

A Mediating Effect of Customer Experience on the Relationship between Metaverse Usage and Purchase Intention: A Conceptual Development

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ABSTRACT

This study examines the mediating effect of customer experience on the relationship between metaverse usage and purchase intention, providing a conceptual framework to understand consumer behavior within virtual environments. As the metaverse rapidly evolves into a significant platform for interaction and commerce, understanding how user engagement translates into purchasing decisions is crucial for businesses and marketers. The framework posits that metaverse usage encompasses the frequency and depth of interactions users have with virtual spaces, which significantly influences their overall customer experience. A positive customer experience is characterized by factors such as satisfaction, emotional connection, and engagement, all of which are critical in shaping consumers' purchase intentions. When users perceive their interactions in the metaverse as enjoyable and meaningful, they are more likely to develop a favorable attitude towards the brands and products featured in these environments. The study integrates insights from established models, including the Technology Acceptance Model (TAM) and the Stimulus-Organism-Response (SOR) model, to highlight how various elements of the metaverse such as perceived usefulness, perceived ease of use, and perceived enjoyment which is affect customer experience. By establishing customer experience as a mediator, this research illustrates how metaverse usage not only influences direct purchasing behavior but also shapes the emotional and cognitive processes that underpin decision-making. Ultimately, this conceptual development aims to provide actionable insights for businesses looking to optimize their strategies in the metaverse. By understanding the pathways through which customer experience mediates the relationship between metaverse engagement and purchase intention, companies can create more compelling virtual experiences that foster

customer loyalty and drive sales. This research contributes to the growing body of literature on digital consumer behavior, emphasizing the importance of customer experience in shaping purchasing decisions in virtual environments.

Keywords: metaverse usage, customer experience, purchase intention, generation Z, technology acceptance model (TAM), stimulus-organism-response (S-O-R).

I. INTRODUCTION

The rapid evolution of digital technologies has given rise to immersive virtual environments such as the metaverse, which presents new opportunities for businesses to engage with consumers in novel ways. The metaverse can be defined as a collective virtual space, created by the convergence of virtually enhanced physical reality and persistent virtual spaces, including augmented reality (AR) and virtual reality (VR) (Dwivedi et al., 2022). This digital ecosystem is increasingly being adopted by brands and businesses to create unique and engaging customer experiences that blend entertainment, social interaction, and commerce. As a result, understanding the impact of metaverse usage on consumer purchase intention has become an important area of study for marketers and businesses looking to leverage this emerging technology.

One of the central aspects of this relationship is the role of customer experience as a mediating factor. In the context of the metaverse, customer experience includes not only the practical elements such as ease of navigation and usability but also the emotional and sensory engagement that arises from immersive experiences, such as interacting with 3D products or participating in virtual events (Lee et al., 2021). Therefore, examining the mediating effect of customer experience on the relationship between metaverse usage and purchase intention is vital for understanding how businesses can maximize consumer engagement and drive sales within virtual environments.

Generation Z, a demographic group known for its high levels of digital literacy and preference for interactive and immersive experiences, has emerged as a key target audience for metaverse platforms (Naeem, 2021). This generation, born between the late 1990s and early 2010s, has grown up with the internet and social media, making them particularly receptive to the use of advanced digital technologies like AR, VR, and virtual worlds. As this generation becomes an increasingly important segment of the consumer market, businesses are seeking ways to enhance their engagement through the metaverse, which offers personalized and interactive customer experiences (Dwivedi et al., 2023).

Metaverse usage refers to the various ways consumers interact with and navigate these virtual spaces. This can include activities such as exploring virtual stores, attending virtual events, socializing in 3D environments, or interacting with brands via avatars. Recent research has highlighted that the immersive and interactive nature of metaverse experiences can significantly influence consumer attitudes and behaviors (Park & Kim, 2022). However, the critical question for businesses is whether this engagement within the metaverse can translate into tangible outcomes such as increased purchase intentions. Purchase intention, in this context, refers to the consumer's

likelihood of making a purchase after engaging with the brand or product within the metaverse (Dodoo & Wu, 2022).

The Technology Acceptance Model (TAM) and the Stimulus-Organism-Response (S-O-R) framework provide theoretical foundations for examining the role of customer experience in this process. According to TAM, perceived usefulness and ease of use are key drivers of technology adoption (Davis, 1989), while the S-O-R framework suggests that environmental stimuli (such as metaverse experiences) can affect consumers' emotional responses (organism), which then influence behavioral outcomes (response), such as purchase intention (Mehrabian & Russell, 1974). Applying these theories to the metaverse context, it can be proposed that metaverse usage acts as a stimulus, customer experience as the organism, and purchase intention as the behavioral response.

While metaverse usage provides an innovative platform for consumer-brand interaction, the quality of the customer experience within these virtual spaces is crucial in determining whether this engagement will lead to purchase intention. Factors such as the immersiveness of the experience, the level of personalization, and the social interaction facilitated by the metaverse all contribute to the overall customer experience (Lee et al., 2021). This experience, in turn, shapes consumers' emotional and cognitive responses, which are key drivers of their intention to purchase.

In recent years, several brands have started leveraging the metaverse to create virtual storefronts, host live events, and even sell virtual goods, such as NFTs (non-fungible tokens), as part of their digital commerce strategies (Kim, 2022). These initiatives not only offer consumers novel ways to engage with products and brands but also provide businesses with opportunities to gather valuable data on consumer behavior in virtual environments. However, the success of these strategies hinges on delivering a positive and meaningful customer experience that fosters trust and drives consumer commitment to purchase (Dwivedi et al., 2023).

Given the importance of customer experience in shaping purchase behavior, this study aims to explore the mediating role of customer experience in the relationship between metaverse usage and purchase intention. Specifically, this conceptual development aims to provide a framework for understanding the complex interplay between metaverse usage, customer experience, and purchase intention. By integrating insights from the Technology Acceptance Model (TAM) and the Stimulus-Organism-Response (SOR) framework, this study seeks to elucidate how perceived usefulness, perceived ease of use, and perceived enjoyment of metaverse platforms influence customer experience and, subsequently, purchase intentions. As the metaverse continues to evolve, understanding these dynamics will be crucial for businesses looking to thrive in this new digital frontier.

II. LITERATURE REVIEW

The metaverse has emerged as a transformative digital landscape, reshaping how consumers interact with brands and make purchasing decisions. Defined as a collective virtual space created by the convergence of virtually enhanced physical reality and physically persistent virtual reality (Schroeder, 2022), the metaverse offers immersive experiences that engage consumers in unprecedented ways. As businesses increasingly leverage this

technology, understanding the factors that influence consumer behavior within the metaverse becomes essential. A key area of interest is the relationship between metaverse usage and purchase intention, particularly how customer experience mediates this relationship. In the context of the metaverse, factors such as perceived usefulness, perceived ease of use, and perceived enjoyment play crucial roles in shaping customer experience. Perceived ease of use refers to how intuitively users can navigate the metaverse, which significantly influences their overall satisfaction (Zhang et al., 2022).

This conceptual development aims to explore the mediating effect of customer experience on the relationship between metaverse usage and purchase intention. By integrating established theories such as the Technology Acceptance Model (TAM) and the Stimulus-Organism-Response (SOR) model, this study seeks to provide a comprehensive understanding of consumer behavior in the metaverse. Through this lens, businesses can better design their strategies to optimize user engagement, foster customer satisfaction, and ultimately enhance purchase intention.

A. Purchase Intention

In recent years, the rise of the metaverse a collective virtual space created by the convergence of physical and digital realities has transformed the landscape of consumer interactions. As businesses increasingly invest in metaverse experiences, understanding the factors that influence purchase intention becomes essential for optimizing marketing strategies and driving sales. Research highlights that customer experience plays a pivotal role in mediating the relationship between metaverse usage and purchase intention. In the metaverse, where immersive and interactive elements abound, the customer experience is particularly crucial. When consumers engage in enjoyable and beneficial interactions, they are more likely to develop favorable attitudes towards brands, ultimately influencing their purchase intentions (López et al., 2023).

Central to this relationship are the constructs of perceived usefulness and perceived ease of use. Studies have shown that when users find the metaverse easy to navigate and perceive it as valuable, their overall customer experience improves, leading to heightened purchase intentions (Zhang et al., 2022). For instance, if a user can easily explore products in a virtual store and derive clear benefits from their interactions, they are more likely to consider making a purchase. Perceived enjoyment also significantly impacts purchase intention in the metaverse. When consumers find their experiences in virtual environments enjoyable, they are more likely to form positive attitudes toward the brands they engage with (Wang et al., 2023). This enjoyment not only enhances customer satisfaction but also fosters emotional connections, which are crucial for brand loyalty. Research indicates that the integration of gamified elements, interactive storytelling, and social features can enhance perceived enjoyment, creating a more engaging experience that drives consumer behavior (Kim et al., 2023). As such, businesses must prioritize creating enjoyable experiences within the metaverse to influence purchase intentions positively.

Furthermore, the interplay between customer experience and purchase intention in the metaverse is supported by the Stimulus-Organism-Response (SOR) model, which posits that environmental stimuli (in this

case, metaverse usage) affect internal responses (customer experience), leading to behavioral outcomes (purchase intention) (Bitner, 1992). By focusing on optimizing the elements of the metaverse that contribute to positive customer experiences such as interactivity, personalization, and visual appeal brands can effectively drive consumer purchase intentions. For instance, a well-designed virtual shopping experience that allows for customization and social interaction can significantly enhance the overall experience, leading to increased purchase likelihood.

The mediating effect of customer experience on the relationship between metaverse usage and purchase intention highlights the complexities of consumer behavior in this innovative digital environment. As brands continue to explore the potential of the metaverse, understanding the roles of perceived usefulness, ease of use, and enjoyment will be essential for optimizing customer interactions and driving sales. By fostering positive customer experiences, businesses can effectively influence purchase intentions, ensuring their strategies resonate with consumers in this rapidly evolving landscape.

B. Customer Experience

Customer experience (CX) has become a critical focal point for businesses seeking to enhance consumer engagement and drive purchase intentions, particularly within the innovative context of the metaverse. In the metaverse, where immersive and interactive experiences prevail, understanding the nuances of customer experience is essential for brands aiming to optimize their virtual strategies and enhance consumer satisfaction. In this study, indicates that customer experience significantly mediates the relationship between metaverse usage and purchase intention. The unique attributes of the metaverse such as its immersive environments and interactive capabilities allow brands to create rich experiences that resonate emotionally with users. For instance, when consumers engage with brands in virtual spaces that are visually appealing and interactive, they are more likely to develop a favorable attitude toward those brands, which ultimately influences their purchase intentions (López et al., 2023).

Central to the discussion of customer experience in the metaverse are constructs like perceived usefulness and perceived ease of use. For example, if a consumer perceives that a virtual store allows for better product exploration and comparison, this perception positively impacts their overall experience. Similarly, perceived ease of use is how intuitively a user can navigate the metaverse significantly influences customer experience. Research has shown that when users find the metaverse easy to navigate, they report higher satisfaction levels, which in turn enhances their likelihood of making a purchase (Zhang et al., 2022). Another essential element of customer experience in the metaverse is perceived enjoyment, which relates to the pleasure and fun derived from interactions in virtual environments. When consumers find their experiences enjoyable, they are more likely to form positive emotional connections with brands, leading to increased customer loyalty and purchase intentions (Wang et al., 2023). Elements such as gamification, interactive storytelling, and social features can enhance perceived enjoyment, creating a compelling narrative that captivates users. For instance, virtual experiences that

incorporate gamified elements can engage consumers more deeply, prompting them to return and interact with brands repeatedly (Kim et al., 2023).

C. Technology Acceptance Model (TAM) and Stimulus-Organism-Response (SOR)

The Technology Acceptance Model (TAM) and the Stimulus-Organism-Response (SOR) framework provide valuable lenses through which to analyze consumer behavior in the metaverse, particularly concerning the relationship between metaverse usage and purchase intention. TAM, developed by Davis (1989), posits that perceived usefulness and perceived ease of use are critical determinants of user acceptance of technology. In the context of the metaverse, perceived usefulness refers to the extent to which users believe that engaging with virtual environments enhances their shopping experiences, while perceived ease of use relates to how intuitively they can navigate these platforms. Research indicates that when users perceive a metaverse application as both useful and easy to use, their overall satisfaction increases, leading to a higher likelihood of making a purchase (Zhang et al., 2022).

In a metaverse setting, perceived usefulness can manifest through features that allow consumers to visualize products in 3D, try on virtual clothing, or interact with virtual sales assistants (López et al., 2023). When consumers feel that these functionalities enhance their shopping experience, they are more likely to engage positively with brands, ultimately influencing their purchase intentions. Similarly, perceived ease of use is critical in retaining users; if navigating a virtual store feels cumbersome or complicated, users may disengage, which negatively impacts their customer experience and reduces their likelihood of making purchases (Davis, 1989). Thus, both constructs in TAM are essential for understanding how metaverse usage affects customer experience and subsequent purchase intentions.

Complementing TAM, the SOR framework offers insight into how external stimuli in the metaverse impact internal cognitive and emotional states, leading to observable consumer behaviors, such as purchase intention. According to the SOR model, the "stimulus" refers to the metaverse features that attract users, including graphics, interactivity, and social elements. These stimuli affect the "organism," which encompasses the user's emotional and cognitive responses, ultimately leading to the "response" in this case referring to the intention to purchase (Bitner, 1992). For example, if users are presented with a visually stunning virtual environment that offers engaging experiences, their positive emotional responses can enhance their overall customer experience, which may lead to increased purchase intentions.

The integration of TAM and SOR in the metaverse context illustrates a complex interaction between technology acceptance and customer experience. As consumers navigate virtual spaces, their perceptions of usefulness and ease of use shape their emotional responses and satisfaction levels. Studies have shown that when users find a metaverse platform enjoyable and beneficial, they are more likely to report positive customer experiences, which in turn heightens their purchase intentions (Wang et al., 2023). This interplay highlights the need for brands to optimize both the technological aspects of their metaverse offerings and the emotional experiences they create.

Furthermore, the combined application of TAM and SOR models can inform marketers and designers in the metaverse on how to craft engaging experiences that enhance customer satisfaction. For instance, gamification elements, social interactions, and personalized content can stimulate positive emotional responses while also addressing users' needs for ease and utility. By focusing on these dimensions, brands can improve customer experiences that mediate the relationship between metaverse usage and purchase intention.

In this study, the Technology Acceptance Model and the Stimulus-Organism-Response framework together provide a comprehensive understanding of how consumer perceptions and experiences in the metaverse influence purchase intentions. By focusing on enhancing perceived usefulness, ease of use, and enjoyment can effectively drive consumer behavior in this rapidly evolving digital landscape.

III. CONCEPTUAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

The conceptual framework posited in this study is designed to explore the intricate relationships among metaverse usage, perceived usefulness, perceived ease of use, perceived enjoyment, customer experience, and purchase intention. This framework leverages the Technology Acceptance Model (TAM) and the Stimulus-Organism-Response (SOR) model to elucidate how various factors interact to influence consumer behavior in virtual environments.

In this context, metaverse usage is identified as the independent variable that drives customer engagement within the metaverse. Perceived usefulness, perceived ease of use, and perceived enjoyment are framed as critical antecedents that shape the overall customer experience. Positive interactions in the metaverse enhance customer satisfaction, which subsequently influences purchase intention, the dependent variable (Davis, 1989; Kim, Park, & Lee, 2023). By illustrating these relationships, the framework seeks to provide a comprehensive understanding of how engagement in the metaverse translates into consumer purchasing behavior.

H₁: Perceived Usefulness has a positive relationship on Purchase Intention.

H₂: Perceived Ease of Use has a positive relationship on Purchase Intention.

H₃: Perceived Enjoyment has a positive relationship on Purchase Intention.

H₄: Metaverse Usage has a positive relationship on Purchase Intention.

H₅: Perceived Usefulness has a positive relationship on Customer Experience.

H₆: Perceived Ease of Use has a positive relationship on Customer Experience.

H₇: Perceived Enjoyment has a positive relationship on Customer Experience.

H₈: Metaverse Usage has a positive relationship on Customer Experience.

H₉: Customer Experience has a positive relationship on Purchase Intention

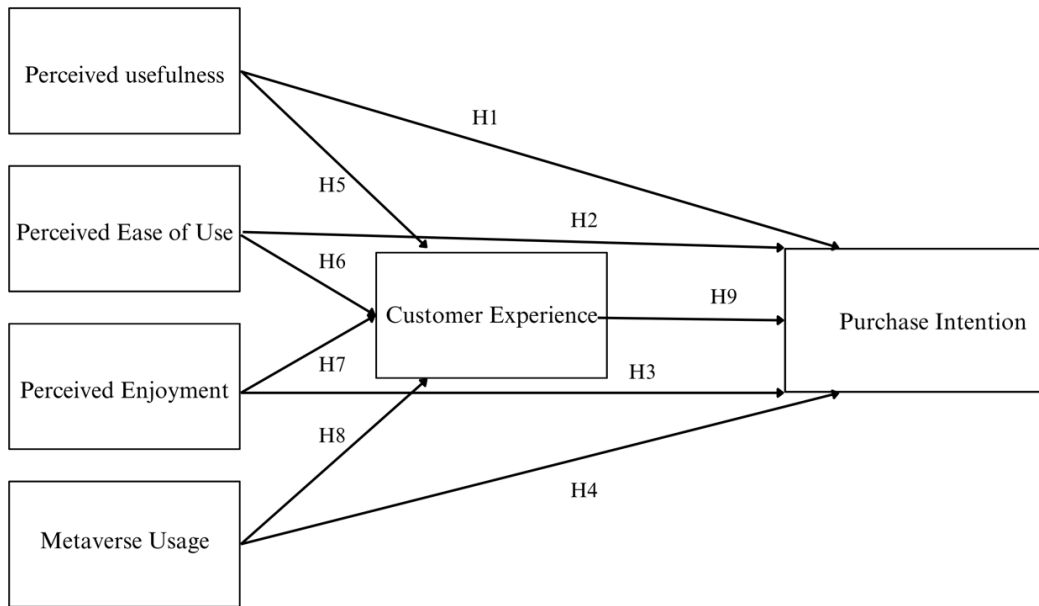


Figure 1. Conceptual Framework

IV. CONCLUSION AND RECOMMENDATION

This study has provided insights into the dynamics between metaverse usage, customer experience, and purchase intention, particularly focusing on Generation Z as a demographic that is becoming increasingly influential in the digital marketplace. As digital natives, Generation Z members are uniquely positioned to engage with the metaverse, making it crucial for businesses to understand their preferences and behaviors in this evolving landscape.

The findings indicate that metaverse usage significantly impacts customer experience, which is characterized by satisfaction, emotional engagement, and interaction quality. Generation Z consumers, in particular, are motivated by experiences that resonate with their values and preferences. They tend to prioritize immersive and interactive environments that enhance their emotional connection to brands (Francisco & Renaud, 2021). A positive customer experience in the metaverse, characterized by enjoyable and meaningful interactions, is essential for driving purchase intention. When users perceive their experiences as enjoyable and beneficial, they are more likely to engage with brands and make purchases (Kim et al., 2023).

Moreover, in this study underscores the importance of perceived usefulness, perceived ease of use, and perceived enjoyment as critical factors influencing customer experience among Generation Z. Perceived usefulness reflects the value that young consumers derive from engaging with metaverse environments, while perceived ease of use affects their ability to navigate these spaces seamlessly (Zhang et al., 2022). By focusing on these dimensions, businesses can better align their offerings with the expectations of Generation Z, fostering a more engaging and satisfying customer experience.

With the several recommendations can be made for targeting Generation Z in the metaverse, firstly is prioritize User-Centric Design like businesses should focus on creating user-friendly interfaces that enhance the

perceived ease of use. Generation Z consumers value intuitive navigation and seamless interactions. Incorporating design elements that simplify the user journey can reduce frustration and encourage exploration (Zhang et al., 2022). This approach will enable businesses to capture and maintain the attention of this tech-savvy demographic. Secondly is to enhance enjoyment and engagement. This recommendation is that to create positive customer experiences, businesses must prioritize enjoyment. It is to incorporate gamification, interactive storytelling, and social features that can significantly enhance perceived enjoyment and emotional connections with brands (Kim et al., 2023).

Thirdly is to educate and empower Consumer. As the metaverse is still a novel concept for many, businesses should invest in educating Generation Z about its benefits and functionalities. Providing tutorials, engaging content, and interactive guides will enhance users' confidence and comfort, leading to more positive experiences and increased likelihood of purchases. Fourth is foster Community Engagement such as a Building a sense of community within the metaverse is vital for enhancing customer experience. Companies should create social features that facilitate interaction and connection among users. Fostering a sense of belonging can lead to increased engagement, loyalty, and ultimately higher purchase intentions among Generation Z consumers (Kim et al., 2023).

In conclusion, understanding the mediating effect of customer experience on the relationship between metaverse usage and purchase intention provides valuable insights for businesses targeting Generation Z. By focusing on user-centric design, enhance enjoyment, educate and empower Consumer and foster Community Engagement, companies can effectively engage this demographic in the metaverse. As the digital landscape continues to evolve, creating meaningful and enjoyable experiences will be essential for capturing the attention and loyalty of Generation Z, ultimately driving sales and long-term success in this innovative environment.

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