

Emergence of Consumer Brand Engagement into the Metaverse: A Thematic Analysis

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Abstract

This article delves into the evolutionary journey of consumer engagement (CE) from its inception in the digitally mediated landscape of Web 2.0 to its expanding presence within the Metaverse. Acknowledging the pivotal role of technology in reshaping consumer-brand interactions, the study examines the antecedents of CE across different technological aeras, particularly focusing on Virtual Reality (VR) and Augmented Reality (AR). Employing a selective review of literature methodology, ten Scopus-listed papers per stage are critically analysed to elucidate the progression of CE and its intricate relationship with emerging technologies. Furthermore, the research investigates the impact of Marketer Generated Content characteristics on various components of CE, including valence, content types, vividness, and interactivity. This comprehensive exploration contributes to a nuanced understanding of CE dynamics, offering insights vital for marketers navigating the ever-evolving landscape of consumer engagement.

Keywords: Consumer engagement, Virtual Reality, Augmented Reality, Marketer Generated Content, Metaverse

1. Introduction

Managing customers has been evolving over the period of time and it is evident from different metrics being used in different phases of marketing focus. Starting from purely transactional, to building a positive relationship with the customers. However in due course of time both marketers and academicians realized that to make a customer loyal or profitable, its not enough to just satisfy his/her needs through better products or services. Rather this has to be evolved to a superior level, to have a level of desired differentiation and to gain competitive advantage. Thus the focus of the marketers elevated from developing relationship to actively engage with them in all possible manner. This gave rise to the idea of 'Engagement' among marketing academia and practitioners.

1.1 Significance of Consumer Engagement: The concept of Consumer Engagement (CE) achieved much of its prominence only around the year 2010. Consumer Engagement has been studied and approached by researchers in diverse perspectives, primarily 'behavioural' (van Doorn et al., 2010) and 'psychological' perspective of consumers (Brodie et al., 2011; L. Hollebeek, 2011). Studies have also shown CE in the perspective of consumer's participation and connection with brand's offerings (Vivek et al., 2012). In some studies it is represented to be unidimensional, whereas many others have indicated that consumer engagement is multidimensional having at least, but not limited to, cognitive, affective and conative components to it (Brodie et al., 2011; Dash et al., 2019b; L. D. Hollebeek et al., 2014).

Similarly, research has been done aplenty discovering the significant drivers or antecedents of consumer engagement. Some studies depict CE as the outcome of satisfaction and emotion towards brand (Pansari & Kumar, 2017). Some other studies have also established consumer involvement and consumer participation have differing effects of cognitive, affective and active dimensions of CE (Dash et al., 2019a; Leckie et al., 2016).

Collectively it is evident that CE as a concept can accommodate and be approached in diverse perspectives and is a vital factor to reach at the similar objective, that is, to persuade desired consumer behaviour, mostly in terms of attitude towards a brand, purchase intention and loyalty. CE can be touted as the most essential marketing toolkit for the 21st century with it's huge potential to develop, maintain, and grow customer satisfaction and consequently business profitability.

1.2 Metaverse & the changing marketing paradigm: Now coming to the other side of it, emergence of technology is changing how we interact with brands and how we live our lives. According to a study by Wunderman Thompson, more than 76% of users worldwide concur that technology plays a significant role in their daily lives and 62% of users worldwide said they have a stronger relationship with companies that have a strong online presence. Our relationship with technology is currently and most recently being shaped by the Metaverse, and everyone is clamouring to join in. Mesh from Microsoft will transform the way team meetings are done, Facebook changed their name to Meta. Brands like Nike, American Express, and Audi, have increased use of NFT (Non Fungible Token) in one way or other. Metaverse can be defined as a new recapitulation of the internet or a new paradigm for how the digital technologies within an immersive virtual environment can be utilized by us. This multimedia space has made use of virtual worlds and interactive technologies like Augmented Reality (AR), Virtual Reality (VR), Mixed Reality (MR) and avatars on platforms like Second Life, Roblox, and Fortnite. Thinking of 'Metaverse and consumer journey', it eccentrically will relate to a spectrum of how much time consumers will spend immersed in the metaverse. Soon a day will come when users will remain immersed in the metaverse for longer period of time, resulting in more data input to augment and ultimately much greater engagement of consumers. Not to add, higher engagement offers marketers with greater opportunities, and Metaverse will deliver a lot in that regard.

1.3 Research Objective

Considering the vast landscape this particular concept of consumer engagement is spread over, the current study revolves around the antecedents or precursor of consumer engagement construct as it evolved from a digitally mediated space of industry 2.0 (i.e online consumer engagement) till now, as it is emerging in the alternate universe (i.e metaverse) passing through the technological spheres of Virtual Reality and Augmented Reality.

It also aims to explore the effect of Marketer Generated Content characteristics (valence, content types, vividness and interactivity etc) on different components of consumer engagement.

2. Methodology

This study uses a selective review of literature and through that, makes an effort to show the evolution of consumer brand engagement concept starting from the technological revolution of web 2.0 to the Metaverse passing through the influence of VR and AR on the same. For each stage of this research 10 Scopus listed papers corresponding to the objective of the study have been identified and reviewed objectively and critically. The articles are collected from reputed database like Google Scholar, as well as Elsevier- Science Direct & Emerald portals.

3. Literature Review

3.1 Consumer Engagement in the Digital landscape of Web 2.0

A study conducted by Brodie et al. implementing netnographic methodology reveals consumer engagement as a complex, multidimensional and dynamic process, exhibiting different intensity levels at different point of time. It indicated that CE comprises of a series of sub-processes which echoes interactive experience of consumers in the online brand community as well as value co-creation (Brodie et al., 2013). During their empirical research in a specific social media situation L. Hollebeek, 2011 conceptualised Consumer Brand Engagement as a positively valenced activity having three dimensions, cognitive, affective and behavioural and found that *consumer brand involvement* acts as an antecedent to CBE.

Another interesting study measuring social media engagement at individual level through survey of Facebook pages of multiple product categories found product involvement, attitude towards community and inclination of online interaction impact consumer engagement over social media (Dessart, 2017). After a thorough empirical relational content analysis Gavilanes et al., 2018 confirmed a significant impact of social media advertising on CBE with content categories like sales, infotainment, Sweepstakes, customer feedback etc. cognitively and affectively.

According to a study conducted by (Tsai & Men, 2013) using hierarchical regression analyses to examine the effects of antecedent factors on consumer engagement with brands on social networking sites, shows that social media dependency, para social interaction and community identification play a significant role in inducing consumer engagement. A similar kind of research administered at the Facebook fan page found unvarying effect of brand's social media (SM) marketing efforts and the online social interaction propensity of the individual on different levels of consumer's SM engagement

(Mishra, 2019). Similarly, research conducted through an online survey exploring the bonding-based & identity-based attachment theory indicated *consumer's attachment to a brand* as the driver of their CBE. (Hinson et al., 2019).

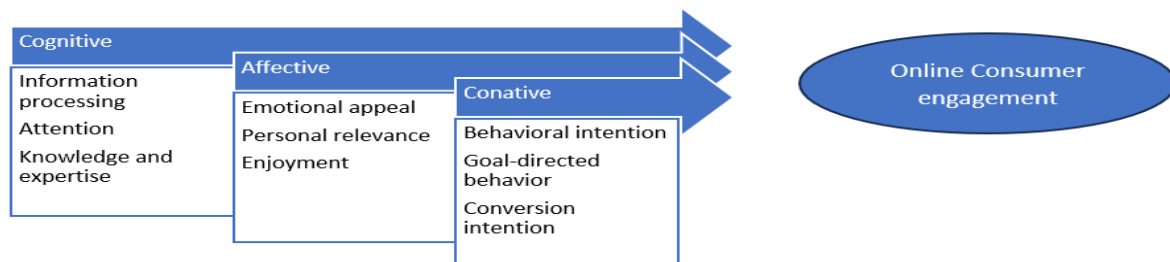
Interestingly one such study investigated relationship between gamification and customer engagement in an online brand community, the findings indicated achievement, social interaction & immersion related features of gamification positively affects dimension/s of CBE (Xi & Hamari, 2020). Similarly El Afi & Ouiddad, 2021, while conducting a research within digital gaming platform proved empirically that hedonic as well as personal & social motivation through video games affect engagement in a positive manner.

Not limiting the study of CE to psychological and behavioural approaches Qu et al., 2022 employed an egocentric network design and validated the dimensionality of CE using EFA & subsequently tested it through various levels of hierarchical regression models. It suggests that CE with a brand is formed partly by the characteristics of consumer's brand discussion networks.

Table-3.1 (Online CE)

Journal	Topic	Author	Study Methodology	Antecedents/ Precursor of CE
Journal of Business Research(JBR)	<i>"Consumer engagement in a virtual brand community: An exploratory analysis"</i>	Brodie et al., 2013	Conceptual (Netnography)	Interactive experience & value co-creation of consumers
Journal of Interactive Marketing(JoIM)	<i>"Consumer Brand Engagement in Social Media: Conceptualization, Scale Development and Validation"</i>	Hollebeek et al., 2014	Empirical	Consumer brand involvement
Journal of Research in Interactive Marketing(JRIM)	<i>"Antecedents and consequences of customer engagement on Facebook: An attachment theory perspective"</i>	Hinson et al., 2019	Empirical	Brand attachment
Journal of Interactive Advertising(JoIM)	<i>"Motivations and Antecedents of Consumer Engagement With Brand Pages on Social Networking Sites"</i>	Tsai & Men, 2013	Empirical	Parasocial interaction, community identification
Marketing Intelligence and Planning(MIP)	<i>"Antecedents of consumers' engagement with brand-related content on social media"</i>	Mishra, 2019	Empirical	Social media marketing efforts of the brand, online social interaction propensity
Journal of Marketing Management(JoMM)	<i>"Social media engagement: a model of antecedents and relational outcomes"</i>	Dessart, 2017	Empirical	Product involvement, attitude towards the community & the online interaction propensity
Journal of Advertising(JoA)	<i>"Content Strategies for Digital Consumer Engagement in Social Networks: Why Advertising Is an Antecedent of Engagement"</i>	Gavilanes et al., 2018	Empirical	Content categories like sales, infotainment, Sweepstakes, customer feedback
Corporate Communications(CC)	<i>"The social network antecedents to consumer engagement: revealing how consumers' conversations influence online engagement behaviors"</i>	Qu et al., 2022	Empirical	Consumer's brand discussion networks

Journal of Business Research(JoBR)	<i>“Does gamification affect brand engagement and equity? A study in online brand communities”</i>	Xi & Hamari, 2020	Empirica l	Achievement, social interaction & immersion related features of gamification
Management and Marketing(M&M)	<i>“Consumer engagement in value co-creation within virtual video game communities”</i>	El Afi & Ouiddad, 2021	Empirica l	Hedonic as well as personal & social motivation through video games

Image-3.1 (Marketer Generated Content Characteristic in Social Media)

3.2 Consumer Engagement in the Virtual Reality (VR)

The Oxford English Dictionary depicts Virtual Reality as “The computer-generated simulation of a three-dimensional image or environment that can be interacted within a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors.” The vital feature of a great VR experience is the sense of ‘presence’ and thus VR allows sellers the unique opportunity to provide prospective customers the realistic experience of a product or service or even a place without the compulsion of co-location. It has been found to have positive effect on a number of consumer related tactical consequences, like engagement, attitude towards the medium and the represented product. Highlighting here a few studies for further discussion.

An experiment was conducted comparing user’s perception of a normal 2D online fashion store with an improved and immersive store which used 3D experience creating illusion of visiting a traditional store vide use of special glasses & data glove. Results demonstrated effect of telepresence in the simulated experience along with hedonic & utilitarian values elucidate enjoyment and influence engagement to a greater extent (Papagiannidis et al., 2017). A lab experiment indicated that VR HMD (Head-Mounted-Displays) generate more immersion and advanced sensory stimulation facilitating greater level of engagement and behavioural intention towards destination as compared to imagery created in desktop or mobile phone (Flavián et al., 2019). In a comparative study in the hotel industry between images vs 360degree tour vs VR; clearly demonstrated that VR preview induced higher amplification of mental images about the experience and a robust sense of presence, ultimately translating to heightened brand experience. (Bogicevic et al., 2019). An interesting study examines the recent VR technology on consumer behaviour by identifying and describing the technological characteristics of VR like interactivity, hyper-textuality, virtuality, modality, location specificity, mobility and connectivity enables companies to identify and respond to marketing opportunities and consumer needs in a faster, more effective and more responsive manner (Violante et al., 2019).

Martínez-Navarro et al., 2019 suggested that all the VR formats showed a two-fold route of effect on consumer’s purchase intention, primarily through emotions & feeling of presence, and the other through affect induced by virtual environment & brand recall. With the advent of virtual reality, marketers, creators and firms are also posed with some challenges concerning the futurity in terms of content formation, consumer reception and ROI. (Manis & Choi, 2019) in their study focused on these encounters and extended the ‘Technology Acceptance Model’ by taking *perceived enjoyment* as a major variable, their findings support the prediction that VR hardware will be readily used in future and help in infusing perceived enjoyment factor to the consumer’s experience.

In the recent past many researchers have tried to find out the impact, antecedent & outcome of the integration of technological devices and human senses. One such paper found that VR devices induced more optimistic emotional reaction and greater level of psychological & behavioural engagement which in turn mediate the impact of VR device on behavioural engagement (Flavián et al., 2021). VR marketing is going to stay and affect the marketing strategy in all manner. While conducting a between-subjects lab experiment with branded VR games vs. non-Branded VR games, the participants, who were young adults exhibited more emotional responses towards brands in VR games and later on showed better attitude and purchase intention towards the brand (van Berlo et al., 2021).

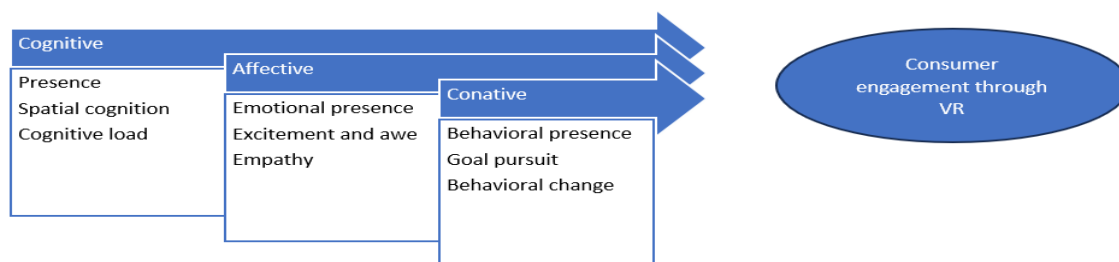
A text mining method was used to conduct full-text study of papers revolving around VR and gamification in the set-up of higher education and suggests enhanced student engagement through the application of these (Loureiro et al., 2021). Some authors used a case study approach in cruising context and analysed the immersive configurator (a virtual catalogue) applied by one Mediterranean Shipping Company. One of the pioneering functions emerging from the finding of this study is that, virtual catalogue improves customer experience and engagement through its interactivity function (Simoni et al., 2022)

Table-3.2 (CE in VR)

Journal	Topic	Author	Study Methodology	Antecedents/ Precursor of CE
Journal of Business Research	of <i>"Brands in virtual reality games: Affective processes within computer-mediated consumer experiences"</i>	Van Berlo et al., 2021	Empirical	The effect of brands in VR games is strengthened by Virtual product appeal
International Journal on Interactive Design and Manufacturing	<i>"How to design a virtual reality experience that impacts the consumer engagement: the case of the virtual supermarket"</i>	Violante et al., 2019	Empirical	Technological characteristics of <i>interactivity, hypertextuality, virtuality</i> (presence of virtual elements), <i>modality, location specificity, mobility and connectivity</i>
Journal of Business Research	<i>"The influence of virtual reality in e-commerce"</i>	Martínez-Navarro et al., 2019	Empirical (multi phase study)	Two modes, first one is through emotions & sense of presence; and the second one <i>affect</i> created by the virtual environment & brand recall.
Tourism Management	<i>"Virtual reality presence as a preamble of tourism experience: The role of mental imagery"</i>	Bogicevic et al., 2019	Empirical	Higher elaboration of mental imagery, sense of presence through VR
Journal of Travel and Tourism Marketing	<i>"Integrating virtual reality devices into the body: effects of technological embodiment on customer engagement and behavioral intentions toward the destination"</i>	Flavián et al., 2019	Empirical	Technological embodiment of VR generate more immersive experiences, higher sensory stimulation & engagement
Journal of Hospitality Marketing and Management	<i>"Impacts of technological embodiment through virtual reality on potential guests' emotions and engagement"</i>	Flavián et al., 2021	Empirical	Technological embodiment of VR
Journal of Business Research	<i>"The virtual reality hardware acceptance model (VR-HAM): Extending and individuating the technology acceptance model (TAM) for virtual reality hardware"</i>	Manis & Choi, 2019	Empirical	Perceived enjoyment factors through VR

Information Technology and People	<i>"To immerse or not? Experimenting with two virtual retail environments"</i>	Papagiannidis et al., 2017	Empirical	Telepresence mechanisms in simulated experience & the critical role of that experience, as well as the hedonic & utilitarian values.
Journal of Hospitality and Tourism Technology	<i>"Boosting the pre-purchase experience through virtual reality. Insights from the cruise industry"</i>	Simoni et al., 2022	Case study Approach	Engagement through its interactivity.
Spanish Journal of Marketing - ESIC	<i>"Virtual reality and gamification in marketing higher education: a review and research agenda"</i>	Loureiro et al., 2021	Literature Review	VR & gamification enhance student engagement

Image-3.2 (Marketer Generated Content Characteristic in Virtual Reality)



3.3 Consumer Engagement in the Augmented Reality

The use of Augmented Reality (AR) technology dates back to 1962, when Morton Helig, a Cinematographer, built one of the earliest prototypes of AR, Sensorama (Carmigniani Julie & Furht Borko, 2011). Since its inception, AR technology has come a long way to become mainstream. AR is defined as “the superposition of virtual objects (computer-generated images, texts, and sounds, among others) on the real environment of the user” (Faust et al., 2012).

Numerous studies have been conducted to understand and explore the role of AR in various sectors and diverse concepts, primarily from a marketing perspective and consumer journey. Many retailing companies have been adopting this technique to their marketing efforts. Not limiting to retail (Spreer & Kallweit, 2014) examined the use of AR application with a trial field study collaborating with a few Germany’s large booksellers and an AR development organisation. Their experiment revealed that AR is likely to improve assessing information at the point of sale. AR applications & associated consumer responses to their media features shows perceived augmentation signifies a befitting concept to comprehend consumer reaction to AR characteristics and the flow intermediates effects of apparent augmentation on the affective responses and behavioural intention of consumers (Javornik, 2016). Almost during the same period of time (Scholz & Smith, 2016) in their study presented a framework to describe the active and passive ingredient of augmented reality and states AR has the potential to generate affordance, i.e actions ranging from perception to manipulation and interaction, which can increase user brand engagement.

While aiming to assess the attractiveness of AR from consumer’s perspective (Grzegorzczuk et al., 2019) used a multiple case study approach taking a purposive sampling of companies creating AR applications. They found that consumers feel AR is the most useful tool in the areas of education, medicine and tourism focusing on both the hedonic and utilitarian aspects.

Luxury brands are also incorporating augmented reality which offers them new opportunities. One research investigated that luxury brands organize augmented reality through strategic tactics which focuses on *transient elevation*, *auratic intensification*, *bespoke personalization* & *effortless continuation* which uniquely conveys the brand’s attributes and hence enhance customer journey and brand experience (Javornik et al., 2021). A systematic literature study conducted by Lavoye

et al., 2021 within ambit of consumer behaviour with AR, shows that AR has immense potential of value creation for consumers by facilitating them in improving decision making and enhancing personalization of virtual self. A survey was administered to more than 300 participants in Turkey wherein they tried an AR app and responded to a questionnaire. The finding showed that interactivity & inspiration give rise to flow experience with AR, that shapes attitude & trust, and mediate the relationship between flow and engagement (Arghashi & Yuksel, 2022).

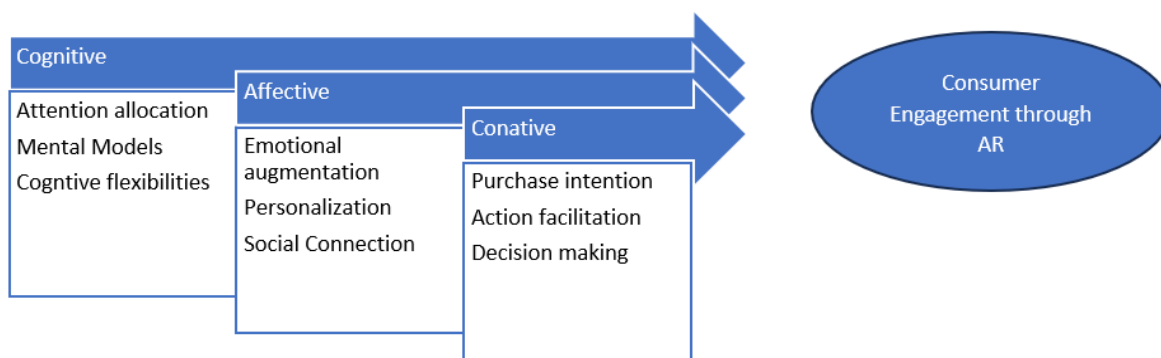
(Kumar & Srivastava, 2022) in a study conducted through survey found that AR virtual try-on influences the online impulsive behaviour by adding hedonic value to users, and by reducing product risk before purchase. In one conceptual review the authors assimilated the results of numerous academic corpus into an outline for AR induced consumer behaviour in shopping. They have encountered that the technological capabilities of AR including but not limited to interactivity, vividness, informativeness etc. provide heightened utilitarian and hedonic shopping experience and ultimately purchase intention (Riar et al., 2022). AR overcomes a crucial limitation of prepurchase trial in e-commerce. It can help the user to see virtually how the product is integrated in the physical world, thereby reducing perceived risk of online buying. Through a between-subjects experiment (Barta et al., 2023) showed that AR lessens the risk of online shopping and the comfort brought through it generates confidence in their decision-making process and satisfaction which in turn generates engagement.

Table-3.3 (CE in AR)

Journal	Topic	Author	Research Methodology	Antecedents/ Precursor of CE
Cyberpsychology, Behavior, and Social Networking	<i>"How Augmented Reality Increases Engagement Through Its Impact on Risk and the Decision Process"</i>	Barta et al., 2023	Experimental	Risk reduction and the comfort brought through AR generates decision confidence & satisfaction with the purchase experience. This satisfaction in turn generates engagement
Journal of Business Research	<i>"Strategic approaches to augmented reality deployment by luxury brands"</i>	Javornik et al., 2021	Conceptual/S LR	Ephemeral elevation, auratic amplification, bespoke personalization and effortless continuation which uniquely conveys the brand's attributes and hence enhance customer journey
Journal of Retailing and Consumer Services	<i>"Interactivity, Inspiration, and Perceived Usefulness! How retailers' AR-apps improve consumer engagement through flow"</i>	Arghashi & Yukse, 2022	Empirical	Interactivity & inspiration through flow experience
International Journal of Retail and Distribution Management	<i>"Exploring the role of augmented reality in online impulse behaviour"</i>	Kumar & Srivastava, 2022	Empirical	Hedonic value & the facilitation of risk reducing ability prior to purchase; It also considers the flow & spatial presence generated.
International Review of Retail, Distribution and Consumer Research	<i>"Consumer behavior with augmented reality in retail: a review and research agenda"</i>	Lavoye et al., 2021	Conceptual/S LR	Generate utilitarian and hedonic value, to improve decision-making, and to enhance personalization of the virtual self
SOP Transactions on	<i>"Augmented Reality in Retail: Assessing the Acceptance and</i>	Spreer &	Empirical	Improvement in the assessment of information at the point of sale

Marketing Research	<i>Potential for Multimedia Product Presentation at the PoS</i>	Kallweit, 2014		
Journal of Marketing Management	<i>"It's an illusion, but it looks real!" Consumer affective, cognitive and behavioural responses to augmented reality applications</i>	Javornik, 2016	Empirical	Perceived augmentation and online flow experience
Internet Research	<i>"Using augmented reality for shopping: a framework for AR induced consumer behavior, literature review and future agenda"</i>	Riar et al., 2022	Conceptual/SR	Technological abilities of augmented reality like interactivity, vividness, informativeness etc.
Business Horizons	<i>"Augmented reality: Designing immersive experiences that maximize consumer engagement"</i>	Scholz & Smith, 2016	Conceptual	Affordance (perception, manipulation and interaction)
Technology Analysis and Strategic Management	<i>"Attractiveness of augmented reality to consumers"</i>	Grzegorz et al., 2019	Conceptual/Multi case study	Hedonic and utilitarian aspects of user experience

Image-3.3 (Marketer Generated Content Characteristic in Augmented Reality)



3.4 CE in the Mixed Reality/Metaverse

The consumption environment has been altered since the use of immersive technologies. An investigation of consumer responses towards AI enabled mixed reality exhibit merging advanced technology and retail shopping demonstrate that eminence of AI in terms of speech recognition and synthesis through machine learning enhances mixed reality (MR) immersion allied to spatial immersion, enjoyment and consumer's perception of an innovative experience jointly increase consumer engagement (Sung et al., 2021)

In one Nike-Roblox case study the authors explored virtual platform, content services, consumer and business behaviour are the building blocks to customers. They also indicated metaverse which is now used only global brands, will get penetrated into the horizon of regional and local brands soon enough (Hollensen et al., 2022). Immersive technology, automatic machine learning, data visualization gears and site analytics, all the attributes of metaverse assist in the retention of buyers, influence consumption designs and drive user engagement in virtual trade stores (Mircicã, 2022). Similarly another extensive & empirical literature review conducted by (Kral et al., 2022) cumulated that business analytics in retail

can evaluate interrelated virtual experiences by making use of consumer data across 3D immersive environment and help in optimizing customer journey and personal shopping experience in metaverse.

Another descriptive study done collecting data from 9 countries shows positive effect of gamification-based marketing activities in the metaverse by means of novelty, Interactivity, Vividness, on the affective brand engagement of consumers (Bousba & Arya, 2022).

Another research built a cultural metaverse using story telling method through which prevailing AR e-book and pioneering AR version were compared to measure multiple facets of user experience i.e presence, flow, enjoyment, education, and ultimately engagement. It indicated innovative AR storytelling experience in the metaverse generated better user experience in all parameters (Yang, 2023). To further the understanding of MR on user experience a covariance-based SEM analysis was done in Thailand. The analysis suggested three dimensions, hedonic, symbolic & utilitarian value of metaverse indirectly affects consumer-brand engagement (Wongkitrungrueng & Suprawan, 2023).

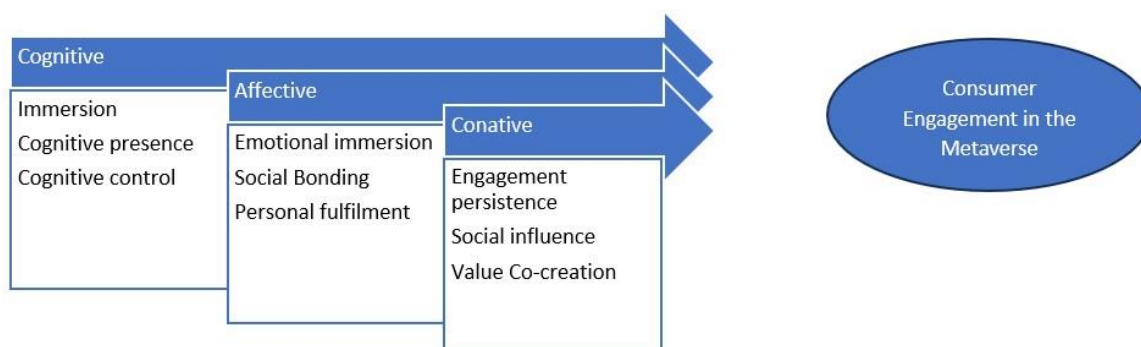
Novel occasions for brand's crypto marketing and metaverse commerce have been created vide the development of metaverse. (Lee et al., 2023) used a stimulus-organism-response model to examine the brand outcome of branded non-fungible tokens using text mining and SEM. The finding shows BNFT characteristics like insufficiency, financial value, stature, exclusivity, uniqueness, and communication consistency encourage a favourable brand attitude, enhancing commitment for and engagement with brands.

(Jafar et al., 2023) offered a theoretical framework for comprehending consumer behaviour in virtual stores. In their study the data gathered from 258 respondents who actively used the applications of the metaverse suggested that efficiency, richness, and interactivity of metaverse stimuli have a favourable impact on metaverse experience in organisms (i.e., telepresence). Additionally, metaverse telepresence can have an impact on how customers react.

Table-3.4 (CE in Metaverse)

Journal	Topic	Author	Research Methodology	Antecedents/ Precursor of CE
International Journal of Information Management	"Consumer engagement via interactive artificial intelligence and mixed reality"	Sung et al., 2021	Empirical/ Experimental	MR immersion, MR enjoyment, consumer perception; collectively interactive AI & MR technology
Technology in Society	"Unfolding the impacts of metaverse aspects on telepresence, product knowledge, and purchase intentions in the metaverse stores"	Jafar et al., 2023	Empirical	Effectiveness, vividness, and interactivity of metaverse creates telepresence which in turn engages the user
Journal of Business Strategy	"Metaverse – the new marketing universe"	Hollensen et al., 2022	Case Study Method	Virtual platform, content services, consumer and business behaviour
Heliyon	"Storytelling and user experience in the cultural metaverse"	Yang, 2023	Polity Study	Story telling experience in AR

International Journal of Human-Computer Interaction	“Metaverse Meets Branding: Examining Consumer Responses to Immersive Brand Experiences”	Wongkitrungruen g & Suprawan, 2023	Empirical	Hedonic, symbolic & utilitarian value of metaverse indirectly affects consumer-brand engagement
Electronic Commerce Research and Applications	Building brand engagement in metaverse commerce: The role of branded non-fungible tokens (BNFTs)	Lee et al., 2023	Empirical	BNFT characteristics including scarcity, financial value, prestige, uniqueness, originality & communication consistency promote engagement
Linguistic and Philosophical Investigations	“Immersive and Engaging Digital Content, Data Visualization Tools, and Location Analytics in a Decentralized Metaverse”	Mircică, 2022	Conceptual/SLR	Immersive technology, automated machine learning, data visualization tools and location analytics
Journal of Content, Community and Communication	“LET'S CONNECT IN METAVERSE. BRAND'S NEW DESTINATION TO INCREASE CONSUMERS' AFFECTIVE BRAND ENGAGEMENT & THEIR SATISFACTION AND ADVOCACY”	Bousba & Arya, 2022	Empirical	Gamification-based marketing activities
Linguistic and Philosophical Investigations	“Digital Consumer Engagement on Blockchain-based Metaverse Platforms: Extended Reality Technologies, Spatial Analytics, and Immersive Multisensory Virtual Spaces”	Kral et al., 2022	Conceptual	Use of synthetic data, scale visualization, and physiological and behavioral biometrics
Tourism Management	“Metaverse as a disruptive technology revolutionising tourism management and marketing”	Buhalis et al., 2023	Conceptual	Immersion and interaction

Image-3.4 (Marketer Generated Content Characteristic in Metaverse)

4. Interpretation & Discussion

4.1 Consumer Engagement in Web 2.0: Proliferation of Digital Media or Web 2.0 provided the brands with opportunities to engage with their consumers in a way, which could never have been thought of before. It was primarily because of the possibility of a dialogue or two-way communication between brand & consumers as well as community of consumers or prospective consumers in a social media platform. As is evident from the connotations of these papers consumer brand involvement or attachment over social media, parasocial interaction, propensity of users to interact and discuss in the digital community platforms are major antecedental factors of online consumer engagement (OCE). OCE seems to be magnified through satisfaction of hedonistic and personal motivation through video games. Appropriate contents created by the brands (BGC) including promotional offers, infotainment, feedback options also form OCE, which can also be affected by the users generated contents (UGC) created over various communities or social networking sites through interaction or response. Taking a cue from the Stimulus-Organism-Response model it may be conceded that factors of enjoyment, interactivity and information are the primary backgrounds affecting various components of consumer engagement.

4.2 Consumer Engagement through VR: Virtual Reality is much more immersive than a typical 2D screen and we can't deny the possibility that under some circumstances the sensation of presence through VR can be greater than reality. Virtual reality (VR) is used to engage consumers with a brand, reinforce brand values, and foster brand affinity and customer loyalty in magnificent way. The technological embodiment of VR is able to generate more immersive experience, higher sensory stimulation, better elaboration of mental imagery which factors in turn trigger the affective and cognitive components of engagement in the users. Further the telepresence, hedonic and utilitarian values as well as enjoyment & interactivity facilitate consumer brand engagement through virtual reality.

4.3 Consumer Engagement through AR: With the use of a screen or projector, augmented reality (AR) can visually modify the world around users by superimposing virtual features right onto the environment as it exists in the present. AR allows the user to encounter psychological correlates, which ultimately result in an immersive experience and emotive, cognitive, and behavioural reactions. The capacity of augmented reality to include visual simulations into the real world and engage users in real-time brings about transient elevation, auratic intensification, bespoke personalization and effortless continuance which conveys the brand's attributes in a more realistic way and enhances the customer journey. AR also helps the consumers in reducing the purchase risk and thus improves the assessment of situation at point of sale and a level of comfort which makes them engage with the brand in a more positive manner. The affordance factors provided by AR i.e passive perception of content, subtle manipulation by brands and interactivity features engages customers at a much higher level.

4.4 Consumer Engagement & the Metaverse: Metaverse created a platform to feature all of these and more, the most fantastic is the inclusion of social element. It enables users to be present in a virtual environment together as a group or in community. Shopping in the metaverse is just a copy of moving around in a physical shopping mall with friends/family. This can be utilized by organisations in many other contexts like joint consumption, which includes activities like watching movies, playing games, going to events, and buying. It also offers businesses online workspaces for cooperation. Managers can meet in person using their avatars in atmospheric settings with a variety of tools like whiteboards, 3D pens, and presentation screens.

The specific attributes of Non Fungible Tokens like perception of scarcity, value, uniqueness, originality etc. collectively provide a hedonic, symbolic as well as utilitarian value of Metaverse and these all affect consumer brand engagement. The technological embodiments of the metaverse like use of synthetic data, scale visualisation, behavioural & physiological biometrics bring about an immersive, interactive and enjoyable experience for the users.

5. Conclusion

The marketers have been using technology and innovation to their advantage when it comes to generate consumer engagement & the progression can very well be shown through this thematic study. As is evident, virtual reality environment is definitely better than 2D, the experience is more vivid & effective. Similarly, being able to superimpose virtual in the actual makes the matter more realistic and the telepresence is far superior, it makes consumers less prone to risk of purchase making them comfortable. Considering the manipulation between virtuality and reality that AR is bringing

in, people are exposed to a new stimulus each time they use AR. Novelty, interactivity & vividness are some of the characteristics of Metaverse which can be explored by brands to create unique contents through which consumers can be totally engrossed and involved in the metaverse, that can create awareness and stimulate a sensation of presence in the metaverse. Further the extent of consumer control over their actions and interactions in the metaverse will also decide the way they are cognitively engaged with the brand. The complexity and emotional immensity of experiences found in the metaverse are very crucial for users. Further the power of consumers to create links and emotional ties with other people in the metaverse and the contentment and fulfilment gained from pursuing one's dreams and ambitions in the metaverse will ignite the affective component of consumer engagement. And ultimately consistent participation and dedication of consumers to metaverse interactions and activities; as well as the way consumer behaviour is affected by the activities and behaviours of others in the metaverse, their (consumers') own active involvement in the creation and exchange of value within the metaverse ecosystem is going to attain the highest level of consumer brand engagement. And this may be possible vide inclusion of the measures like storytelling, gamevertising, exclusivity, community, commerce and many more in the metaverse.

All these studies have pointed out that the metaverse has the potential to generate a level of consumer brand engagement which is beyond comprehension till now. Virtual gamification of marketing activities in the Metaverse influences brand association. So brands should create good, engaging and stimulating content using AR/VR gamification technology. This will facilitate consumers in their decision-making process through experiential learning and increase affective component of consumer brand engagement.

6. Implication of the Study

This study contributes to the academic literature by providing a comprehensive understanding of how technological advancements have influenced consumer-brand interactions by outlining the evolution of consumer engagement from Web 2.0 to the Metaverse. It adds depth to the conceptualization of consumer engagement by examining its antecedents across different technological eras, shedding light on the complex interaction between consumer behaviour and emerging technologies.

This study also offers valuable insights to enhance consumer engagement in an increasingly digital and immersive environment by the marketers. They can tailor their content strategies to effectively engage with consumers across various platforms and mediums & this will ultimately foster stronger brand-consumer relationships. It is crucial for businesses to stay competitive in today's digital age by understanding the evolving landscape of consumer engagement. This study provides strategic guidance to businesses by highlighting the importance of adapting to emerging technologies such as Virtual Reality and Augmented Reality & to meet evolving consumer expectations and preferences. It underscores the significance of embracing innovation and leveraging immersive technologies to create compelling brand experiences in the Metaverse. This study enables stakeholders to anticipate future trends and developments in consumer-brand interactions by exploring the implications of consumer engagement in the Metaverse. It underlines the growing significance of immersive technologies and virtual environments in shaping consumer behaviour and preferences, hence influences the stakeholders to proactively embrace these trends to stay ahead of the curve.

Overall, the implications of this study extend beyond theoretical insights to practical applications, offering valuable guidance for academia, industry, and businesses navigating the evolving landscape of consumer engagement in the digital era and beyond.

References

2. Arghashi, V., & Yuksel, C. A. (2022). Interactivity, Inspiration, and Perceived Usefulness! How retailers' AR-apps improve consumer engagement through flow. *Journal of Retailing and Consumer Services*, 64. <https://doi.org/10.1016/j.jretconser.2021.102756>
3. Barta, S., Gurrea, R., & Flavián, C. (2023). How Augmented Reality Increases Engagement Through Its Impact on Risk and the Decision Process. *Cyberpsychology, Behavior, and Social Networking*, 26(3), 177–187. <https://doi.org/10.1089/cyber.2022.0087>

4. Bogicevic, V., Seo, S., Kandampully, J. A., Liu, S. Q., & Rudd, N. A. (2019). Virtual reality presence as a preamble of tourism experience: The role of mental imagery. *Tourism Management*, 74, 55–64. <https://doi.org/10.1016/j.tourman.2019.02.009>
5. Bousba, Y., & Arya, V. (2022). LET’S CONNECT IN METAVERSE. BRAND’S NEW DESTINATION TO INCREASE CONSUMERS’ AFFECTIVE BRAND ENGAGEMENT & THEIR SATISFACTION AND ADVOCACY. *Journal of Content, Community and Communication*, 15(8), 276–293. <https://doi.org/10.31620/JCCC.06.22/19>
6. Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. *Journal of Service Research*, 14(3), 252–271. <https://doi.org/10.1177/1094670511411703>
7. Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer engagement in a virtual brand community: An exploratory analysis. *Journal of Business Research*, 66(1), 105–114. <https://doi.org/10.1016/j.jbusres.2011.07.029>
8. Carmigniani Julie, & Furht Borko. (2011). Handbook of Augmented Reality. In *Handbook of Augmented Reality*. Springer New York. <https://doi.org/10.1007/978-1-4614-0064-6>
9. Dash, P., Panda, T. K., & Mishra, B. B. (2019a). An Exploratory Factor Analysis Approach to Building Online Consumer Engagement Construct. *Journal of Banking, Information Technology and Management*, 16(1), 20–28.
10. Dash, P., Panda, T. K., & Mishra, B. B. (2019b). Developing Online Consumer Engagement Construct-A Contextual Approach. *Journal of Management Outlook*, 9(1), 46–59.
11. Dessart, L. (2017). Social media engagement: a model of antecedents and relational outcomes. *Journal of Marketing Management*, 33(5–6), 375–399. <https://doi.org/10.1080/0267257X.2017.1302975>
12. El Afi, F., & Ouiddad, S. (2021). Consumer engagement in value co-creation within virtual video game communities. *Management and Marketing*, 16(4), 370–386. <https://doi.org/10.2478/mmcks-2021-0022>
13. Faust, F., Roepke, G., Catecati, T., Araujo, F., Ferreira, M. G. G., & Albertazzi, D. (2012). Use of augmented reality in the usability evaluation of products. *Work*, 41(SUPPL.1), 1164–1167. <https://doi.org/10.3233/WOR-2012-0298-1164>
14. Flavián, C., Ibáñez-Sánchez, S., & Orús, C. (2019). Integrating virtual reality devices into the body: effects of technological embodiment on customer engagement and behavioral intentions toward the destination. *Journal of Travel and Tourism Marketing*, 36(7), 847–863. <https://doi.org/10.1080/10548408.2019.1618781>
15. Flavián, C., Ibáñez-Sánchez, S., & Orús, C. (2021). Impacts of technological embodiment through virtual reality on potential guests’ emotions and engagement. *Journal of Hospitality Marketing and Management*, 30(1), 1–20. <https://doi.org/10.1080/19368623.2020.1770146>
16. Gavilanes, J. M., Flatten, T. C., & Brettel, M. (2018). Content Strategies for Digital Consumer Engagement in Social Networks: Why Advertising Is an Antecedent of Engagement. *Journal of Advertising*, 47(1), 4–23. <https://doi.org/10.1080/00913367.2017.1405751>
17. Grzegorzczuk, T., Sliwinski, R., & Kaczmarek, J. (2019). Attractiveness of augmented reality to consumers. *Technology Analysis and Strategic Management*, 31(11), 1257–1269. <https://doi.org/10.1080/09537325.2019.1603368>
18. Hinson, R., Boateng, H., Renner, A., & Kosiba, J. P. B. (2019). Antecedents and consequences of customer engagement on Facebook: An attachment theory perspective. *Journal of Research in Interactive Marketing*, 13(2), 204–226. <https://doi.org/10.1108/JRIM-04-2018-0059>
19. Hollebeek, L. (2011). Exploring customer brand engagement: Definition and themes. In *Journal of Strategic Marketing* (Vol. 19, Issue 7, pp. 555–573). <https://doi.org/10.1080/0965254X.2011.599493>
20. Hollebeek, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer brand engagement in social media: Conceptualization, scale development and validation. *Journal of Interactive Marketing*, 28(2), 149–165. <https://doi.org/10.1016/j.intmar.2013.12.002>
21. Hollensen, S., Kotler, P., & Opresnik, M. O. (2022). Metaverse – the new marketing universe. *Journal of Business Strategy*. <https://doi.org/10.1108/JBS-01-2022-0014>
22. Jafar, R. M. S., Ahmad, W., & Sun, Y. (2023). Unfolding the impacts of metaverse aspects on telepresence, product knowledge, and purchase intentions in the metaverse stores. *Technology in Society*, 74. <https://doi.org/10.1016/j.techsoc.2023.102265>

23. Javornik, A. (2016). 'It's an illusion, but it looks real!' Consumer affective, cognitive and behavioural responses to augmented reality applications. *Journal of Marketing Management*, 32(9–10), 987–1011. <https://doi.org/10.1080/0267257X.2016.1174726>
24. Javornik, A., Duffy, K., Rokka, J., Scholz, J., Nobbs, K., Motala, A., & Goldenberg, A. (2021). Strategic approaches to augmented reality deployment by luxury brands. *Journal of Business Research*, 136, 284–292. <https://doi.org/10.1016/j.jbusres.2021.07.040>
25. Kral, P., Janoskova, K., & Potcovaru, A. M. (2022). Digital Consumer Engagement on Blockchain-based Metaverse Platforms: Extended Reality Technologies, Spatial Analytics, and Immersive Multisensory Virtual Spaces. *Linguistic and Philosophical Investigations*, 21, 252–267. <https://doi.org/10.22381/lpi21202216>
26. Kumar, H., & Srivastava, R. (2022). Exploring the role of augmented reality in online impulse behaviour. *International Journal of Retail and Distribution Management*. <https://doi.org/10.1108/IJRDM-11-2021-0535>
27. Lavoye, V., Mero, J., & Tarkiainen, A. (2021). Consumer behavior with augmented reality in retail: a review and research agenda. *International Review of Retail, Distribution and Consumer Research*, 31(3), 299–329. <https://doi.org/10.1080/09593969.2021.1901765>
28. Leckie, C., Nyadzayo, M. W., & Johnson, L. W. (2016). Antecedents of consumer brand engagement and brand loyalty. *Journal of Marketing Management*, 32(5–6), 558–578. <https://doi.org/10.1080/0267257X.2015.1131735>
29. Lee, C. T., Ho, T. Y., & Xie, H. H. (2023). Building brand engagement in metaverse commerce: The role of branded non-fungible tokens (BNFTs). *Electronic Commerce Research and Applications*, 58. <https://doi.org/10.1016/j.elerap.2023.101248>
30. Loureiro, S. M. C., Bilro, R. G., & Angelino, F. J. de A. (2021). Virtual reality and gamification in marketing higher education: a review and research agenda. In *Spanish Journal of Marketing - ESIC* (Vol. 25, Issue 2, pp. 179–216). Emerald Group Holdings Ltd. <https://doi.org/10.1108/SJME-01-2020-0013>
31. Manis, K. T., & Choi, D. (2019). The virtual reality hardware acceptance model (VR-HAM): Extending and individuating the technology acceptance model (TAM) for virtual reality hardware. *Journal of Business Research*, 100, 503–513. <https://doi.org/10.1016/j.jbusres.2018.10.021>
32. Martínez-Navarro, J., Bigné, E., Guixeres, J., Alcañiz, M., & Torrecilla, C. (2019). The influence of virtual reality in e-commerce. *Journal of Business Research*, 100, 475–482. <https://doi.org/10.1016/j.jbusres.2018.10.054>
33. Mircică, N. (2022). Immersive and Engaging Digital Content, Data Visualization Tools, and Location Analytics in a Decentralized Metaverse. *Linguistic and Philosophical Investigations*, 21, 89–104. <https://doi.org/10.22381/lpi2120226>
34. Mishra, A. S. (2019). Antecedents of consumers' engagement with brand-related content on social media. *Marketing Intelligence and Planning*, 37(4), 386–400. <https://doi.org/10.1108/MIP-04-2018-0130>
35. Pansari, A., & Kumar, V. (2017). Customer engagement: the construct, antecedents, and consequences. *Journal of the Academy of Marketing Science*, 45(3), 294–311. <https://doi.org/10.1007/s11747-016-0485-6>
36. Papagiannidis, S., Pantano, E., See-To, E. W. K., Dennis, C., & Bourlakis, M. (2017). To immerse or not? Experimenting with two virtual retail environments. *Information Technology and People*, 30(1), 163–188. <https://doi.org/10.1108/ITP-03-2015-0069>
37. Qu, Y., Saffer, A. J., & Riffe, D. (2022). The social network antecedents to consumer engagement: revealing how consumers' conversations influence online engagement behaviors. *Corporate Communications*, 27(2), 226–244. <https://doi.org/10.1108/CCIJ-04-2021-0046>
38. Riar, M., Xi, N., Korbel, J. J., Zarnekow, R., & Hamari, J. (2022). Using augmented reality for shopping: a framework for AR induced consumer behavior, literature review and future agenda. *Internet Research*. <https://doi.org/10.1108/INTR-08-2021-0611>
39. Scholz, J., & Smith, A. N. (2016). Augmented reality: Designing immersive experiences that maximize consumer engagement. *Business Horizons*, 59(2), 149–161. <https://doi.org/10.1016/j.bushor.2015.10.003>
40. Simoni, M., Sorrentino, A., Leone, D., & Caporuscio, A. (2022). Boosting the pre-purchase experience through virtual reality. Insights from the cruise industry. *Journal of Hospitality and Tourism Technology*, 13(1), 140–156. <https://doi.org/10.1108/JHTT-09-2020-0243>

41. Spreer, P., & Kallweit, K. (2014). Augmented Reality in Retail: Assessing the Acceptance and Potential for Multimedia Product Presentation at the PoS. *SOP Transactions on Marketing Research*, 1(1), 23–31. <https://doi.org/10.15764/MR.2014.01002>
42. Sung, E. (Christine), Bae, S., Han, D. I. D., & Kwon, O. (2021). Consumer engagement via interactive artificial intelligence and mixed reality. *International Journal of Information Management*, 60. <https://doi.org/10.1016/j.ijinfomgt.2021.102382>
43. Tsai, W.-H. S., & Men, L. R. (2013). Motivations and Antecedents of Consumer Engagement With Brand Pages on Social Networking Sites. *Journal of Interactive Advertising*, 13(2), 76–87. <https://doi.org/10.1080/15252019.2013.826549>
44. van Berlo, Z. M. C., van Reijmersdal, E. A., Smit, E. G., & van der Laan, L. N. (2021). Brands in virtual reality games: Affective processes within computer-mediated consumer experiences. *Journal of Business Research*, 122, 458–465. <https://doi.org/10.1016/j.jbusres.2020.09.006>
45. van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer engagement behavior: Theoretical foundations and research directions. *Journal of Service Research*, 13(3), 253–266. <https://doi.org/10.1177/1094670510375599>
46. Violante, M. G., Vezzetti, E., & Piazzolla, P. (2019). How to design a virtual reality experience that impacts the consumer engagement: the case of the virtual supermarket. *International Journal on Interactive Design and Manufacturing*, 13(1), 243–262. <https://doi.org/10.1007/s12008-018-00528-5>
47. Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2012). Customer engagement: Exploring customer relationships beyond purchase. *Journal of Marketing Theory and Practice*, 20(2), 122–146. <https://doi.org/10.2753/MTP1069-6679200201>
48. Wongkitrungrueng, A., & Suprawan, L. (2023). Metaverse Meets Branding: Examining Consumer Responses to Immersive Brand Experiences. *International Journal of Human-Computer Interaction*. <https://doi.org/10.1080/10447318.2023.2175162>
49. Xi, N., & Hamari, J. (2020). Does gamification affect brand engagement and equity? A study in online brand communities. *Journal of Business Research*, 109, 449–460. <https://doi.org/10.1016/j.jbusres.2019.11.058>
50. Yang, S. (2023). Storytelling and user experience in the cultural metaverse. *Heliyon*, 9(4). <https://doi.org/10.1016/j.heliyon.2023.e14759>