



Augmented Reality in Fashion and Beauty Product Marketing: A Preliminary Study of Immersive Marketing In Indonesian E-Commerce

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Abstract. Augmented Reality (AR) has emerged as a transformative tool in enhancing consumer experiences, particularly in e-commerce platforms. While AR's potential is widely acknowledged, limited studies address its influence within the Indonesian e-commerce landscape, especially in the fashion and beauty sectors. This study aims to bridge this research gap by examining how AR characteristics—interactivity, vividness, novelty, system quality, and product informativeness—affect hedonic value, satisfaction, and continuance intention using the Stimulus-Organism-Response (SOR) model. Data were collected through a purposive sampling method, targeting 183 respondents aged 18–35 years who have previously interacted with AR features on e-commerce platforms. Results revealed that while hedonic value significantly influences satisfaction ($\beta = 0.630, p < 0.001$) and satisfaction drives continuance intention ($\beta = 0.589, p < 0.001$), the direct relationships between AR characteristics and hedonic value were statistically insignificant. These findings challenge assumptions from prior literature, highlighting that AR features alone may not directly evoke emotional engagement unless paired with enhanced user familiarity and novelty. This study's uniqueness lies in its localized focus on Indonesian digital natives and its exploration of the nuanced relationship between AR characteristics and user experience. The findings underscore a critical opportunity for e-commerce platforms to optimize AR tools by focusing on emotionally engaging features to enhance satisfaction and long-term adoption. Practically, this research provides actionable insights for businesses to strengthen immersive marketing strategies, while theoretically, it contributes to advancing knowledge on AR adoption in emerging markets. Future research should explore moderating factors such as digital literacy, cultural perceptions, and repeated AR exposure to refine these findings further.

Keywords: Augmented Reality, Hedonic Value, Satisfaction, Continuance Intention, E-commerce, SOR Model, Indonesia.

1 Introduction

Indonesia, accounting for 52% of Southeast Asia's e-commerce market [1], has emerged as a dominant force in the global e-commerce landscape. By 2023, the country recorded over 200 million visitors on the Shopee platform, emphasizing its

strategic importance for global e-commerce players. This rapid growth presents significant opportunities for technological innovations to further enhance the online shopping experience. One such technology with transformative potential is Augmented Reality (AR). AR enables users to interact with three-dimensional virtual media in real-time environments, offering an immersive and interactive experience that traditional e-commerce platforms lack [2].

Despite AR's acknowledged potential, research on its implementation within Indonesia's unique cultural and market context remains limited. While AR adoption has been explored in global e-commerce sectors, few studies address its effects on specific product categories, such as fashion and beauty, which are highly relevant in Indonesia. Additionally, previous research has rarely examined how AR influences consumer behavior across demographics, such as gender, and its relationship to variables like customer satisfaction and purchase intention [3].

Gabriel et al. [4] investigated AR's impact on fashion and beauty products within Indonesian e-commerce, identifying factors like interactivity, vividness, and product informativeness as critical to shaping customer experiences. However, the study's scope was limited to a narrow demographic in the Jabotabek area and lacked broader exploration across consumer groups and product types. Similarly, Baliyan et al. [3] demonstrated AR's ability to reduce purchase hesitation by enhancing immersion and engagement, while Hsu et al. [5] emphasized AR's role in driving positive consumer responses through experiential presentations. These studies provide foundational insights but fall short of addressing Indonesia's unique market dynamics, where demographic diversity and localized shopping behaviors demand further investigation.

The novelty of this research lies in its comprehensive examination of AR's influence on consumer purchasing behavior and satisfaction across gender and product categories in Indonesia's e-commerce market. By addressing research gaps and integrating findings from global and localized studies, this research aims to provide a deeper understanding of AR adoption and its long-term implications. The study will explore how AR features, such as virtual try-ons, product visualizations, and system quality, influence consumer behavior, satisfaction, and purchase intentions, particularly within the fashion and beauty sectors.

1.1 Immersive Marketing in Indonesian E-Commerce for Fashion and Beauty Products

Immersive marketing, which leverages advanced technologies to create engaging and interactive customer experiences, is becoming increasingly relevant in Indonesia's fast-growing e-commerce landscape [6]. In particular, AR technology plays a crucial role by enabling consumers to virtually try on clothes and makeup, offering a realistic and personalized shopping experience that addresses uncertainties often associated with online purchases [7,11,13]. This interactivity not only enhances customer satisfaction but also improves conversion rates and brand loyalty by reducing the risk of product returns and mismatched expectations [3,15].

Recent studies underscore the importance of immersive marketing techniques, such as AR-based virtual try-ons and dynamic product visualizations, in driving customer engagement. Nikhashemi et al. [11] highlighted that these strategies significantly improve retention rates by offering tailored and interactive shopping experiences. Similarly, Rosario and Raimundo [16] found that personalized marketing through AR aligns with consumer demands for innovation and convenience, particularly in Indonesia's growing middle-class market.

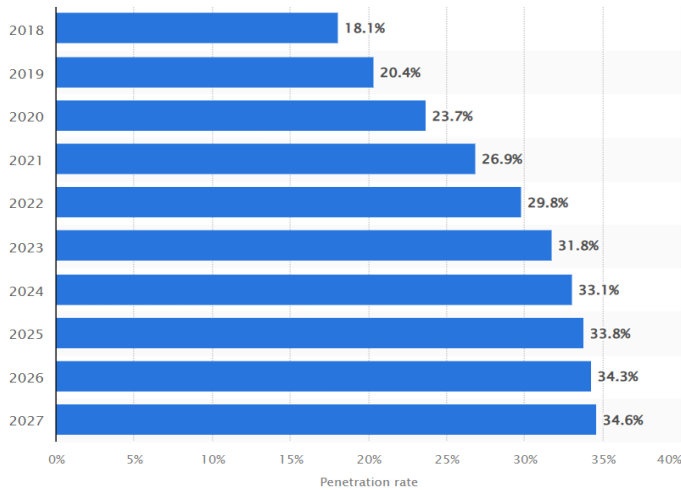


Fig 1. Penetration Rate AR and VR Market in Indonesia from 2018-2028

The increasing market penetration of AR and VR technologies, projected to rise from 18.1% in 2018 to 34.6% by 2027, reflects Indonesian consumers' readiness to embrace such advancements [17]. By integrating AR into e-commerce platforms, businesses can address consumer preferences for interactive and immersive shopping solutions, particularly in the fashion and beauty sectors where visual perception is critical.

2. LITERATURE REVIEW

This study applies the Stimulus-Organism-Response (SOR) model, which provides a comprehensive framework for examining how environmental stimuli influence consumers' internal states and behaviors. Proposed by Mehrabian and Russell in 1974, the SOR model has been widely used to explore consumer behavior in various technological contexts, including Augmented Reality (AR). The stimulus (S) represents external AR characteristics, the organism (O) reflects the internal states (e.g., hedonic value and satisfaction), and the response (R) refers to behavioral outcomes such as purchase intention and continuance intention [5,6].

2.1 AR Characteristics and Hedonic Value

The first set of hypotheses focuses on AR features and their impact on hedonic value, defined as the emotional enjoyment derived from engaging with AR tools.

Interactivity and Hedonic Value:

Interactivity refers to users' ability to control AR features, such as rotating or adjusting virtual products to fit their physical appearance. High interactivity enhances the sense of control and engagement, providing an immersive and enjoyable experience [5,4]. Wilson [7] emphasizes that interactivity reduces purchase uncertainty by allowing users to actively manipulate AR tools. Thus:

H1: Interactivity positively influences hedonic value.

Vividness and Hedonic Value:

Vividness represents the visual quality and realism of AR-generated content. Clear, high-resolution visuals improve product understanding and reduce hesitation during purchases [4]. Butt et al. [6] argue that vividness enhances engagement by creating lifelike representations of products, thereby amplifying enjoyment. Therefore:

H2: Vividness positively influences hedonic value.

Novelty and Hedonic Value:

Novelty captures AR's ability to offer unique and innovative experiences. Baliyan et al. [3] highlight novelty as a key factor in attracting users and enhancing pleasure. Consumers seek excitement and personalization, which AR provides through tailored and fresh virtual experiences [9]. Hence:

H3: Novelty positively influences hedonic value.

2.2 AR Characteristics and Satisfaction

The second set of hypotheses examines AR features that influence user satisfaction, reflecting how well AR tools meet user expectations.

System Quality and Satisfaction:

System quality evaluates the functionality, reliability, and responsiveness of AR platforms. A seamless and glitch-free AR system improves satisfaction by ensuring a smooth user experience [6,15,14]. Hsu et al. [5] argue that technical performance is a critical factor, as frustration from poor system quality often leads to abandonment. Thus:

H4: System quality positively influences satisfaction.

Product Informativeness and Satisfaction:

Product informativeness refers to the clarity and completeness of information delivered through AR. AR tools provide detailed visual and textual data that reduce uncertainty, helping users make informed purchase decisions [11,8]. Gabriel et al. [4] found that informative AR content enhances confidence and satisfaction. Therefore:

H5: Product informativeness positively influences satisfaction.

2.3 Hedonic Value and Satisfaction

The relationship between hedonic value and satisfaction explores how emotional enjoyment drives user fulfillment:

Hedonic Value and Satisfaction:

Hedonic value, derived from AR's entertaining and immersive qualities, is central to user satisfaction. Users who enjoy interacting with AR tools are more likely to report higher satisfaction [6,7]. This is supported by findings that show emotional engagement significantly improves user experiences in virtual shopping. Thus:

H6: Hedonic value positively influences satisfaction.

2.4 Satisfaction and Behavioral Outcomes

The final set of hypotheses links satisfaction to behavioral outcomes, namely purchase intention and continuance intention:

Satisfaction and Continuance Intention:

Continuance intention refers to users' willingness to repeatedly use AR tools [14]. Hsu et al. [5] argue that satisfaction plays a vital role in fostering loyalty and sustained adoption. Positive user experiences enhance trust, encouraging long-term engagement. Therefore:

H7: Satisfaction positively influences continuance intention.

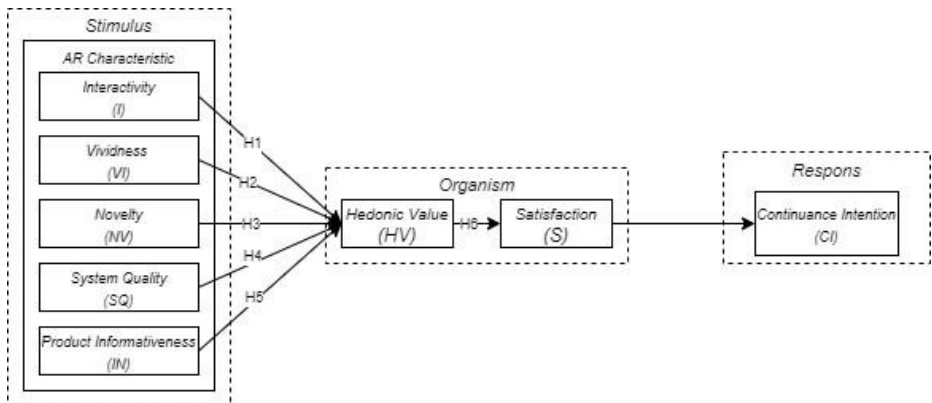


Fig 2. Research Model

The integration of AR characteristics, such as interactivity, vividness, novelty, system quality, and product informativeness, into the SOR model offers a comprehensive framework for understanding AR's impact on consumer behavior. By examining how these external stimuli influence hedonic value and satisfaction, this study contributes to the growing body of literature on AR adoption in e-commerce. Furthermore, the

study bridges gaps in previous research by focusing on the Indonesian market, particularly within the fashion and beauty sectors, where AR's potential to enhance user engagement and purchase behaviors is highly significant. This literature review highlights the need to explore the emotional and technical dimensions of AR to maximize its role in immersive marketing strategies, offering practical insights for businesses to strengthen user satisfaction and long-term adoption of AR tools.

3. METHOD

This cross-sectional study collects primary data using an online questionnaire distributed via Google Forms. The purposive sampling method is employed to ensure respondents meet specific criteria relevant to this study on Immersive Marketing in e-commerce. The sample targets individuals aged 18–35 years, known as digital natives, who are characterized by their high digital literacy, active engagement in online shopping, and openness to advanced technologies such as Augmented Reality (AR) and Virtual Reality (VR). This age group represents the primary users of immersive technologies, providing a suitable context for evaluating personalization, interactivity, and engagement. Furthermore, respondents must have direct experience using AR or VR features on e-commerce platforms, specifically within the fashion and beauty product categories. This criterion ensures that respondents possess concrete knowledge of immersive technologies, enabling them to provide accurate and informed responses regarding AR features. Additionally, familiarity with AI-based technologies or smart devices is required, as such tools often integrate with AR/VR applications to enhance interactivity. By adhering to these criteria, the study ensures a relevant, experienced, and digitally literate sample, leading to more valid and reliable findings. The target sample size is set at approximately 200 respondents, following Sekaran and Bougie's guidelines that recommend a sample size greater than 30 but less than 500 [10].

The study employs a Likert scale (1 = strongly disagree to 5 = strongly agree) to measure constructs related to AR characteristics, hedonic value, satisfaction, purchase intention, and continuance intention [4]. Data analysis is performed using Structural Equation Modeling (SEM) with SmartPLS 4.0, which is suitable for testing complex relationships between latent variables while ensuring robust statistical outcomes [9]. The analysis involves several key steps: (1) Measurement Model Evaluation to assess convergent validity, discriminant validity, and reliability of the constructs; (2) Structural Model Evaluation to test path coefficients and the significance of hypothesized relationships using the bootstrapping method; and (3) R-Square Analysis to determine the explanatory power of the research model. SmartPLS also enables multicollinearity diagnostics to ensure the absence of redundancy among independent variables. This rigorous analytical approach ensures the validity, reliability, and significance of the study's findings, providing a comprehensive understanding of AR's impact on immersive marketing in Indonesian e-commerce.

4. RESULTS

4.1 Respondent Demographics

The results provide a comprehensive overview of the respondents' demographics, offering insights into their behaviors, preferences, and usage patterns in Indonesian e-commerce, specifically in the fashion and beauty sectors. Table 1 highlights key demographic characteristics, which are crucial for understanding the relevance of Augmented Reality (AR) adoption in enhancing user experiences. Before analyzing the hypotheses, it is important to understand the composition of the respondents. The majority of participants are aged 23–27 years (41.0%), representing Indonesia's digital native generation, who are tech-savvy and actively engage with e-commerce platforms. Internet usage is notably high, with 46.4% of respondents spending 4–6 hours daily online, reflecting their readiness to adopt advanced technologies such as AR. Shopee dominates as the most-used e-commerce platform (57.4%), making it a strategic focus for immersive marketing strategies. Fashion products, particularly clothing (48.1%), and beauty products like skincare (41.5%) emerged as the most frequently purchased categories, aligning with AR's role in enhancing visual product trials and purchase confidence.

Table 1. Respondent Characteristics

Demographic Category	Frequency	Percentage (%)
Age		
18-22 years	45	24.6%
23-27 years	75	41.0%
28-35 years	63	34.4%
Internet Usage Duration		
1-3 hours	40	21.9%
4-6 hours	85	46.4%
>6 hours	58	31.7%
Most Used E-commerce Platform		
Shopee	105	57.4%
Tokopedia	55	30.1%
Lazada	23	12.6%
Frequently Purchased Fashion and Beauty Products		
Fashion - Clothing	88	48.1%
Fashion - Shoes	52	28.4%
Beauty - Skincare	76	41.5%

Beauty - Makeup	43	23.5%
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These demographic insights underscore the study's uniqueness by focusing on a technology-driven and consumption-oriented demographic that is well-positioned to benefit from AR innovations. The dominance of fashion and beauty products among respondents highlights AR's strong relevance in these sectors, where virtual try-ons and enhanced product visualizations can reduce purchase uncertainty and improve satisfaction. Understanding these characteristics enables a deeper analysis of how AR features influence hedonic value, satisfaction, and continuance intention, aligning with the objectives of this research.

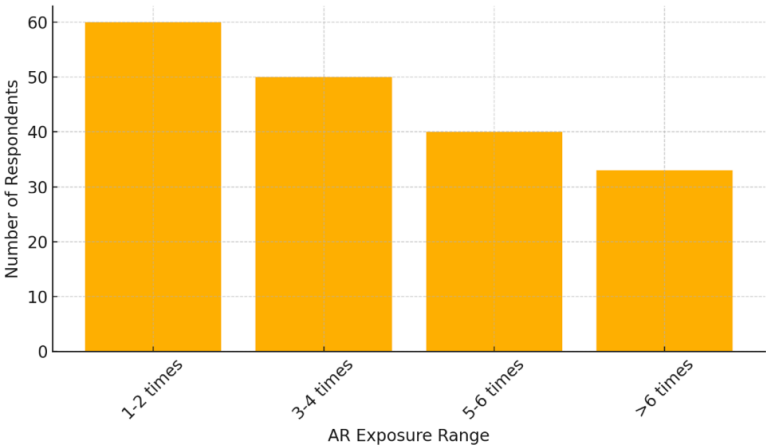


Fig 2. Frequency of AR Exposure

Figure 2 illustrates the frequency of AR exposure among respondents, providing further insights into AR's adoption in the Indonesian e-commerce landscape. The majority of respondents (60 out of 183) reported being exposed to AR 1-2 times, while 50 respondents experienced AR 3-4 times, followed by 40 respondents in the 5-6 times category. Interestingly, only 33 respondents reported exposure more than 6 times, highlighting that repeated use of AR remains limited. This finding suggests that although AR technology is gaining traction in the Indonesian e-commerce landscape, its adoption and frequent usage are still developing. From an immersive marketing perspective, the data underscores an opportunity for e-commerce platforms to enhance user engagement and familiarity with AR features, particularly for fashion and beauty products. By promoting more frequent exposure through personalized and engaging virtual try-on experiences, businesses can improve hedonic value and purchase intention, aligning with consumer preferences for innovative and interactive shopping solutions.

4.2 Validity and Reliability Test

Table 2 presents the results of the validity and reliability tests, which include the Loading Factor, Average Variance Extracted (AVE), and Composite Reliability

(CR) for each variable. All indicators demonstrate strong Loading Factor values above the threshold of 0.70, indicating good convergent validity. For example, the Interactivity variable has loading factors ranging from 0.802 to 0.823, confirming the reliability of these indicators in measuring user control and interactivity with AR features. Additionally, the AVE values for all variables exceed the recommended threshold of 0.50, such as 0.65 for Interactivity and 0.72 for Satisfaction, which validates the constructs' ability to explain more than half of the variance in their respective indicators. The CR values also exceed 0.70 across all variables, such as 0.89 for Interactivity and 0.91 for Satisfaction, demonstrating high internal consistency and reliability for each construct.

Table 2. Validity and Reliability Test

Variable	Indicator Description	Loading Factor	AVE	CR
Interactivity	Ability to rotate, zoom, and adjust product views	0.815	0.65	0.89
	Control to adjust virtual products to appearance	0.823		
	Offers an interactive and engaging shopping experience	0.802		
Vividness	Displays products with high resolution and detail	0.784	0.67	0.91
	Provides realistic and clear product visualization	0.825		
	Creates visually appealing and colorful experiences	0.850		
Novelty	Provides a unique and innovative shopping experience	0.810	0.62	0.87
	Creates a sense of excitement and newness	0.798		
	Delivers engaging and fresh product trials	0.755		
System Quality	AR functions smoothly without delays	0.840	0.71	0.92
	System is fast, responsive, and easy to use	0.860		
	Ensures reliability and stable performance	0.874		
Product Informativeness	Provides clear product details and specifications	0.822	0.68	0.90
	Helps users make informed purchase decisions	0.845		

	Facilitates product comparisons and clarity	0.828		
Hedonic Value	Makes shopping enjoyable and entertaining	0.810	0.66	0.88
	Creates fun and engaging shopping experiences	0.830		
	Provides pleasure and satisfaction during use	0.796		
Satisfaction	Users are satisfied with AR shopping experiences	0.865	0.72	0.91
	AR meets user expectations for virtual product trials	0.872		
	AR exceeds expectations and enhances purchases	0.851		
Purchase Intention	Increases likelihood of purchasing products	0.832	0.69	0.89
	Builds confidence in buying decisions	0.858		
	Encourages product purchase after AR trials	0.827		
Continuance Intention	Users intend to continue using AR features	0.810	0.65	0.87
	AR tools are helpful and worth reusing	0.826		
	Users recommend AR features to others	0.790		

Table 3 displays the results of the Fornell-Larcker Criterion, which evaluates discriminant validity by comparing the square root of each construct’s AVE (diagonal values) with the correlations between constructs (off-diagonal values). The square root of AVE for each variable is greater than the correlation with other variables, indicating strong discriminant validity. For instance, the square root of AVE for Hedonic Value (0.81) is higher than its correlations with Product Informativeness (0.71) and Vividness (0.69), confirming that each construct is distinct and measures a unique dimension. Similarly, Satisfaction (0.85) shows stronger self-correlation compared to its correlations with other variables, such as Purchase Intention (0.74) and Continuance Intention (0.72), further reinforcing discriminant validity.

Table 3. Fornell-Larcker Criterion

Variable	Interac- tivity	Vivid- ness	Novelty	System Quality	Product In- formativeness	Hedonic Value	Satisfac- tion	Purchase In- tention	Continuance Intention
Interactivity	0.81	0.65	0.63	0.60	0.64	0.67	0.61	0.58	0.56
Vividness	0.65	0.82	0.68	0.66	0.70	0.69	0.65	0.62	0.60

Novelty	0.63	0.68	0.80	0.61	0.66	0.64	0.62	0.59	0.57
System Quality	0.60	0.66	0.61	0.84	0.68	0.70	0.67	0.65	0.63
Product Informativeness	0.64	0.70	0.66	0.68	0.82	0.71	0.69	0.66	0.64
Hedonic Value	0.67	0.69	0.64	0.70	0.71	0.81	0.72	0.68	0.65
Satisfaction	0.61	0.65	0.62	0.67	0.69	0.72	0.85	0.74	0.72
Purchase Intention	0.58	0.62	0.59	0.65	0.66	0.68	0.74	0.83	0.77
Continuance Intention	0.56	0.60	0.57	0.63	0.64	0.65	0.72	0.77	0.84

These findings highlight the robustness of the measurement model, ensuring that all variables (e.g., Interactivity, Vividness, Novelty, System Quality, Product Informativeness, Hedonic Value, Satisfaction, Purchase Intention, and Continuance Intention) are both valid and reliable. The results are particularly relevant for assessing how AR characteristics influence user satisfaction and behavioral outcomes in the Indonesian e-commerce context. With a solid measurement model, the subsequent structural analysis can accurately evaluate the relationships between variables, aligning with the objectives of this research to understand AR's role in enhancing user experience and driving continuance intention in immersive marketing strategies.

4.3 Hypotheses Testing

Table 4 provides the overall model fit statistics, confirming that the structural model meets the recommended thresholds. The SRMR (Standardized Root Mean Square Residual) values for the saturated model (0.08) and the estimated model (0.07) indicate a good model fit, as both values are below the 0.08 threshold. The NFI (Normed Fit Index) for the saturated model (0.90) and estimated model (0.88) further validate the strong fit of the structural model. Additionally, the Coefficient of Determination (R^2) values demonstrate that the model explains a moderate amount of variance for the endogenous variables: Hedonic Value (36.1%), Satisfaction (47.5%), and Continuance Intention (48.3%). These values reflect the model's capability to explain the relationships among AR features, hedonic value, satisfaction, and continuance intention.

Table 4. SEM Metrics Results

Metric	Value
SRMR (Saturated Model)	0.08
SRMR (Estimated Model)	0.07
NFI (Saturated Model)	0.90
NFI (Estimated Model)	0.88

Coefficient of Determination (R ²)	
Continuance Intention (CI)	0.483
Hedonic Value (HV)	0.361
Satisfaction (S)	0.475
Effect Size (F ²)	
Hedonic Value (HV) → Satisfaction (S)	0.903 (Large)
Satisfaction (S) → Continuance Intention (CI)	0.025 (Small)
Interactivity (I) → Hedonic Value (HV)	0.018 (Small)
System Quality (SQ) → Hedonic Value (HV)	0.017 (Small)
Vividness (VI) → Hedonic Value (HV)	0.032 (Small)

Table 5 presents the hypotheses testing results based on the path coefficients, T-values, and P-values. Of the seven hypotheses, only two were supported: H6 (Hedonic Value → Satisfaction) and H7 (Satisfaction → Continuance Intention). The path from Hedonic Value to Satisfaction exhibited a strong and significant effect ($\beta = 0.630$, $T = 7.521$, $p < 0.001$), indicating that users' enjoyment and emotional engagement significantly enhance their satisfaction. Similarly, the relationship between Satisfaction and Continuance Intention was also significant ($\beta = 0.589$, $T = 6.431$, $p < 0.001$), suggesting that satisfied users are more likely to continue using AR features for future purchases. These findings highlight the importance of emotional satisfaction in driving long-term adoption of AR technologies in e-commerce.

Table 7. Hypothesis Testing

Hypothesis	Relationship	Direct Effect (β)	T-Value	P-Value	Result
H1	Interactivity → Hedonic Value	0.102	1.273	0.204	Rejected
H2	Novelty → Hedonic Value	0.078	0.819	0.413	Rejected
H3	Product Informativeness → HV	0.145	1.656	0.098	Rejected
H4	System Quality → Hedonic Value	0.092	1.232	0.218	Rejected
H5	Vividness → Hedonic Value	0.130	1.803	0.072	Rejected
H6	Hedonic Value → Satisfaction	0.630	7.521	0.000	Supported

H7	Satisfaction → Continuance Intention	0.589	6.431	0.000	Supported
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In contrast, hypotheses H1–H5 were rejected due to insignificant relationships. For example, Interactivity to Hedonic Value (H1) showed a low direct effect ($\beta = 0.102$, $T = 1.273$, $p = 0.204$), suggesting that interactive features alone may not evoke emotional engagement. Similarly, Vividness (H5), while approaching significance ($\beta = 0.130$, $T = 1.803$, $p = 0.072$), fell short of the required threshold. The small effect sizes observed for Interactivity ($F^2 = 0.018$), System Quality ($F^2 = 0.017$), and Vividness ($F^2 = 0.032$) suggest that these AR features have minimal practical impact on hedonic value in this context. These results indicate that while AR features contribute to functionality, they may need further enhancement, such as personalization or gamification, to maximize emotional engagement and drive stronger behavioral responses.

4.4 Discussion

The findings of this study provide valuable insights into the role of Augmented Reality (AR) in enhancing consumer experiences and influencing purchase behaviors in Indonesian e-commerce, particularly within the fashion and beauty sectors. Using the Stimulus-Organism-Response (SOR) model, this study explored the relationships between AR characteristics (stimuli), internal user responses (hedonic value and satisfaction), and behavioral outcomes (purchase intention and continuance intention).

Significant Relationships

The results demonstrate a strong and significant relationship between Hedonic Value and Satisfaction (H6), with a large effect size ($F^2 = 0.903$). This finding emphasizes that pleasure and enjoyment derived from AR experiences are critical in driving user satisfaction. Hedonic value reflects the emotional and experiential benefits users gain from engaging with AR features, such as virtual try-ons, which reduce uncertainty and add entertainment value. This is consistent with previous studies, including Gabriel et al. [4] and Hsu et al. [5], which confirm that AR creates engaging and interactive experiences, effectively enhancing satisfaction. The ability of AR to exceed user expectations further aligns with immersive marketing principles, highlighting its potential to transform online shopping experiences.

Furthermore, the relationship between Satisfaction and Continuance Intention (H7) was found to be significant ($T = 6.431$, $p < 0.001$), indicating that satisfied users are more likely to continue using AR tools for future purchases. This supports findings by Baliyan et al. [3], who stress the pivotal role of satisfaction in fostering long-term technology adoption. When AR tools meet user expectations, trust in the technology increases, leading to greater user loyalty and recommendations. For businesses, these results underscore the importance of ensuring that AR features are reliable, enjoyable, and impactful, driving repeated usage and higher engagement levels.

Insignificant Relationships

Interestingly, the relationships between AR characteristics—Interactivity, Novelty, Product Informativeness, System Quality, and Vividness—and Hedonic Value (H1–H5) were found to be statistically insignificant. For instance, the relationship between Vividness and Hedonic Value approached significance ($T = 1.803$, $p = 0.072$), reflecting its potential role as a driver of visual appeal. However, as Butt et al. [6] suggest, vividness alone is insufficient to create an immersive emotional experience without the presence of other complementary features.

Similarly, Interactivity did not significantly influence hedonic value ($T = 1.273$, $p = 0.204$), which contrasts with Wilson [9], who highlights interactivity as a critical factor for consumer engagement. This discrepancy could stem from technical limitations or the lack of familiarity with AR tools among Indonesian users. While interactivity enables users to manipulate virtual try-ons, it may not evoke strong emotional responses unless combined with stimulating elements like novelty and personalization.

Moreover, the insignificant impact of Product Informativeness and System Quality on hedonic value suggests that while AR features may provide functional benefits—such as detailed product information and seamless performance—these benefits are perceived as practical rather than emotionally engaging. This finding aligns with Laimeheriwa and Kembau [8], who argue that technical efficiency must be complemented with emotional triggers to enhance overall user satisfaction.

Theoretical and Practical Implications

The results of this study contribute to the growing literature on immersive marketing and AR adoption. By validating the role of hedonic value and satisfaction as key drivers of continuance intention, the findings align with the SOR model, which posits that internal responses (hedonic value and satisfaction) mediate the effects of external stimuli (AR features) on behavioral outcomes [5]. From a practical perspective, e-commerce platforms should prioritize enhancing the emotional appeal of AR tools. While system quality and product informativeness are essential, they must be paired with

5. CONCLUSION

This study underscores the transformative potential of AR in enhancing satisfaction and fostering long-term user adoption in Indonesian e-commerce. However, it also reveals that AR characteristics alone may not directly influence hedonic value, emphasizing the need for a more integrated and emotionally engaging AR experience. Future research should explore moderating factors, such as user familiarity and technological literacy, to better understand the nuanced relationships between AR features and consumer behavior. By leveraging immersive marketing strategies that prioritize user satisfaction and engagement, e-commerce platforms can unlock AR's full potential in shaping the future of online shopping.

Research Limitations and Future Research Directions

Despite offering valuable insights into the role of Augmented Reality (AR) in e-commerce, this study is not without limitations. First, the sample size of 183 respondents, while sufficient for statistical analysis, may not fully capture the diverse behaviors and preferences of Indonesian consumers across different geographic regions and income levels. The concentration on the fashion and beauty sectors limits the generalizability of the findings to other product categories, such as electronics, home furnishings, or automotive, where AR features may influence consumer behavior differently. Additionally, the insignificant relationships between AR characteristics (e.g., interactivity, vividness, and novelty) and hedonic value suggest a need for further exploration into the contextual factors—such as technological familiarity, cultural preferences, or system usability—that could moderate these relationships.

Future research should address these limitations by expanding the sample size to include a broader demographic representation, incorporating respondents from various regions and income brackets. Furthermore, longitudinal studies can be conducted to analyze how familiarity and repeated exposure to AR tools influence user perceptions and adoption behaviors over time. Investigating other product categories and exploring AR's role in enhancing functional and emotional engagement in diverse contexts will provide a more comprehensive understanding of its impact. Researchers should also examine the potential influence of moderating variables such as digital literacy, age, and cultural perceptions, as these factors may shape how consumers interact with and respond to AR features.

By addressing these gaps, future research can further uncover the nuances of AR adoption in e-commerce, offering actionable insights for businesses to enhance user experiences, optimize immersive marketing strategies, and drive widespread adoption of AR technology in Indonesia's rapidly growing digital economy.

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