longer and encourage them to explore a brand more deeply. The more engaged a consumer feels, the more likely they are to develop loyalty. Vivid content is easier to remember. The more vibrant and striking the brand's messaging or presentation, the more likely it is to stick in the consumer's mind. This memorability increases the chances of repeat purchases as consumers are more likely to recall a brand, they've had a vivid experience with.

Vividness refers to the ability of technology "to produce a sensory-rich mediated environment" (Steuer, 1992) that allows consumers to have a realistic sensory Augmented reality (AR) application experience with virtual objects. The level of clarity depends on the number of senses that are activated simultaneously (Hameed & Perkis 2024) For example, users can use mobile AR services to view virtual images almost as clearly as they see real products.

Managing virtual avatars, they can immerse themselves in a virtual shopping environment that includes interactive social and spatial sensory experiences and sensory experiences (Hameed & Perkis 2024). In this study, we show that consumers can use mobile AR services to virtually apply cosmetics and observe how products appear on their faces, up close or from a distance, which provides an enhanced experience and clear cognition.

vi. AR Experiences and Brand Loyalty

Augmented reality (AR) has been increasingly explored as a tool to enhance brand loyalty, with various theoretical perspectives offering insights into this dynamic. Relationship Marketing Theory highlights the importance of long-term consumer relationships for building brand loyalty, suggesting that emotional and personalized experiences foster a stronger connection with brands (Hossain, & Kibria, 2024). AR experiences can significantly enhance relationship marketing efforts by providing immersive, customized interactions that deepen consumer engagement. For instance, AR experiences like personalized virtual product demonstrations or tailored in-store experiences allow consumers to interact with a brand in unique ways, which strengthens emotional connections and, over time, nurtures brand loyalty (Li et al., 2021).

Empirically, Odiase and Iyamu, (2024) investigated the impact of augmented reality (AR)-driven marketing strategies on consumer engagement and brand loyalty. The study investigated the relationships between AR marketing, consumer engagement, and brand loyalty across various industries (retail, tourism, and e-commerce) in Delta State, Nigeria. A quantitative research design was employed, using a cross-sectional survey approach. The population comprised consumers aged 18-45 who had interacted with AR marketing in retail, tourism, and e-commerce sectors. A

sample size of 400 respondents was selected through stratified random sampling to ensure demographic representation. Data collection was done via structured questionnaires, and reliability was tested using Cronbach's alpha. Pearson's correlation was used to assess the strength and direction of the relationships between AR marketing strategies, consumer engagement, and brand loyalty. The findings revealed that AR marketing had a positive significant effect on both consumer engagement and brand loyalty, with consumer engagement serving as a mediating factor. The study recommended that businesses, particularly SMEs, leverage AR marketing to enhance consumer interaction and foster long-term brand loyalty. Furthermore, businesses should invest in user-friendly AR technologies and tailor marketing strategies to meet the expectations of tech-savvy consumers.

Shuaib and Mahmoud, (2023) investigate first the relationship between brand association of reference groups and advertisement informativeness with self-brand connection, and second the mediational role of self-brand connection in relationships of brand association of reference groups and advertisement informativeness with brand loyalty. The study's population comprised all car brand owners residing in the Kingdom of Saudi Arabia. The sampling method employed is snowball sampling through which 339 responses were collected from car owners residing in two regions of Saudi Arabia. structural equation modeling was employed to test the study hypotheses. Results of the study showed both brand association of reference groups and advertisement informativeness holding statistically significant positive relationships with the self-brand connection. The self-brand connection was also reported as significantly and positively related to brand loyalty. Full mediation of self-brand connection was reported in the relationship of brand association of reference groups and

advertisement informativeness with brand loyalty.

2.2 Theoretical Review

i. Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), conceptualized by Davis (1989), provides a robust

framework for understanding how individuals accept and use technology based on two key factors: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which a person believes that using a particular technology will enhance their performance or provide value, while perceived ease of use highlights how effortless the technology is to learn and operate. In the context of marketing, TAM is instrumental in Revolutionizing experiential marketing assessing consumer attitudes toward adopting innovative tools like augmented reality (AR). When consumers perceive AR-driven marketing as highly functional (e.g., enabling immersive product trials) and user-friendly (e.g., intuitive navigation and interfaces), they are more likely to engage with it. Empirical research has validated this model, with studies such as Pantano et al. (2018) demonstrating that technologies aligning with these criteria significantly boost consumer interaction, satisfaction, and subsequent adoption rates.

The relevance of TAM to the study lies in its ability to explain how AR influences consumer engagement and brand loyalty. By addressing perceived usefulness, brands can design AR experiences that enhance consumer decision-making, such as virtual try-ons or interactive product demonstrations, thereby building trust and satisfaction. Simultaneously, focusing on perceived ease of use ensures these AR experiences are accessible to a broad audience, minimizing friction during adoption. This dual focus is critical for fostering deeper consumer-brand connections, as users who perceive AR as

both valuable and easy to use are more likely to exhibit higher engagement levels and develop lasting brand loyalty. TAM, therefore, provides a theoretical foundation to understand and optimize AR's role in creating meaningful, engaging, and loyalty-driving marketing strategies.

ii. Experiential Marketing Theory

Experiential Marketing Theory highlights the significance of delivering memorable and engaging experiences to foster deep emotional connections between consumers and brands (Schmitt, 2019). This theory underscores that consumer perceptions and loyalty are shaped by multisensory, emotional, cognitive, and behavioral interactions with a brand. By crafting unique experiences that go beyond traditional marketing, brands can evoke strong consumer emotions, encouraging brand affinity and long-term loyalty. Augmented Reality (AR) integrates seamlessly into this framework by offering immersive, interactive experiences that capture consumer attention and deliver personalized engagement. For example, AR-enabled virtual try-ons and gamified brand interactions create sensory-rich touchpoints that resonate with consumers on an emotional level, transforming routine marketing engagements into memorable brand experiences (Huang & Liao, 2017).

The relevance of Experiential Marketing Theory to the study lies in its ability to explain how AR can elevate consumer engagement and strengthen brand loyalty. By leveraging AR to design immersive campaigns that appeal to consumers senses and emotions, marketers can create impactful experiences that stand out in a competitive digital landscape. Additionally, AR's capacity to enable interactive, real-time personalization aligns with the experiential marketing goal of fostering deeper cognitive and behavioral engagement. Through AR, brands can not only captivate consumers but also create lasting impressions that drive repeat interactions and loyalty. This theory

provides a strategic framework for utilizing AR to transform passive consumer encounters into dynamic, memorable experiences that reinforce brand connections.

Experiential Marketing Theory offers another theoretical lens through which AR's role in consumer engagement can be analyzed. This theory underscores the importance of creating immersive and memorable brand experiences that resonate emotionally with consumers (Huang et al., 2021). AR enables brands to provide sensory-rich and interactive experiences, such as virtual store walkthroughs or gamified product promotions, fostering deeper connections with consumers. As argued by Pantano and Vannucci (2019), these experiences not only captivate attention but also enhance emotional engagement, which is critical in forming long-term brand relationships. The application of Experiential Marketing Theory thus emphasizes the strategic importance of AR in creating brand differentiation and fostering consumer loyalty.

Furthermore, Flow Theory has been applied to understand the immersive nature of AR experiences and their impact on consumer engagement. Flow Theory posits that individuals experience heightened enjoyment and focus when they are fully immersed in an activity. Javornik et al. (2020) suggest that AR marketing strategies leverage flow by offering challenges and interactivity that match the user's skill level, thus sustaining their attention and promoting engagement. For instance, AR-enabled gamification in marketing campaigns creates a "flow state" that encourages repeated interactions, ultimately increasing consumer satisfaction and brand recall. These theoretical insights collectively underscore the transformative potential of AR in marketing, providing a foundation for its strategic implementation to drive consumer engagement.

3.0 Research Methodology

An online-based survey was used to confirm the respondents' anonymity and increase their responses. To reduce the chances of missing responses, an online questionnaire was developed in a way that respondents have to answer all questions.

The population for the study comprises of two hundred (200) consumers who buy Beauty products in Nigeria using the VTO-AR feature. The research was conducted by the respondents from the city of Lagos, Nigeria. The respondents were those who have had the experience of using AR services at a physical retail outlet of a cosmetic brand. The brand with this specific AR technology service at their retail outlets is the L'Oréal brand for this particular purpose. The L'Oréal brand is a well-known cosmetic brand around the world and in Nigeria. It is the number one in the cosmetic category and has many other sub-brands to offer to different segments (Forbes, 2020). The L'Oréal cosmetic brand is a pioneer in Nigeria to provide AR-based magic mirror services and employee services to their customers (Insights, 2018). The reason for choosing respondents from Nigeria is that a well-known cosmetic brand already provides such services at their physical outlets. Secondly, the Nigerian consumers are well equipped and are eager to try new technologies (Post, 2018, Zhou, 2019).

A Sample size is the proportion of the population chosen. For the purpose of this study, given a target population of 200 respondents, the sample size will be restricted to hundred (100) respondents.

In terms of sampling strategy, purposive sampling was utilized to select participants from various demographic groups, including consumers, marketers, and industry experts (Kim et al., 2016). This deliberate selection ensured diversity in perspectives and experiences related to AR marketing. Additionally, convenience and

snowball sampling techniques were employed to access participants directly exposed to AR marketing campaigns, further enriching the dataset (Kim et al., 2016).

The target respondents were recruited through various platforms in Nigeria, including Weibo, WeChat, and Teiba. Physical contact was the most popular method of recording responses, accounting for more than half of all responses. The AR-based services magic mirrors currently offer female products to be tried on, such as lipsticks, hair colour, eyeshades, etc.

The statistical techniques that were used for processing the data and testing the hypotheses for this study were correlation and regression analyses via the use of statistical package for social science (SPSS) software version 23. The researcher also used descriptive statistics and frequency analysis. The distribution of data was by frequency distribution tables. Correlation between independent and dependent variable was determined by the use of multiple regression analysis. Justification for the choice of correlation and regression analysis is that correlation is suitable for measuring relationship between variables, while regression is suitable for the prediction of outcome. It also shows the strength of the relationships.

The dependent variable is Brand Loyalty while the independent variables (determinants of Augmented Reality Marketing) are interactivity (INT), innovativeness (INN), vividness (VIV) and AR experience (ARE).

4.0 Results and Discussion

From the 100 set of questionnaires administered, 90 copies were retrieved and was used for the analysis, which is 90%. The responses gathered from the selected sample of the study with regard to their personal information are hereby presented and discussed below.

Table 4.1 Distribution of the Respondents

		Frequency	Percentage (%)
Gender	Male	15	16.7
	Female	75	83.3
	Total	90	100
Age Range	Below 30yrs	20	22.2
	31 - 40yrs	40	44.4
	Above 41yrs	30	33.3
	Total	90	100
Marital Status	Single	40	44.44
	Married	50	55.56
	Total	90	100
Academic Qualification	WASC/NECO	-	-
	OND/NCE	5	5.5
	HND/B.Sc	65	72.2
	M.Sc/MBA	20	22.2
	Other	5	5.5
	Total	90	100

Table 4.1 above shows the demographic information of the respondents. The table revealed that 16.7% of the respondents were males and 83.3% were females. In terms of age, 22.2% of the respondents were below 30 years, 44.4% were in the age bracket of 31-40 years, 33.3% were above 41 years. The analysis shows that 44.44% of the respondents were single while 55.56% were

married. In terms of educational qualification, 5.5% of the respondents indicate that they have OND/NCE. 72.2% reported to be HND/B.Sc holders. 22.2% of the respondents reported to have M.SC/MBA. Finally, 5.5% of the respondents indicated to have other certificates.

Table 4.2 Correlation matrix between studied variables

		1	2	3	4	5
interactivity	Pearson correlation	1				
	Sig. (2-tailed)					
	N	90				
innovativeness	Pearson correlation	.234**	1			
	Sig. (2-tailed)	.000				
	N	90	90			
Vividness	Pearson correlation	.743**	.356**	1		
	Sig. (2-tailed)	.000	.000			
	N	90	90	90		
AR experience	Pearson correlation	.732**	.564**	.380**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	90	90	90	90	
brand loyalty	Pearson correlation	.622**	.517**	.463**	.246**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	90	90	90	90	90

Source: Analysis of Field Survey (2025).

The result in table 4.2 shows that the tested variables showed an overwhelming positive correlation ranging from (.234 to .743.) Implying that, there is a significant positive association between the variables of Augmented Reality Marketing and Brand Loyalty

Table 4.3: Multiple Regressions

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	14.927	1.691		8.829	.547
Interactivity	.255	.191	.205	2.603	.003
Innovativeness	.205	.284	.104	1.241	.002
Vividness	.263	.179	.165	1.797	.000
AR experience	.310	.178	.210	2.131	.004

Source: Analysis of Field Survey (2025).

4.3 Testing of Hypotheses

The multiple regression table 4.3 expresses how interactivity influences brand loyalty. The regression analysis for interactivity and brand loyalty on the test of hypothesis one, table 4.3 indicated that the exact level of significance calculated (.003) is less than the probability of committing a type error (0.05). Given the result, the null hypothesis would be rejected in and the alternate accepted. Thus, implying that, there is a significant positive effect of interactivity and brand loyalty.

The Table also shows how innovativeness influences brand loyalty. The exact level of significance (.002) is less than the probability of committing a type one error (0.05). There is the need therefore to reject the null hypothesis stating that there is a no significant effect between innovativeness and brand loyalty, while accepting the alternate that stated otherwise. Hence, there is a significant positive effect between innovativeness and brand loyalty.

The coefficient table 4.3 also shows how vividness helps in influencing brand loyalty. On hypothesis three showed in table 4.3, it reviewed that the exact level of significance (.000) is less than the probability of committing a type one error (0.05). There is

the need therefore to reject the null hypothesis stating that there is a no significant effect and accepting the alternate that stated otherwise. Hence, there is significant positive effect between vividness and brand loyalty.

The coefficient table 4.3 also shows how AR experience helps in influencing brand loyalty. On hypothesis three showed in table 4.3, it reviewed that the exact level of significance (.004) is less than the probability of committing a type one error (0.05). There is the need therefore to reject the null hypothesis stating that there is a no significant relationship and accepting the alternate that stated otherwise. Hence, there is significant positive effect between AR experience and brand loyalty.

5.0 Summary of Findings

Interactivity exhibited a significant positive relationship with brand loyalty. This highlights the role of interactive marketing strategies in fostering customer engagement, trust, and long-term commitment to beauty brands. Interactivity, particularly through social media, personalized marketing, and customer service responsiveness, has proven to enhance customer relationships and brand perception.

The study on the effect of innovativeness on brand loyalty in the Nigerian beauty industry highlights how Innovativeness positively impacts brand loyalty by creating a perception of a brand as forward-thinking and capable of delivering new, valuable solutions, which leads to increased customer trust, positive attitudes towards the brand, and a greater likelihood of customers remaining loyal to it; essentially, when a brand consistently innovates, consumers are more likely to stick with it due to the perceived added value and competitive edge it offers.

The study on the effect of vividness on brand loyalty in the Nigerian beauty industry emphasizes the role of visually appealing and immersive brand experiences in attracting and retaining customers. Vividness, which includes high-quality images, engaging videos, interactive content, and aesthetically pleasing product packaging, plays a crucial role in shaping consumer perceptions and emotional connections with beauty brands. Findings suggest that brands that invest in vibrant and visually compelling marketing materials, such as social media campaigns, influencer collaborations, and immersive product demonstrations, tend to create stronger brand recall and customer engagement.

The study on the effect of AR experience on brand loyalty in the Nigerian beauty industry highlights how augmented reality (AR) experience can positively impact brand loyalty by enhancing customer engagement, providing a more personalized and interactive experience, allowing customers to visualize products in real-world settings, and ultimately leading to increased satisfaction and a stronger connection with the brand; this is particularly effective when AR is used to let customers "try before they buy" through features like virtual try-ons or product visualization in their own space, fostering a sense of trust and confidence in the brand.

5.1 Conclusions

Based on the research conducted on the effect of augmented reality marketing on brand loyalty in the Nigerian beauty industry, the following conclusions can be drawn:

Interactivity plays a significant role in shaping brand loyalty in Nigeria's beauty industry. Beauty brands that fail to incorporate interactive strategies risk losing customers to competitors that effectively engage their audience. Therefore, fostering interactivity through digital platforms, loyalty programs, and responsive customer service is crucial for brand success in the competitive beauty market.

Innovativeness is a key driver of brand loyalty in Nigeria's beauty industry. Innovativeness is crucial for building brand loyalty because it allows companies to consistently provide new and improved products or services that meet evolving customer needs, thus fostering a positive perception of the brand and encouraging customers to remain loyal by choosing them over competitors in the market; essentially, a brand seen as innovative is more likely to retain customers due to their desire to access the latest advancements and features.

Vividness is a significant factor influencing brand loyalty in Nigeria's beauty industry. Consumers are more likely to remain loyal to brands that effectively use striking visuals and engaging content to communicate product benefits and brand identity. A brand that consistently delivers aesthetically appealing and interactive experiences can build emotional connections, enhance customer trust, and differentiate itself from competitors. Conversely, brands that fail to incorporate vivid marketing strategies may struggle to capture consumer attention and retain long-term loyalty.

AR experience play a crucial role in building brand loyalty in Nigeria's beauty industry in fostering brand loyalty by enabling

customers to virtually try on products, personalize their looks, and gain a deeper understanding of product usage, leading to increased satisfaction, positive brand perception, and a higher likelihood of repeat purchases

The study recommends that:

- i. Beauty brands should invest in interactive digital strategies such as social media marketing, live chats, and influencer collaborations to create a dynamic customer experience.
- ii. Beauty brands should clearly communicate product ingredients, benefits, and usage instructions to build trust and credibility. They should also invest in informative content such as blog posts, video tutorials, and social media guides to help customers make informed purchasing decisions.
- iii. Beauty brands should use high-resolution images, professional videos, and interactive content to create a visually appealing brand presence. They should incorporate vivid storytelling through visually appealing campaigns, evoking emotions that strengthen customer connections.
- iv. Beauty brands should maintain a cohesive and aesthetically pleasing brand image across all platforms, including social media, websites, and physical stores. They should also create visually attractive store displays and user-friendly digital platforms that enhance customer interaction and satisfaction.

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