

# METaverse MARKETING EFFECTIVENESS: THE ROLE OF INVOLVEMENT AND ARGUMENT QUALITY

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## ABSTRACT

*The emergence of the Metaverse is reshaping digital advertising by offering immersive, interactive, and sensory-rich brand experiences. This study explores how metaverse advertising impacts consumer purchase intention, drawing on Media Richness Theory and the Elaboration Likelihood Model. We propose that metaverse environments foster deeper communication involvement—cognitive attention, emotional engagement, and behavioural participation—compared to traditional advertising formats. This heightened involvement enhances message absorption and strengthens purchase intent. Additionally, the study examines the role of product involvement, suggesting that metaverse advertising is especially effective for high-involvement products. In such cases, the perceived quality of advertising arguments—clarity, strength, and relevance—emerges as a key mediating factor. Findings from two controlled experiments confirm that metaverse-based advertising is more persuasive than traditional formats, particularly when users are highly engaged or the product holds personal relevance. These insights offer strategic implications for marketers aiming to leverage immersive technologies for more effective consumer engagement and decision-making.*

**Keywords:** Metaverse, Metaverse Advertising, Immersive Experience, Virtual Reality, Product Involvement, Consumer Behaviour, Purchase Intent, Elaboration Likelihood Model, Media Richness Theory.

## INTRODUCTION

Advertising is a powerful force influencing consumer attitudes, perceptions and driving behaviour through strategic messaging and cognitive processing mechanisms (MacInnis & Jaworski, 1989). Studies have shown a strong positive relationship between advertising exposure and consumer attitudes, highlighting the persuasive power of advertisements in guiding decision-making (Soti, 2022). The effectiveness of advertising is driven by multiple factors, such as emotional appeals, cognitive processing, and the use of diverse media channels (Upadhyay, 2024). Media channels like broadcast commercials and print media differ in their impact on cognitive engagement and attitude formation. Similarly, social media—serving as both an earned and paid advertising channel—introduces new dynamics, in which platform enjoyment and brand familiarity distinctly influence consumer attitudes.

One such emerging media channel is Metaverse. It is poised to revolutionize advertising, offering immersive experiences that transcend traditional media (Rosenberg, 2022). It offers unparalleled opportunities to engage consumers through immersive and interactive experiences (Kim, 2021; Spais et.al, 2025). Metaverse presents unique opportunities for brands to create interactive and engaging content, serving as a new retail space and enabling offerings impossible in the physical world (Dwivedi et al., 2022). Brands are using metaverse platforms like Roblox, Fortnite, Decentraland, Meta Horizon Worlds to

launch immersive storytelling or gamified experiences (Dwivedi et.al, 2022). Advertising in the metaverse often incorporates elements like virtual product placements and digital brand ambassadors, which have shown strong potential for impact (Rosenberg, 2022). This emerging digital space offers marketers the opportunity to design immersive experiences—such as virtual events and product showcases—that foster deeper and more interactive engagement between consumers and brands (Rosário, Lopes & Rosário, 2023). Building on augmented reality (AR) and virtual reality (VR), the metaverse creates a three-dimensional, spatially rich experience (Balis, 2022). In this space, users interact through avatars that mirror their real-world movements, fostering a level of engagement and social presence that is unparalleled by traditional digital advertising (Hollensen, Kotler & Opresnik, 2023). Research has increasingly focused on consumer attitudes toward this evolving digital ecosystem (Barrera & Shah, 2023; Dwivedi et al., 2022). Studies indicate that the metaverse can positively impact brand trust, knowledge, and attachment, leading to increased consumer purchase intentions in the real world (Payal, Sharma & Dwivedi, 2024).

However, while extensive research exists on the metaverse, additional research is needed to fully understand the effectiveness of metaverse advertising and develop best practices for creating impactful campaigns in this emerging medium (Samad et al., 2023; Yin & Do, 2025). One striking gap to understand is how consumers respond to metaverse advertising compared to traditional formats (Barrera & Shah, 2023) and does metaverse advertising drive purchase intent more effectively than traditional advertising formats like websites? (Balaji et al., 2024).

Also, beyond simply identifying which medium is more persuasive, an equally important question arises: when does metaverse advertising trigger deeper consumer engagement, leading to more meaningful product evaluations, and when does it encourage only superficial processing? (Gao, Chong, & Bao, 2023).

Involvement plays a pivotal role in shaping advertising effectiveness (Wang, 2006). Research in consumer behaviour and social psychology has consistently identified involvement as a crucial moderating variable that influences the way individuals process persuasive information (Petty & Cacioppo, 1986). Therefore, it is crucial to examine whether product involvement amplifies the metaverse's impact on purchase intent.

As advertising evolves, particularly in the digital space, understanding the intricate relationship between advertising strategies, consumer engagement, and attitude change becomes more critical than ever. This paper addresses two key research objectives:

To determine whether metaverse advertising generates a stronger influence on consumers purchase intent than traditional advertising.

To explore how product involvement mediates the impact of metaverse advertising on purchase decisions.

Guided by the Media Richness Theory (Daft & Lengel, 1986) and the Elaboration Likelihood Model (Petty & Cacioppo, 1986), we aim to uncover which persuasion channel,—metaverse or traditional,—drives greater consumer engagement and action. To achieve this, we conduct two experiments that rigorously examine the intersection of advertising effectiveness, consumer behaviour, and digital transformation.

## **Theoretical Background and Hypothesis Development**

The emergence of the Metaverse has fundamentally transformed the digital advertising landscape by introducing highly immersive, interactive, and engaging environments for brand communication. Compared to traditional advertising formats—such as print, television, and even conventional digital websites—Metaverse advertising offers richer sensory stimuli, greater interactivity, and personalized engagement through virtual and augmented experiences. By integrating 3D elements, real-time interaction, and experiential storytelling,

Metaverse advertising can facilitate deeper consumer engagement and enhance cognitive and emotional processing of brand messages (Dwivedi et al., 2022).

### **Metaverse Advertising and Purchase Intention**

Media Richness Theory (MRT), introduced by (Daft & Lengel, 1986), provides a foundational framework for understanding how the characteristics of a communication medium influence its effectiveness. According to MRT, media differ in their capacity to convey rich information based on four key criteria: the ability to transmit multiple cues (visual, verbal, and non-verbal), the provision of immediate feedback, the use of natural and conversational language, and the conveyance of personal emotions (Chidiac & Bowden, 2022). Richer media are seen as more effective in reducing ambiguity, facilitating shared understanding, and enhancing engagement, particularly when complex or emotionally charged messages are involved (Daft & Lengel, 1986).

From this perspective, the metaverse emerges as a next-generation communication platform that significantly advances the richness of digital media (Sands et.al, 2024). Leveraging immersive technologies such as virtual and augmented reality, spatial audio, real-time interactivity, and personalized avatars, metaverse-based advertising offers consumers an interactive and multi-sensory environment (Fatah Uddin et.al, 2025). These features not only replicate many of the richness dimensions found in face-to-face communication but in many cases surpass the capabilities of traditional digital advertising formats such as video ads, display banners, or static social media posts (Poggi & Ackerman, 2023). As a result, the metaverse has the potential to convey brand messages with heightened clarity, emotional resonance, and contextual depth, leading to more effective consumer persuasion and behaviour change. Empirical studies support this claim—for example, (Kim et al. 2025) demonstrated that the visual quality of NFTs used in metaverse environments significantly influenced perceptions of brand prestige and purchase intentions, especially in the context of luxury goods (Kotler & Keller, 2012).

However, while the richness of the medium explains why the metaverse may be more effective than traditional advertising, it is equally important to understand the underlying mechanism through which this influence is exerted. One such mechanism is communication involvement, defined as the degree of cognitive attention, emotional engagement, and behavioural participation an individual exhibits during a communication encounter (Zaichkowsky, 1985). Richer media are more likely to trigger higher levels of involvement because they stimulate more senses, demand active engagement, and foster more immersive experiences. The metaverse, by design, transforms users from passive recipients of information into active participants in a branded experience. Users can navigate virtual spaces, interact with digital products, engage in social interactions through avatars, and personalize their environment—all of which serve to deepen their cognitive processing, emotional connection, and behavioural intention toward the brand (Suh & Lee, 2005; Flavián, Ibáñez-Sánchez & Orús, 2019).

This increased communication involvement is proposed to be the critical pathway through which metaverse advertising exerts its influence on consumer behaviour—particularly purchase intention. In other words, it is not merely the technological novelty or media richness of the metaverse that leads to superior outcomes, but the increased engagement it fosters, which enhances message absorption, emotional resonance, and ultimately, purchase-related decision-making.

### **Accordingly, the following hypothesis is proposed**

***H1:** Metaverse advertising leads to stronger purchase intention compared to*

*traditional advertising due to higher communication involvement.*

## **Metaverse and the Role of Product Involvement**

Building upon Media Richness Theory, we further draw from the Elaboration Likelihood Model (ELM) of persuasion (Petty & Cacioppo, 1986), which posits that the level of individual involvement significantly influences how persuasive messages are processed. Specifically, high involvement with a product increases the likelihood of central route processing, where individuals carefully attend to the content and quality of message arguments. This leads to more enduring attitude change and behavioural intention, particularly when the medium facilitates deep engagement (Kaur et al., 2023).

The metaverse, through its immersive and interactive design, offers an ideal environment for fostering this central route processing. Features such as virtual simulations, real-time interaction, and personalized content create conditions for heightened user engagement and cognitive elaboration (Kim, Lee & Jung, 2020). Prior research has shown that digital formats which stimulate higher involvement tend to increase message elaboration and lead to stronger behavioural outcomes (Kim & Ko, 2012). However, the effectiveness of such advertising formats may vary depending on the consumer's level of product involvement—the personal relevance or importance a consumer attributes to a particular product category (Zaichkowsky, 1985).

High-involvement products, such as automobiles or real estate, naturally encourage consumers to process information more deeply, making them more receptive to the persuasive advantages offered by metaverse environments. In contrast, low-involvement products (e.g., snacks, cosmetics) often prompt peripheral processing, wherein consumers rely on superficial cues rather than detailed product information. Therefore, metaverse advertising is likely to yield stronger persuasive outcomes when the product being promoted is of high involvement (Huang, 2000; Dwivedi et al., 2022).

Within this framework, argument quality—defined as the strength, clarity, and relevance of the message content (Petty & Cacioppo, 1986)—becomes a critical mediator. The metaverse affords advertisers the ability to deliver high-quality arguments using features that traditional media cannot offer — interactive demonstrations, virtual product trials, and immersive storytelling (Ishii, Lyons & Carr, 2019). These rich experiences enhance consumers' perceptions of message credibility, relevance, and trust, especially when the product is of high personal importance. As such, argument quality plays a key mediating role in shaping the effectiveness of metaverse advertising under conditions of high product involvement (Algharabat et al., 2021).

### **Accordingly, the following hypothesis is proposed**

**H2:** *Exposure to Metaverse advertising leads to stronger purchase intention for high- rather than low-involvement products, due to enhanced perceived argument quality.*

### **Overview of the studies**

To empirically test the proposed hypotheses, we conducted two controlled experiments.

Experiment 1 was designed to examine how purchase intention varies based on the source of information—Metaverse versus Traditional advertising—thereby testing Hypothesis 1. The study employed a between-subjects experimental design, in which participants were randomly assigned to one of two conditions — exposure to metaverse advertising or exposure to Traditional advertising. The independent variable was the source of information (Metaverse vs. Traditional), while the dependent variable was purchase intention. By systematically manipulating the advertising medium, we assessed its causal

impact on consumers' purchase intentions.

Experiment 2 investigates whether metaverse advertising leads to stronger purchase intention for high-involvement products than for low-involvement products due to enhanced perceived argument quality. This study employed a similar between-subjects design, with product involvement (high vs. low involvement) as the independent variable and purchase intention as the dependent variable. We enhance the external validity and generalizability of our findings by incorporating different product categories across the two experiments.

This methodological approach aligns with established experimental research in consumer behaviour and advertising effectiveness (Blattberg, Peacock & Sen, 1976; Chang, 2012; Völckner & Sattler, 2007), ensuring the robustness and reliability of the results.

### **Experiment 1: Effect of Metaverse vs. Traditional Advertising on Purchase Intention**

In Experiment 1, participants were divided into two groups, each exposed to a different advertising format—Metaverse-based advertising or Traditional (website-based) advertising—to assess its impact on purchase intention.

### **METHOD**

The product category chosen for this experiment was automobiles (cars), a sector characterized by a complex and multi-touchpoint consumer decision journey. Mobility is an essential societal need that, enables individuals to commute to work and leisure, thereby playing a crucial role in economic and social dynamics.

The car purchasing process has evolved into a highly intricate decision-making journey, with consumers engaging with multiple digital and offline touchpoints before making a final purchase decision. These touchpoints include online search, visits to OEM websites, exposure to print and video advertisements, engagement with augmented reality (AR) and virtual reality (VR) tools, and reading expert reviews, among others. Websites remain one of the most influential digital touchpoints for information retrieval, significantly affecting consumers' exploration of available purchase options (Prabaharan, Selvalakshmi & Nithilia, 2024). Prior studies highlight the pivotal role of online car advertisements and digital information sources in shaping purchase intentions, with websites being the most commonly used digital communication channel in the automotive buying process (El Mansoury, 2016).

In contrast, the metaverse presents a transformative shift in the automotive retail experience. The immersive capabilities of VR-driven virtual showrooms allow consumers to engage with interactive car models, explore features, and personalize vehicles in an environment that closely simulates real-world interactions (Bishnoi et al., 2024). These virtual experiences offer a higher degree of engagement and interactivity than traditional online platforms, potentially influencing purchase intention more effectively.

To evaluate the comparative effectiveness of metaverse vs. non-metaverse advertising in driving purchase intent, participants were presented with a controlled scenario in which they explored the features of a car through one of two advertising formats:

Metaverse-based virtual avatar video showing the features of a car in an immersive virtual environment.

Website-based video demonstrating the car's features through a standard website interface.

To eliminate potential confounding variables, both experimental conditions were carefully designed to ensure that the core message and contextual elements remained consistent, focusing exclusively on exploring the features of the car. This methodological rigor ensured that any observed differences in purchase intention could be attributed to the nature of the advertising medium rather than to extraneous factors (Taylor, 2022).

## Procedure, Participants & Measures

To create a realistic study context, participants were informed that the research aimed to assess their willingness to take a test drive of a car on behalf of an automobile manufacturer. The study was conducted using a paid online subject pool comprising 213 participants from India, the USA, and the UK. The sample was 46% male, with 75% of the respondents falling within the 18–44 age range, ensuring representation across key consumer demographics.

A two-cell between-subjects experimental design was employed, wherein participants were randomly assigned to one of the two conditions:

Metaverse-based virtual avatar video showing the features of a car (N = 112)

Website-based video exploring the car's features (N = 101)

Following exposure to the assigned video, the participants' willingness to take a test drive was measured as a proxy for purchase intent. Test drives serve as a critical form of direct experience, significantly influencing purchase decisions in high-involvement product categories such as automobiles. Trialability, defined as the ability to experience a product before adoption, is a key factor in consumer decision-making. Prior research highlights that experiencing a vehicle in use, such as through a test drive, plays a pivotal role in the adoption and intent to purchase high-involvement products.

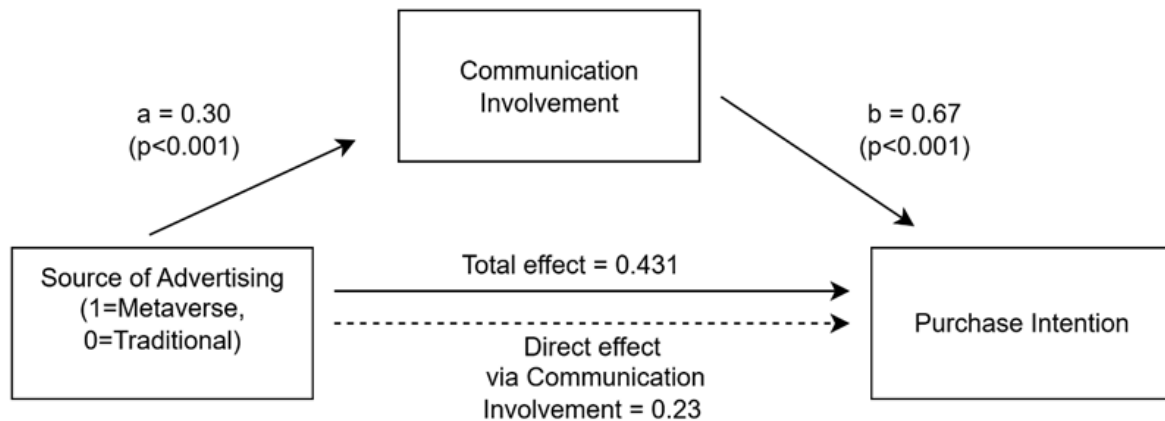
By measuring willingness to take a test drive after exposure to stimuli, this study aims to assess whether metaverse-based advertising enhances consumer engagement and purchase intent more effectively than traditional digital advertising.

## RESULTS AND DISCUSSIONS

Participants rated their willingness to take a test drive on a seven-point Likert scale (1 = "Very Low," 7 = "Very High"). Statistical analysis revealed that participants exposed to metaverse-based advertising reported a higher willingness to take a test drive ( $M = 4.20$ ,  $SD = 1.90$ ) than those exposed to traditional (website-based) advertising ( $M = 3.60$ ,  $SD = 1.70$ ).

To further examine the underlying mechanisms driving purchase intention in response to metaverse advertising, we conducted a mediation analysis using the PROCESS macro (Model 4; Hayes, 2018), employing 5,000 bootstrapped samples to ensure robust inferential accuracy. Bootstrapping enabled the construction of bias-corrected 95% confidence intervals (CIs) for the indirect effect without relying on normality assumptions. The model specifies source of advertising (coded as a binary variable: 1 = Metaverse, 0 = Traditional) as the independent variable, communication involvement as the mediator, and purchase intention as the dependent variable. We then averaged the scores obtained for the ten items assessing communication involvement (Cronbach  $\alpha = 0.94$ ) to constitute an aggregate measure of the construct. The mediation analysis examined whether communication involvement mediates the effect of advertising format (Metaverse vs. Traditional) on purchase intention. In the Metaverse condition, the direct effect of advertising format on communication involvement was statistically significant ( $b = 0.30$ ,  $p < 0.001$ ), and communication involvement, in turn, significantly predicted purchase intention ( $b = 0.67$ ,  $p < 0.001$ ). The indirect effect ( $a*b = 0.20$ ) was found to be statistically significant, as evidenced by the bootstrapped 95% confidence interval [0.15, 0.62], which does not include zero, confirming that communication involvement significantly mediates the impact of metaverse advertising on purchase intention.

Overall, the results support the hypotheses and show that when Metaverse as a source of information is activated, people are more likely to consider a product than a traditional information source and communication involvement is a strong mediator in this behaviour FIGURE 1.



**FIGURE 1**  
**MEDIATION ANALYSIS SHOWING THE ROLE OF COMMUNICATION INVOLVEMENT IN THE RELATIONSHIP BETWEEN ADVERTISING FORMAT (METAVERSE VS TRADITIONAL) AND PURCHASE INTENTION.**

The direct path from Ad Format to Communication Involvement ( $a = 0.30, p < 0.001$ ) is significant, as is the path from Communication Involvement to Purchase Intention ( $b = 0.67, p < 0.001$ ), indicating a significant mediation effect. The indirect effect ( $a*b = 0.20$ ) was found to be statistically significant, as evidenced by the bootstrapped 95% confidence interval  $[0.15, 0.62]$ , which does not include zero, confirming that communication involvement significantly mediates the impact of metaverse advertising on purchase intention. Furthermore, the direct effect of advertising format on purchase intention remains significant after accounting for the mediator ( $c' = 0.23, p < .001$ ), indicating partial mediation. The total effect ( $c = 0.43$ ) further supports the overall influence of advertising format on purchase intention.

## Experiment 2

The findings from Study 1 demonstrate that metaverse-based advertising enhances purchase intention compared to traditional digital advertising. However, it remains to be determined whether this effect is consistent across all product categories or whether it varies based on the level of product involvement.

Study 2 seeks to examine this distinction by testing the hypothesis that the quality of arguments in metaverse-based advertising exerts a stronger influence on purchase intention for high-involvement products than low-involvement products. Specifically, we investigate whether the depth of cognitive engagement triggered by metaverse advertising varies depending on the level of product involvement, thereby influencing consumer decision-making across different product categories.

## METHOD

### Stimuli and Manipulation Checks

To examine the impact of product involvement on the effectiveness of metaverse-based advertising, two product categories are selected:

#### High-Involvement Product: Real Estate (Home Purchase)

Purchasing a home is widely recognized as a high-involvement decision (Wong et al., 2016; Satpati, 2023; Yadav, Gupta & Singh, 2018). This represents a significant financial and emotional investment, requiring careful research, comparison, and deliberation. Several factors contribute to its high-involvement nature, including -financial commitment (home purchases involve substantial monetary investments), long-term consequences (the decision typically affects consumers for years or even decades), emotional attachment (homes are often intertwined with identity, security, and personal aspirations), complex decision making (buyers must assess multiple factors such as location, financing options, and future resale value). Given these attributes, homebuyers engage in extensive information processing, making this category an ideal representation of high-involvement purchases.

### **Low-Involvement Product: Cookies**

In contrast, cookies have been selected as a low-involvement products because of their routine, low-risk nature (Davidson, 2023; Zydenbos, Wrigley & Humphrey-Taylor, 2016). Consumers typically purchase cookies with minimal cognitive effort, as they are- inexpensive and frequently purchased as part of routine grocery shopping, low-risk—a suboptimal choice does not carry significant financial or emotional consequences, driven by impulse and convenience rather than extensive deliberation. Unlike high-involvement purchases such as homes or cars, the consequences of making a poor cookie choice are negligible, reinforcing its status as a low-involvement product.

To ensure that the participants perceived and responded to the selected products as intended, a manipulation check was conducted following established methodologies. The results confirmed that home purchases elicited significantly higher involvement ( $M = 5.75$ ) than cookies ( $M = 3.15$ ), validating the experimental design.

### **Procedure, Participants & Measures**

A two-cell between-subjects experimental design was employed to examine the impact of metaverse-based advertising on consumer willingness to consider a product across different levels of involvement.

The participants were recruited from a paid online subject pool spanning India, the USA, and the UK. A total of 193 participants completed the study, with 93 assigned to the high-involvement condition (Real Estate) and 100 assigned to the low-involvement condition (Cookies). The sample was 46% male, and 75% of the participants were in the 18–44 age group.

Participants were informed that the study aimed to assess their willingness to purchase a product based on the metaverse advertisement they viewed. After exposure to the advertisement, the participants were evaluated on:

Argument Persuasiveness – Assessed using established measures from (Petty & Cacioppo, 1986) to determine the strength and effectiveness of the advertising message.

Willingness to Purchase the Product – Measured on a seven-point Likert scale (1 = "Very Low," 7 = "Very High") to gauge the impact of the advertisement on consumer intent.

## **RESULTS AND DISCUSSIONS**

An analysis of purchase intention following exposure to metaverse advertising indicates a significantly higher purchase intent of the advertised product among individuals in the high-involvement group ( $M = 5.80$ ,  $SD = 1.54$ ) than those in the low-involvement group ( $M = 4.04$ ,  $SD = 1.75$ ). The observed mean difference of 1.76 was found to be statistically significant ( $p = 0.001$ ,  $p < 0.05$ ), confirming a substantial disparity between the two groups. Furthermore, the large effect size (Cohen's  $d = 1.648$ ) underscores the practical significance

of this difference, highlighting the meaningful impact of product involvement on purchase intention.

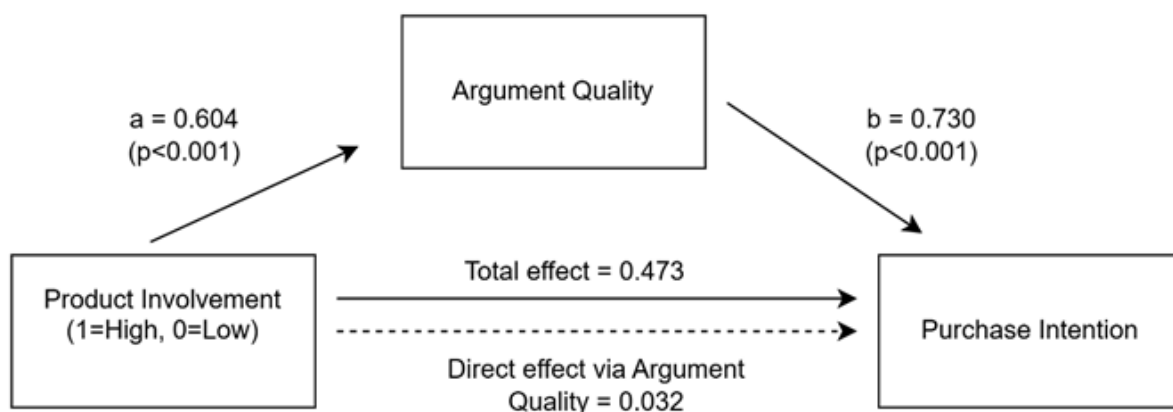
Consistent with theoretical expectations, these findings provide empirical support, demonstrating that individuals with higher product involvement exhibit significantly greater purchase intention when exposed to metaverse advertising than those with lower involvement.

To further examine the underlying mechanisms driving purchase intention in response to metaverse advertising, we conducted a mediation analysis using the PROCESS macro (Model 4; Hayes, 2018), employing 5,000 bootstrapped samples to ensure robust inferential accuracy. The model specifies product involvement (coded as a binary variable: 1 = High Involvement, 0 = Low Involvement) as the independent variable, argument quality as the mediator, and purchase intention as the dependent variable. To construct a composite measure of argument quality, we averaged the scores obtained from the four items that assessed this construct.

For high-involvement products, the analysis reveals a strong and statistically significant relationship between product involvement and argument quality ( $a=0.604$ ,  $p<0.001$ ). Additionally, argument quality has a significant positive impact on purchase intention ( $b = 0.730$ ,  $p < 0.001$ ). The indirect effect ( $a*b = 0.440$ ) demonstrates a substantial mediation effect, as evidenced by the bootstrapped 95% confidence interval  $[0.20, 0.70]$ , which does not include zero, underscoring the dominant role of argument quality in shaping purchase intent.

These findings align with the Elaboration Likelihood Model (ELM), which posits that high-involvement consumers engage in more systematic and effortful cognitive processing, thereby rendering argument quality a critical determinant of persuasion. Consistent with the ELM framework, our results indicate that when exposed to metaverse advertising, consumers in the high-involvement condition process information via the central route, where the strength and quality of arguments significantly influence attitude formation and behavioural intentions.

Overall, the results provide strong empirical support for H2, demonstrating that argument quality mediates the relationship between metaverse advertising and purchase intention, particularly for high-involvement products FIGURE 2.



**FIGURE 2**  
**SHOWS THE EFFECT OF METAVERSE ADVERTISING ON PRODUCT INVOLVEMENT. VALUES PLOTTED ARE REGRESSION COEFFICIENT.**

The total effect of the independent variable (IV) on the dependent variable (DV) is 0.473 ( $p < 0.001$ ), meaning the overall relationship is significant. The direct effect (after accounting for the mediator) is 0.032, and is non-significant, suggesting that the IV no longer

has a direct impact on the DV once mediation is considered. The indirect effect ( $a*b$ ) is 0.440, which was found to be statistically significant, as evidenced by the bootstrapped 95% confidence interval [0.20, 0.70], which does not include zero, confirming that argument quality significantly mediates the impact of product involvement on purchase intention. The path from IV to Mediator ( $a=0.604$ ,  $p<0.001$ ) and the path from Mediator to DV ( $b=0.730$ ,  $p<0.001$ ) are both strong and statistically significant. The proportion mediated is 93.1%, indicating that a substantial portion of the total effect is explained by the mediator.

## GENERAL DISCUSSION

This study successfully addressed both key research objectives. To examine the first objective, we investigated whether metaverse-based advertising elicits a higher level of purchase intention than traditional advertising formats. The findings indicate that exposure to metaverse advertising significantly enhances consumer consideration of a product relative to traditional sources of information due to its higher perceived media richness. We also noted that communication involvement is perceived high in the case of Metaverse advertising.

To address the second research objective, we manipulated product category to assess the differential impact of metaverse advertising across varying levels of consumer involvement. The results demonstrate that argument quality within a metaverse advertisement exerts a stronger influence on purchase intention for high-involvement products than for low-involvement products. This is attributable to the heightened persuasiveness and cognitive elaboration elicited by argument quality under high-involvement conditions.

These findings provide empirical support for the application of the Elaboration Likelihood Model (ELM) to explain the effects of metaverse advertising on consumer purchase intention across different involvement levels. Specifically, the results confirm that for high-involvement products, consumers engage in central-route processing, where argument quality plays a crucial role in shaping attitudes and behavioural intentions. Consequently, both H1 and H2 are supported by the experimental results.

The subsequent sections discuss the theoretical and managerial implications of these findings, outline the study limitations, and propose directions for future research.

### Theoretical Contributions

The persuasive impact of marketing communication is significantly influenced by the quality of its underlying arguments, as posited by foundational theories of attitude change (Fishbein & Ajzen, 1981). The present study underscores that metaverse advertising, with its immersive and media rich design, provides a uniquely effective medium for conveying high-quality persuasive arguments—surpassing the capabilities of more static traditional formats such as websites or banner ads. Consistent with findings from information systems research, which highlight the role of technology-enabled immersion in deepening user engagement (Yim et al., 2017), our study demonstrates that the Metaverse not only captures attention but also facilitates richer, more elaborative information processing due to higher communication involvement.

Our results further reveal that argument quality within metaverse advertising significantly enhances purchase intention for high-involvement products more than for low-involvement ones. In scenarios where consumers face complex decision-making and heightened perceived risk, such as purchasing real estate, electronics, or automobiles, the cognitive effort required predisposes them to process information via the central route of persuasion, as outlined in the Elaboration Likelihood Model (Petty & Cacioppo, 1986). Within this cognitive pathway, the strength, clarity, and relevance of arguments become pivotal. The immersive Metaverse context intensifies this dynamic by offering greater

interactivity, personalization, and realism—thereby increasing the perceived diagnosticity and credibility of the message. As such, argument quality operates not merely as content but as a persuasive catalyst that shapes consumer beliefs and behavioural intentions.

This research contributes to an emerging yet underexplored domain within advertising literature. Specifically, it addresses the critical gap identified by (Kim, 2021) regarding the limited empirical exploration of metaverse advertising's persuasive effectiveness compared to traditional and physical formats (Barrera & Shah, 2023). Through an experimental design, this study offers a deeper theoretical and empirical exploration of how metaverse environments shape consumer attitudes and decision-making processes. By integrating established persuasion theory with novel digital media contexts, this study advances both academic understanding and practical guidance in navigating the next frontier of immersive brand communication.

### **Practical Contributions**

The findings of this study offer valuable insights for marketing practitioners to evaluate the strategic integration of metaverse advertising within their broader communication and information dissemination strategies. While metaverse marketing provides an immersive and interactive consumer experience, traditional real-world communication remains a critical channel for reaching mass audiences. A nuanced understanding of the strengths and limitations of each approach is essential for marketers to effectively navigate the evolving digital landscape.

As technological advancements continue to reshape consumer engagement, the seamless integration of metaverse and traditional advertising can redefine brand communication strategies. Furthermore, our findings suggest that consumers exhibit greater cognitive elaboration and analytical processing when evaluating high-involvement products — such as homes, automobiles, electronics, and travel, — compared to low-involvement products such as packaged snacks or everyday household goods. Given this distinction, the immersive nature of the metaverse may amplify the persuasiveness of advertising messages for high-involvement products, as consumers engage more deeply in argument quality within this interactive environment.

These insights underscore the transformative potential of the Metaverse as a high-impact platform for influencing purchase decisions in complex, high-stakes categories. For marketers, the implication is clear — Metaverse advertising is not merely a branding tool—it is a persuasive, content and media-rich channel that can shape consumer perceptions, reinforce value propositions, and guide decision-making when product involvement is high. Strategic investment in this space, coupled with clear audience segmentation and content tailoring, will be crucial in unlocking its full potential.

### **Limitations and future research**

This study highlighted the effectiveness of metaverse advertising, particularly for high-involvement products. However, they do not examine the conditions under which consumers may be receptive or resistant to metaverse-based advertising. Understanding these dynamics presents a critical and complex avenue for future research, with significant implications for both academia and industry. Future studies could incorporate additional behavioural variables within the consumer decision-making process to provide a more comprehensive understanding of consumer responses to metaverse marketing.

Further research could also explore the key moderators influencing the persuasion process and examine the downstream consequences of different cognitive processing routes. For instance, the hedonic and utilitarian attributes of a product may serve as potential

moderators, shaping how consumers engage in metaverse-based advertising. Additionally, future studies could extend this research by conducting field experiments in real-world settings, where companies disseminate metaverse-based marketing information to assess its effectiveness in a more naturalistic consumer environment. Finally, factors such as consumer trust, digital fatigue, and ethical concerns about data privacy in metaverse environments remain unexplored and require further investigation.

As metaverse technology continues to evolve, we encourage future research to further investigate how its potential can be maximized, offering deeper insights into optimizing its role as a persuasive and immersive advertising medium.

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## Appendices

### Appendix A. Scenarios used in Essay 1- Experiment 1

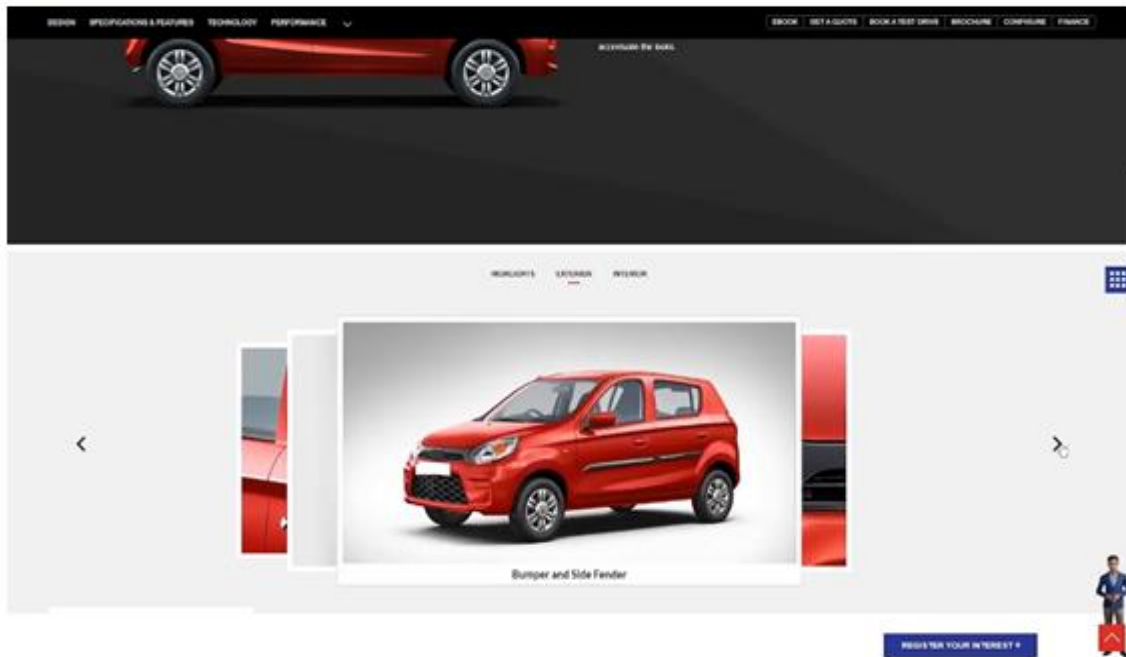
#### GROUP 1

We are conducting a test for a car brand which is planning to launch soon. For the purpose of this test, a simulated virtual reality video will be shown to you. As shown in the video please imagine that you have yourself entered a Metaverse / virtual car showroom in your 3D avatar wearing a blue shirt and orange trouser where you are looking at the car and hearing about the different features from the sales representative. Post seeing this video we request you to answer certain questions on the effectiveness of this communication.



#### GROUP 2

We are conducting a test for a car brand which is planning to launch soon. For the purpose of this test, a simulated video of you going through the website of the car will be shown to you. As shown in the video please imagine that you are going through the website and looking at the different features of the car on your own. Post seeing this video we request you to answer certain questions on the effectiveness of this communication.



## Appendix B. Scenarios used in Experiment 2

### GROUP 1

We are conducting a test for a new home project which is being launched. For the purpose of this test, a simulated virtual reality video will be shown to you. As shown in the video please imagine that you have yourself entered a Metaverse / virtual show flat after wearing a virtual reality device and are going through the interiors of the flat. Post seeing this video we request you to answer certain questions on the effectiveness of this communication.



### GROUP 2

We are conducting virtual tour of an interactive world inspired by rich, cocoa treats and discover how our latest flavor of cookie is created. For the purpose of this test, a simulated virtual reality video will be shown to you. As shown in the video please imagine that you have yourself entered this cookie world after wearing a virtual reality device and are going

through how this is created. Post seeing this video we request you to answer certain questions on the effectiveness of this communication.



\*All pictures and videos used in this study were created by the authors solely for illustrative and research purposes.

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