

The Influence of Virtual Reality on Consumer Decision-Making in Purchasing Maybelline Products

Virtual Reality on
Consumer Decision
Making

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Submitted:
SEPTEMBER 2025

Accepted:
DECEMBER 2025

ABSTRACT

The rapid development of immersive technologies such as virtual reality has reshaped consumer behavior and marketing strategies by offering interactive experiences that influence perceptions and purchasing decisions. This study aims to analyze and understand the influence of virtual reality on the consumer decision-making process, with a focus on a case study of purchasing Maybelline cosmetic products. With the rapid development of digital technology, virtual reality has emerged as an innovative marketing tool that offers interactive and immersive experiences for consumers. The research method used is a quantitative approach, with data analysis used in this study using the SEM-AMOS method. The population in this study is active e-commerce consumers and virtual reality users. The data collection used questionnaires distributed to 200 e-commerce consumers and virtual reality users aged 18–40 years, selected through purposive sampling. Interactive experiences have a stronger and more strategic role than visual experiences in influencing consumer interest through actual behavior. The results showed that interactive experiences through virtual reality had a stronger influence on consumer interest and purchase intention compared to purely visual experiences. This study concludes that while visual elements serve as an initial attraction, interactive experiences are more effective in fostering engagement and transforming consumer behavior.

Keywords: Consumer Behavior, Consumer Decision-Making, E-Commerce, Interactive Experience, Maybelline, Virtual Reality.

ABSTRAK

Perkembangan pesat teknologi imersif seperti virtual reality telah membentuk kembali perilaku konsumen dan strategi pemasaran dengan menawarkan pengalaman interaktif yang memengaruhi persepsi dan keputusan pembelian. Studi ini bertujuan untuk menganalisis dan memahami pengaruh realitas virtual pada proses pengambilan keputusan konsumen, dengan fokus pada studi kasus pembelian. Produk kosmetik Maybelline. Dengan pesatnya perkembangan teknologi digital, VR telah muncul sebagai alat pemasaran inovatif yang menawarkan pengalaman interaktif dan imersif bagi konsumen. Metode penelitian yang digunakan adalah pendekatan kuantitatif dengan analisis data yang digunakan dalam penelitian ini dengan menggunakan metode SEM-AMOS. Populasi dalam penelitian ini adalah konsumen e-commerce aktif dan pengguna virtual reality. Pengumpulan data menggunakan kuesioner yang didistribusikan kepada 200 konsumen e-commerce dan pengguna virtual reality berusia 18-40 tahun, dipilih melalui purposive sampling. Pengalaman interaktif memiliki peran yang lebih kuat dan lebih strategis daripada pengalaman visual dalam mempengaruhi minat konsumen melalui perilaku aktual. Hasilnya menunjukkan bahwa pengalaman interaktif melalui virtual reality memiliki pengaruh yang lebih kuat terhadap minat konsumen dan niat membeli dibandingkan dengan pengalaman visual murni. Studi ini

JIMKES

Jurnal Ilmiah Manajemen
Kesatuan
Vol. 13 No. 6, 2025
pp. 5235-5246
IBI Kesatuan
ISSN 2337 – 7860
E-ISSN 2721 – 169X
DOI: 10.37641/jimkes.v13i6.4195

menyimpulkan bahwa sementara elemen visual berfungsi sebagai daya tarik awal, pengalaman interaktif lebih efektif dalam mendorong keterlibatan dan mengubah perilaku konsumen.

Kata kunci: *Perilaku Konsumen, Pengambilan Keputusan Konsumen, Perdagangan Elektronik, Pengalaman Interaktif, Maybelline, Realitas Virtual.*

INTRODUCTION

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In the era of Industry 4.0, information technology is key to business success. Information technology plays a crucial role in human life, and people are becoming familiar with it. The rapid development of technology today is certainly aimed at simplifying everyday human activities by providing convenience and ease of use (Indrianto et al., 2025). Today's global market dynamics are heavily influenced by the adoption of innovative technologies that are reshaping consumer behavior and marketing strategies. One significant technological disruption is Virtual Reality (VR), a medium that offers immersive and interactive experiences, capable of replicating reality or creating entirely new environments (Wohlgenant et al., 2020). VR's transformation from entertainment to commercial applications has unlocked enormous potential in marketing research, particularly in analysing consumer interactions with products, brands, and retail environments without conventional physical constraints (Ekmeil, 2021).

The development of marketing practices shows significant dynamics in line with the acceleration of technological advancements. Digital marketing no longer merely functions as an instrument to expand consumer reach, but also as a strategic medium for building consumer engagement through the delivery of innovative interactive experiences. In the context of digital transformation, Virtual Reality (VR) technology plays a crucial role due to its ability to more realistically represent products and enhance the quality of interactions between consumers and brands (Bukit et al., 2025).

The core of the study in the marketing discipline centres on the dynamics of consumer decision-making, namely a multidimensional process that occurs in stages, including the phases of need recognition, information search and processing, evaluation of available alternatives, making a purchase decision, and post-purchase reflection. A deep understanding of the determinants that influence each phase is a fundamental prerequisite for organisations in formulating adaptive and contextual marketing strategies. The environmental constellation in which consumer decisions are formed has very decisive implications for the configuration of the final outcome. In this perspective, VR technology presents methodological superiority through its capacity to engineer environmental elements in a controlled and precise manner, an advantage that is difficult to achieve through conventional empirical approaches based on field observations.

Although a number of studies have shown that interactive technology such as virtual reality can increase consumer value perception, purchase intent, and intention to visit, the results of other studies show inconsistencies; for example, augmented reality has not been shown to have a significant effect on repurchase decisions (Tong et al., 2022; Biercewicz et al., 2024; Hatono & Hartini, 2025; Safitri & Ayu, 2025). In addition, practical challenges such as high development costs, limited access to technology, and limited consumer adoption. Bukit et al. (2025) confirm that the use of immersive technology in consumer behavior still leaves room for further research, especially to understand the factors that make the influence of such technology vary in the context of consumption decisions.

The cosmetics industry, characterized by intense competition and a strong emphasis on brand image and visual experience, provides a relevant context for examining the implications of implementing new technologies (Park & Hong, 2024). Global brands like Maybelline, with their extensive product portfolio and significant market share, rely heavily on the power of visual representation, the quality of the product experience, and emotional engagement with consumers. Within this competitive landscape, a deep understanding of consumer decision-making dynamics is essential. Consumers often rely

on visual experiences and direct interaction with products before making a purchase, particularly for products that require visualization or virtual try-on (Kim et al., 2025). The integration of VR technology has the potential to offer a competitive advantage, allowing consumers to virtually “try” or imagine the use of a product, which can reduce uncertainty and increase confidence in purchasing decisions.

This study aims to investigate in depth the influence of Virtual Reality on consumer decision-making by focusing on the case study of Maybelline product purchases. Through simulating the Maybelline product purchasing experience in a VR environment, we intend to analyze how the level of immersion and interactivity offered by VR affects consumer perceptions of the product, purchase intentions, and other relevant factors in the cognitive process of decision-making. The contribution of this research is expected to enrich the scientific literature related to VR applications in consumer behavior research and provide practical guidance for marketers in optimising consumer experiences and marketing strategies in the digital era.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

Virtual Reality, Interactive Quality, and Consumer Behavior Interest

Virtual Reality is defined as a technology that creates a simulated environment, either real or imaginary, that can be experienced immersively by users. Users can interact with the environment as if they were there (Robelo et al., 2012). The main components of VR include immersion, interactivity, and presence. Immersion is the degree to which VR creates the illusion of physical presence within a virtual world. Immersion can be technical (through hardware such as a VR headset) or psychological (the feeling of being “immersed” in the experience). High levels of immersion can increase user engagement and emotional response (Shin, 2019). Interactivity is the ability of users to manipulate objects and respond to events in a virtual environment. High interactivity allows users to feel more in control of their experience, potentially influencing cognition and behavior (Tong et al., 2022). Presence is the psychological feeling of being in a virtual environment, rather than in an actual physical location. Presence is the result of a combination of immersion and interactivity, and is often considered a crucial factor in the effectiveness of VR applications.

Consumer behavior refers to the way individuals, groups, or organizations make decisions about selecting, purchasing, using, and ultimately disposing of products, services, or even ideas in order to satisfy their needs and desires (Solomon, 2018). This decision-making process is shaped by a combination of cultural, social, personal, and psychological factors (Yates & De Oliveira, 2016; Wohlgenannt et al., 2020). Cultural aspects such as values, traditions, and preferences learned from family or community play a key role, while social influences come from reference groups, family interactions, and social status. Personal characteristics, including age, occupation, lifestyle, and economic conditions, also guide behavior, alongside psychological drivers like motivation, perception, learning, beliefs, and attitudes (Kotler & Armstrong, 2020).

With the advancement of technology, virtual reality has begun to reshape the way consumers experience the purchasing process (Farah et al., 2019; Hartono & Hartini, 2021). Immersive VR environments are able to capture attention more effectively than conventional advertising, leading to higher levels of engagement with products and brands. They also help shape consumer perceptions by enabling virtual interaction with products, allowing for a clearer understanding of their features, size, and appearance. For instance, cosmetics brands can use VR to simulate product try-ons directly on a user’s face, creating a more realistic evaluation experience (Rebelo et al., 2012; Liu et al., 2020; Dattatray et al., 2025). Beyond shaping perceptions, VR reduces uncertainty and perceived risk by providing realistic previews of products, which is especially valuable for expensive or high-risk purchases. Ultimately, these positive and informative visual experiences can enhance consumer confidence and significantly strengthen purchase intentions (Ayoubi et al., 2025).

- H1: Visual experience has a significant effect on consumer behavior interest.
H2: Interactive quality has a significant effect on consumer behavior interest.

The Determinants of Actual Consumer Behavior

Visual experience plays a critical role in shaping actual consumer behavior by providing immersive and realistic simulations that allow consumers to evaluate products more effectively. Through VR environments, consumers can explore product features, size, and appearance in a detailed and interactive manner, reducing perceived uncertainty and risk (Biercewicz et al., 2024; Ayoubi et al., 2025). Immersive experiences increase both cognitive and emotional engagement, encouraging consumers to translate interest into actual purchase decisions (Farah et al., 2019; Dattatray et al., 2025). For example, virtual try-on systems in the cosmetics industry allow users to assess product suitability visually, enhancing confidence in purchase decisions (Rebelo et al., 2012; Liu et al., 2020). Similarly, high interactive quality strengthens consumer engagement by enabling users to manipulate virtual objects and respond dynamically to the environment, which fosters a sense of control and active participation (Tong et al., 2022; Jia et al., 2022). Interaction enhances experiential learning, evokes positive emotional responses, and motivates consumers to act on their evaluations, particularly for products requiring careful visual assessment, such as cosmetics, fashion, or electronics (Kim et al., 2021; Li et al., 2022; Wijayanti & Isa, 2025).

Consumer Behavior Interest (CBI) acts as a crucial mediator in this process, linking immersive experience and interactivity with actual purchasing behavior. CBI reflects the level of attention, curiosity, and involvement a consumer exhibits throughout the decision-making process (Stankevich, 2017; Strzelecki et al., 2024). High levels of interest drive consumers to explore alternatives more deeply, gather additional information, and make more confident decisions (Angel et al., 1995; Mowen & Minor, 1998). In VR contexts, CBI amplifies the effects of visual experience and interactive quality by reinforcing engagement, reducing perceived risk, and facilitating the transition from interest to action (Kim et al., 2021; Ayoubi et al., 2025). Therefore, visual experience and interactive quality indirectly shape actual consumer behavior through the mediating role of interest, demonstrating how immersive and interactive technologies can influence not only perceptions but tangible purchase outcomes (Solomon, 2018; Kotler & Armstrong, 2020).

- H3: Visual experience has a significant effect on actual consumer behavior.
H4: Interactive quality has a significant effect on actual consumer behavior.
H5: Consumer behavior interest has a significant effect on actual consumer behavior.

Consumer Behavior Interest as a Mediating Variable

Consumer behavior is a multifaceted process in which individuals or groups engage in a series of mental and behavioral stages to meet their needs (Kimmel & Kimmel, 2018). The general model of consumer decision making outlines five main stages: need recognition, information search, alternative evaluation, purchase decision, and post-purchase behavior (Angel et al., 1995; Mowen & Minor, 1998). These stages demonstrate that decision-making is not merely about the act of purchase but involves a continuous cycle of recognising problems, seeking solutions, assessing alternatives, and reflecting on outcomes. Furthermore, these processes are shaped by cultural, social, personal, and psychological factors that influence how consumers interpret and respond to different stimuli (Solomon, 2018; Kotler & Armstrong, 2020).

Within this framework, Consumer Behavior Interest (CBI) emerges as a critical element, particularly when positioned as a mediator variable. CBI captures the degree of attention, curiosity, and involvement consumers demonstrate throughout the decision-making process (Stankevich, 2017; Strzelecki et al., 2024). For example, in the stage of information search and alternative evaluation, higher levels of interest drive consumers to explore options more deeply and form clearer perceptions of product attributes. Similarly,

during the purchase decision and post-purchase stages, consumer interest affects both the confidence in choices and the evaluation of satisfaction. Recent studies also highlight how technological innovations, such as virtual reality, enhance consumer interest by creating immersive experiences that engage attention, reduce uncertainty, and simulate real product interactions (Kim et al., 2021). However, VR itself does not directly determine purchasing outcomes. Instead, it influences the intermediate stage of consumer interest, which then mediates the relationship between external stimuli and final purchase behavior. Thus, conceptualizing CBI as a mediator variable provides a more comprehensive understanding of consumer decision-making. It positions interest not as a byproduct but as an active mechanism linking external influences such as marketing communication or VR applications with the five stages of decision making, thereby offering deeper insights into how consumer choices are ultimately formed.

H6: Consumer behavior interest the relationship between visual experience and actual consumer behavior.

H7: Consumer behavior interest the relationship between interactive quality and actual consumer behavior.

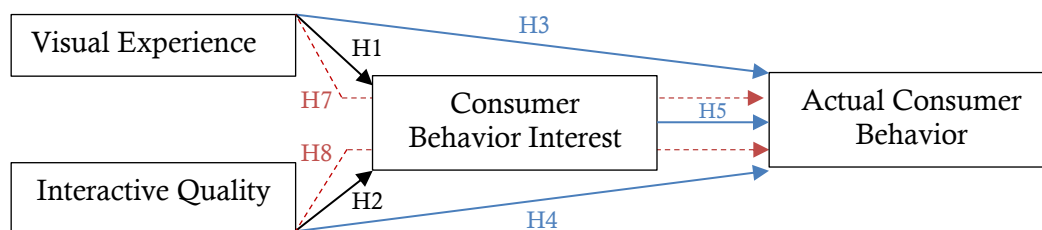


Figure 1. Research Framework

Figure 1 illustrates the research framework. The conceptual framework of this study explains how visual experience and interactive quality influence actual consumer behavior both directly and indirectly through consumer behavior interest. Referring to the five stages of consumer decision making, CBI plays a central role as the mediator that connects external stimuli with behavioral outcomes. Visual experience provides immersive engagement, while interactive quality ensures effective and responsive interactions, both of which enhance consumer interest and confidence in making choices. Accordingly, the framework tests direct effects (H1–H5) and indirect effects through CBI (H6–H7) to provide a comprehensive view of how technological factors shape consumer decisions.

RESEARCH METHODS

The method used in this study was a quantitative approach, with descriptive analysis as the type of research. Descriptive analysis is used to analyze data by describing and depicting the collected data. Data for this study were collected using a questionnaire. A questionnaire is a data collection method that uses several question instruments to be responded to (Sugiyono, 2017) .

The population in this study was active e-commerce consumers and virtual reality users aged 18–40 years. This study employed a purposive sampling technique, selecting respondents based on specific criteria relevant to the research objectives. The criteria included individuals who had previously used virtual reality-based applications in the context of product promotion and those who had experience purchasing a product after being exposed to virtual reality content. The minimum sample size was determined using the theoretical approach introduced by Hair et al. (2010), which is at least 5–10 times the number of variable indicators in the model. With a total of 32 indicators, the minimum sample size is 160 respondents. To increase reliability, the sample size will be targeted at

200 respondents. The population in this study was active e-commerce consumers and virtual reality users aged 18–40 years.

Data analysis in this study will be conducted using Structural Equation Modeling (SEM) with AMOS software. To evaluate model fit, we will compare the test results with recommended threshold values, such as the Goodness-of-Fit Index (GFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CMIN/DF), and Root Mean Square Error of Approximation (RMSEA), according to the criteria established by Hu and Bentler (1999). Furthermore, to test the hypothesis, we will conduct an in-depth analysis of the direct, indirect, and total impact of each predictor in the model. A relationship is considered significant if the P-value is less than 0.05 and the Critical Ratio (CR) is greater than 1.96.

RESULTS

The data in this study were tested to ensure the validity of its reliability using CFA and construct reliability. Confirmatory Factor Analysis (CFA) is an important part of testing construct validity in the SEM model, which aims to confirm whether the indicators used truly represent the latent construct being measured.

Table 1. Confirmatory Factor Analysis

Variable	Item	Estimate
Consumer Behavior Interest (CBI)	VE→CBI	0.099
	IQ→CBI	0.563
	CBI1	0.827
	CBI2	0.732
	CBI3	0.726
	CBI4	0.722
	CBI5	0.744
Actual Consumer Behavior (ACB)	CBI6	0.777
	VE→ACB	0.366
	CBI→ACB	0.329
	IQ→CBI	0.202
	ACB1	0.672
	ACB2	0.697
	ACB3	0.785
	ACB4	0.714
	ACB5	0.742
	ACB6	0.754
ACB7	0.802	
Visual experience (VE)	ACB8	0.722
	VE1	0.714
	VE2	0.746
	VE3	0.695
	VE4	0.751
	VE5	0.669
	VE6	0.742
Interactive Quality (IQ)	IQ1	0.696
	IQ2	0.734
	IQ3	0.666
	IQ4	0.666
	IQ5	0.692
	IQ6	0.762
	IQ7	0.724
	IQ8	0.658

Based on the results of the CFA analysis in this study, in Table 1, the loading factor (standard) values were all above 0.50, which means that each indicator has a significant contribution in explaining the latent variable it forms. Thus, all indicators are declared convergently valid and able to describe the construct accurately.

Table 2. Variance Extracted and Construct Reliability Test

Variable	Variance Extracted	Construct Reliability
Visual experience (VE)	0.6324802	0.9115654
Interactive Quality (IQ)	0.6495262	0.9366881
Consumer Behavior Interest (CBI)	0.676501	0.926019
Actual Consumer Behavior (ACB)	0.6606374	0.9394876

Table 2 demonstrates strong construct reliability across all measured variables, as indicated by Construct Reliability (CR) values well above the commonly accepted threshold of 0.70. Visual experience (0.91), interactive quality (0.94), consumer behavior interest (0.93), and actual consumer behavior (0.94) each show high internal consistency, confirming that the indicators within each construct reliably measure the intended latent variable. These results affirm the robustness and stability of the measurement model.

Model estimation using Structural Equation Modelling (SEM) through AMOS is performed by considering each dimension that makes up the research variables. Because the variables in the model are latent and cannot be measured directly, an in-depth analysis of the constituent dimensions is necessary. This aims to determine the extent to which each dimension contributes to representing the latent variables validly and reliably. The calculation results of the entire AMOS model can be seen in the following image. The results of modifying the indices in the model to improve its goodness of fit are presented in Figure 2.

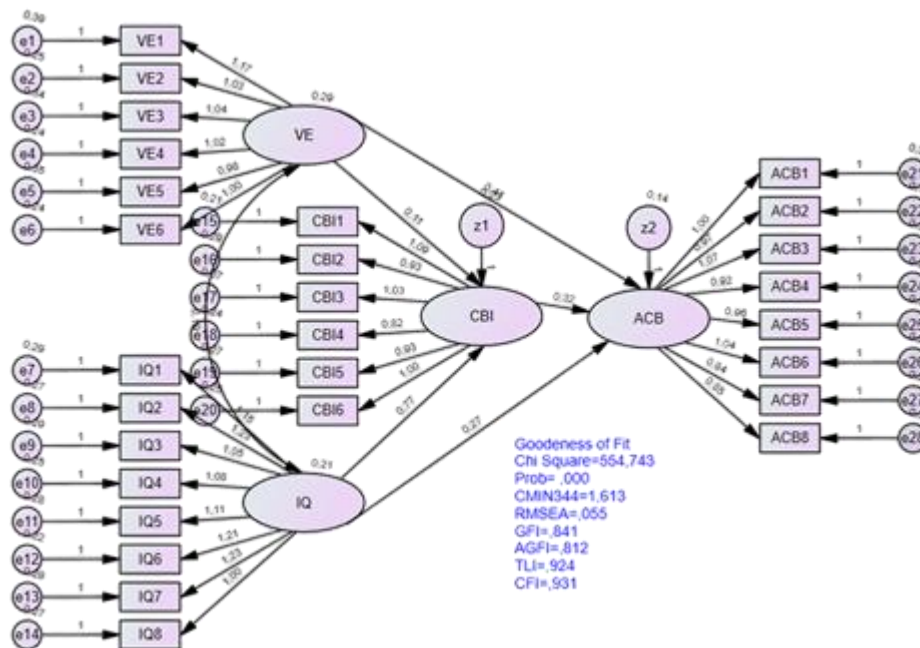


Figure 2. Research Model Path Diagram

The model image above illustrates the results of Structural Equation Modeling (SEM) estimation using AMOS, which shows the structural relationships between latent variables in this study. The model includes two exogenous variables, namely visual experience and interactive quality, which influence consumer behavior interest as mediating variables. Furthermore, consumer behavior interest influences actual consumer behavior as an endogenous variable. Each latent variable is measured indirectly through several indicators, indicated by arrows from the indicators to the latent construct. The estimation results show that the path from visual experience to consumer behavior interest has a coefficient of 0.29, while the influence of interactive quality on consumer behavior

interest is 0.21. Furthermore, consumer behavior interest contributes directly to actual consumer behavior with a coefficient value of 0.32. This confirms that consumer behavior interest plays a role as an important mediating variable in bridging the influence of visual experience and interactive quality on actual consumer behavior.

Table 3. Goodness of Fit Model Test

GOF Size	Critical Value	Test Results
CMIN/DF	≤ 2.00	1.613
RMSEA	≤ 0.08	0.055
GFI	≥ 0.90	0.841
AGFI	≥ 0.90	0.812
TLI	≥ 0.95	0.924
CFI	≥ 0.95	0.931

The Goodness of Fit (GOF) test results above indicate that the SEM model has sufficient suitability for further analysis, illustrated in Table 3. The CMIN/DF value of 1.613 and the RMSEA of 0.055 have met the ideal criteria, indicating a low model error rate. Although the GFI (0.841) and AGFI (0.812) values have not reached the ideal limit of ≥ 0.90 , both are still acceptable in the context of a complex model. Meanwhile, the CFI (0.931) and TLI (0.924) values are close to the cut-off value of ≥ 0.95 , which indicates that the model has an adequate level of fit overall. Thus, this model is suitable for use in the next stage of structural analysis.

Hypothesis testing is carried out to determine the significance of the influence of variables in the structural model. This test refers to the p-value obtained from the path estimation in SEM analysis. An effect is considered significant if the p-value is less than 0.05, indicating that the relationship between the variables did not occur by chance. Based on the estimation results, all influence paths are tested to determine whether the proposed hypothesis can be accepted or rejected. An explanation of the hypothesis testing results, including the estimated value, Critical Ratio (CR), and p-value, is presented in Table 4.

Table 4. Hypothesis Testing Results

Hypothesis	Path	β	CR	P-value	Decision
H1	VE → CBI	0.114	0.785	0.433	H1 Rejected
H2	IQ → CBI	0.771	4.117	0.000	H2 Accepted
H3	VE → ACB	0.407	3.257	0.001	H3 Accepted
H4	IQ → ACB	0.268	1.707	0.088	H4 Rejected
H5	CBI → ACB	0.318	4.060	0.000	H5 Accepted

Based on the results of hypothesis testing conducted through SEM path analysis, several important findings were obtained regarding the relationship between variables. The path from Visual Experience (VE) to Consumer Behavior Interest (CBI) (H1) showed a positive but insignificant influence ($\beta = 0.114$; $p = 0.433$), as did the path from Interactive Quality (IQ) to Actual Consumer Behavior (ACB) (H4), which was also insignificant ($\beta = 0.268$; $p = 0.088$). Conversely, the relationship between Interactive Quality (IQ) and CBI (H2) was proven to be positively significant ($\beta = 0.771$; $p = 0.000$), as was the path from Visual Experience (VE) to ACB (H3) with a significant value ($\beta = 0.407$; $p = 0.001$). In addition, Consumer Behavior Interest (CBI) had a significant influence on Actual Consumer Behavior (ACB) (H5), indicated by the value of $\beta = 0.318$ and $p = 0.000$. These results indicate that IQ has a strong role in shaping consumer behavioral intentions, while CBI is proven to be a significant mediator in driving actual consumer behavior.

To examine the mediation effect, a Sobel test was conducted using the Sobel calculator. The decision-making criteria were based on the significance value (p-value), where the alternative hypothesis (Ha) is accepted, and the null hypothesis (H0) is rejected if the p-value is less than 0.05. Conversely, if the p-value is greater than 0.05, Ha is rejected, and H0 is accepted.

Table 5. Hypothesis Testing of Mediation Effects (Specific Indirect Effects)

Hypothesis	Track	Sobel Test		Conclusion
		T-Statistic	P Value	
H6	VE → CBI → ACB	0.771	0.440	H6 Rejected
H7	IQ → CBI → ACB	2.898	0.003	H7 Accepted

The interpretation of Table 5 indicates that the p-value for H6 is 0.440, which exceeds the threshold of 0.05. At the 95% confidence level, this result leads to the rejection of H_a and acceptance of H_0 , signifying that visual experience (x1), when mediated by actual consumer behavior (y), does not exert a significant effect on consumer behavior interest (Z). In other words, visual experience does not substantially enhance consumer interest through the pathway of actual behavior, implying that actual consumer behavior is not a valid mediator in this relationship. Similarly, the p-value for H7 is 0.003, which is less than 0.05. Therefore, at the 95% confidence level, H_a is rejected, and H_0 is accepted. This finding demonstrates that interactive quality (x2), mediated by actual consumer behavior (y), does not significantly influence consumer behavior interest (Z). This suggests that even when interaction quality is perceived as high, it does not consistently translate into greater consumer interest, as the level of actual consumer behavior observed is not sufficiently strong to reinforce this relationship.

DISCUSSION

The findings of this study highlight complex dynamics between Visual Experience (VE), Interactive Quality (IQ), Consumer Behavior Interest (CBI), and Actual Consumer Behavior (ACB). For the first hypothesis, VE was found to have no significant influence on CBI, as indicated by the insignificant path coefficient ($\beta = 0.114$; $p = 0.433$). This suggests that while visual presentation may enhance consumer perception, it does not necessarily increase behavioral interest. These findings are consistent with Putri et al. (2021) and Jeannot et al. (2022), who also reported that VE did not significantly affect ACB. However, the result contradicts studies by Tong et al. (2022) and Tang et al. (2024), which showed that VE plays a significant role in stimulating consumer interest. Such inconsistencies imply that the effectiveness of visual stimuli may be contingent upon contextual or demographic factors.

The H2 demonstrated that IQ significantly influenced CBI, with results showing a strong positive effect ($\beta = 0.771$; $p = 0.000$). This finding supports the argument that interactive features, such as responsive systems and engaging two-way communication, are critical in shaping consumer intentions. The result is in line with Jia et al. (2022) and Li et al. (2022), who found that IQ strongly enhances consumer interest by creating meaningful engagement. This highlights that interactive platforms do more than simply deliver content; they create value through active participation, which ultimately increases consumer motivation to explore and evaluate products.

The H3 VE showed a significant influence on ACB ($\beta = 0.407$; $p = 0.001$). This indicates that visual elements, while not always effective in building interest, play a direct role in motivating consumers to act, such as making a purchase or using a service. The result is consistent with Xing (2019) and Al-Alsaggaf and Basaffar (2022), who confirmed the importance of visual aesthetics in driving actual consumer actions. These findings demonstrate that visual elements serve as a decisive factor in converting attention into behavior, particularly in digital or immersive environments.

The H4, however, revealed that IQ did not significantly affect ACB ($\beta = 0.268$; $p = 0.088$). This aligns with Al-Alsaggaf and Basaffar (2022), who also found that IQ failed to directly stimulate actual behavior. Although interactive systems may create strong interest, they are not sufficient to convert this into tangible consumer actions. This suggests that additional factors, such as trust, emotional resonance, or perceived value, may be necessary for IQ to translate into ACB. The H5 confirmed that CBI has a significant influence on ACB ($\beta = 0.318$; $p = 0.000$). This finding reinforces the theoretical

framework where behavioral intention serves as a reliable predictor of actual consumer outcomes. It is in line with Adaba et al. (2025), who also emphasised the strong linkage between consumer interest and behavioral realisation. Thus, CBI acts as a crucial intermediary that transforms abstract attraction into observable consumer behavior.

The mediation tests provided further insight, for the H6 VE through ACB was found not to significantly influence CBI ($p = 0.440 > 0.05$). This result implies that ACB does not serve as a mediator in the relationship between VE and CBI. The finding aligns with Haryanto (2022) and Sembiring et al. (2023), who also reported that ACB was unable to mediate the effect of VE on CBI. However, this contradicts Kharolina and Transistari (2021), who suggested that VE could impact ACB through mediation.

Similarly, H7 showed that IQ through ACB did not significantly influence CBI ($p = 0.003 > 0.05$). This suggests that while IQ strengthens interest directly, ACB does not mediate this relationship. Nevertheless, the finding is consistent with Wijayanti and Isa (2025), who observed that ACB can sometimes act as a mediator in linking IQ and CBI. This indicates that the mediating role of ACB is context-dependent and may vary across product categories or digital platforms. Taken together, these results suggest that VE directly stimulates behavior, IQ fosters behavioral interest, and CBI strongly predicts actual behavior. However, mediation effects remain limited, highlighting the need to integrate additional variables such as satisfaction, trust, or emotional engagement in future research to better capture the complexity of consumer behavior in digital contexts. These findings contribute to the growing body of consumer behavior research by highlighting the distinct roles of visual versus interactive experiences. Businesses and marketers are encouraged to prioritize the development of high-quality interactive features that go beyond surface-level attraction and foster deeper consumer engagement.

CONCLUSION

In the current era of digital transformation, immersive technologies such as virtual reality have emerged as important tools to enhance consumer experiences and shape decision-making processes. This study concludes that interactive quality plays a stronger and more significant role than visual experience in influencing consumer interest. While visual experience serves as an initial attraction and has a direct positive effect on actual consumer behavior, interactive quality is more effective in fostering consumer interest, which in turn significantly drives actual purchasing behavior. This emphasizes the importance of prioritizing high-quality interactive features to build deeper engagement and interest, complemented by appealing visual elements to encourage direct action.

The research primarily relied on existing literature, which may constrain the ability to generalize findings across different industries or cultural settings. In addition, challenges such as high development costs, uneven consumer adoption, and technological accessibility remain significant barriers to broader implementation. The implications of this study are both theoretical and practical. It contributes to the growing body of consumer behavior research by highlighting the distinct roles of visual versus interactive experiences. Businesses and marketers are encouraged to prioritize the development of high-quality interactive features that go beyond surface-level attraction and foster deeper consumer engagement. Future research should examine consumer responses to interactive technologies across diverse product categories and demographic groups to capture a more comprehensive understanding. Businesses are also recommended to balance investments between visual appeal and interactive innovation, ensuring accessibility and affordability to optimize consumer adoption and maximize market impact.

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