

Augmented Reality Experience, Content Quality, and Brand Interactivity as Predictors of Purchase Intention among Indonesian Instagram Shopping Users

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Abstract: The rapid expansion of social commerce has increased the need to understand how technological, informational, and relational features jointly shape consumers' purchase evaluations. This study examines Augmented Reality (AR) experience, Content Quality, and Brand Interactivity as predictors of Purchase Intention among Indonesian Instagram Shopping users. A quantitative cross-sectional survey was conducted with 202 respondents aged 18–35 years who had used Instagram Shopping and encountered an AR-supported shopping experience during the preceding three months. Measurement quality was assessed using item-level diagnostics, Cronbach's alpha, exploratory factor analysis, and parallel analysis, followed by multiple linear regression with HC3 heteroskedasticity-consistent standard errors. The regression model was statistically significant, $F(3, 198) = 134.863$, $p < 0.001$, and explained 67.1% of the variance in Purchase Intention. Content Quality showed the strongest positive association ($\beta = 0.439$, $p < 0.001$), followed by AR experience ($\beta = 0.341$, $p < 0.001$), whereas Brand Interactivity showed a positive but nonsignificant association ($\beta = 0.111$, $p = 0.276$). Measurement diagnostics indicated limited construct differentiation: reliability coefficients ranged from 0.616 to 0.651, and parallel analysis retained one dominant factor. Accordingly, the results are interpreted as exploratory predictive evidence rather than confirmatory validation of fully distinct latent constructs. Within this predictive framing, decision-relevant content and functional AR visualization were more strongly associated with Purchase Intention than Brand Interactivity considered as an independent predictor. The study contributes to social-commerce research by jointly examining technological, informational, and relational predictors while providing practitioners with a cautious empirical basis for prioritizing content quality and evaluation-oriented AR.

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INTRODUCTION

The paradigm of digital commerce has undergone a substantial transformation, moving beyond static transactions toward immersive and participatory consumer journeys. In the contemporary retail landscape, Instagram has become a prominent social-commerce environment in which consumers may encounter AR-supported shopping experiences through virtual try-on tools, branded filters, AR advertisements, spatial product visualization, or links to external AR services. Such experiences may partially reduce the uncertainty caused by consumers' inability to inspect products physically before purchase (Ngo et al., 2025). Indonesia represents a critical market in this evolution, as Meta's advertising tools indicated that Instagram had a potential advertising reach of 103 million users in the country in early 2025, equivalent to 36.3% of the national population (Kemp, 2025). Nevertheless, extensive platform reach does not necessarily eliminate consumer hesitation. A 2025 survey by the Indonesian Internet Service Providers Association found that 38.72% of respondents preferred shopping at physical stores because they considered direct shopping more convincing than online

transactions (Asosiasi Penyelenggara Jasa Internet Indonesia, 2025). This finding suggests that digital commerce continues to face a product-assurance gap that immersive technologies such as AR may help address. This "reality gap" stems from critical information asymmetry between digital representations and the physical reality of products.

The adoption of immersive shopping technologies is commonly explained through the Technology Acceptance Model (TAM), which emphasizes perceived usefulness and perceived ease of use (Davis, 1989). Recent empirical evidence suggests that AR experiences significantly bolster purchase intentions by merging physical reality with real-time virtual elements (Guo & Zhang, 2024). Features such as Virtual Try-On (VTO) play a pivotal role in this process by creating a "flow" experience that reduces perceived risk and enhances cognitive trust (Khan & Fatma, 2024; Putri & Salehudin, 2022; Uhm et al., 2022). Furthermore, content quality acts as a vital informational bridge that translates technological capabilities into meaningful consumer value (Windasari & Santoso, 2022; Yang & Lin, 2024). This technological and informational synergy is further strengthened by brand interactivity and social presence, which differentiate brand identities in multi-channel environments (Alimamy & Al-Imamy, 2022; Yim et al., 2017; Zare Ebrahimabad et al., 2024). The success of augmented shopping reality increasingly depends on balancing accuracy and entertainment effects to satisfy both utilitarian and hedonic consumer needs (Hoffmann & Mai, 2022; Zhou et al., 2025). Recent AR marketing research further demonstrates that augmentation quality, reflected in design, interaction, and embedding quality, can strengthen local presence and contribute to purchase-related outcomes (Schein et al., 2026).

The technological perspective alone does not fully capture purchase evaluation in social commerce. Instagram Shopping also requires consumers to assess the quality of product information and interact with brands through digitally mediated communication. Accordingly, this study draws on three complementary theoretical lenses. The Technology Acceptance Model provides the technological basis for examining AR-supported shopping experiences (Davis, 1989); the information-quality perspective derived from the DeLone and McLean Information Systems Success Model explains the role of accurate, relevant, understandable, and useful product information (DeLone & McLean, 2003; Wang & Strong, 1996) while Social Presence Theory explains how responsive communication and socially rich digital cues can create psychological proximity between consumers and brands (Short et al., 1976; Lu et al., 2016). Recent evidence from Instagram-based social commerce further indicates that platform sociability, enjoyment, functionality, and trust are relevant to consumers' purchase intentions (Aziz & Poureisa, 2025). Together, these perspectives represent technological, informational, and relational dimensions of the social-commerce experience.

Despite growing research on digital commerce, these dimensions have often been examined separately or within broader e-commerce settings rather than compared within a single Instagram-based predictive model. Indonesian studies have addressed AR adoption and other purchase-related determinants, while other work has emphasized factors such as brand ambassadors and price discounts (Anifa & Sanaji, 2022; Faritzal et al., 2023; Khoirunnisa & Sugiharti, 2024; Liu & Napitupulu, 2020; Iisnawati et al., 2023; Lai et al., 2025; Xu et al., 2025). Consequently, less is known about the relative predictive contribution of immersive visualization, decision-relevant information, and reciprocal brand communication when these mechanisms are considered simultaneously. Augmented Reality, Content Quality, and Brand Interactivity were therefore selected because they represent these three complementary mechanisms and allow their unique associations with Purchase Intention to be evaluated within the same social-commerce model.

Drawing on the Technology Acceptance Model, an information-quality perspective derived from the DeLone and McLean Information Systems Success Model, and Social Presence Theory, this study proposes three directional relationships. Augmented Reality enables consumers to visualize products within realistic and interactive environments, thereby supporting product evaluation and reducing uncertainty associated with the absence of physical inspection. Accordingly, H1: Augmented Reality

experience is positively associated with Purchase Intention. Content Quality provides consumers with accurate, relevant, complete, and comprehensible product information, thereby facilitating informed product evaluation and strengthening the perceived value of Instagram Shopping content. Therefore, H2: Content Quality is positively associated with Purchase Intention. Brand Interactivity, reflected in responsive, reciprocal, and consumer-oriented communication, can enhance social presence and reduce the psychological distance between consumers and brands. Consequently, H3: Brand Interactivity is positively associated with Purchase Intention.

To address these theoretical and empirical gaps, this study examines Augmented Reality (X1), Content Quality (X2), and Brand Interactivity (X3) as predictors of Purchase Intention (Y) within the Instagram Shopping context. Using multiple linear regression, the study analyzes data from 202 Indonesian respondents aged 18–35 years who reported prior experience with Instagram Shopping and AR-supported shopping during the preceding three months. The analytical framework evaluates the unique contribution of each predictor while assessing the overall explanatory capacity of the model through the coefficient of determination (R^2). By simultaneously considering technological, informational, and relational dimensions of the shopping experience, the study investigates whether immersive product visualization, decision-relevant content, and reciprocal brand communication are differentially associated with consumers' purchase intentions in a social-commerce environment.

The theoretical framework of this study integrates three complementary perspectives, each providing a distinct rationale for one dimension of the proposed predictive model. The Technology Acceptance Model provides the technological foundation for Augmented Reality experience by emphasizing how consumers' evaluations of technology-enabled usefulness and ease of use shape their responses to digital systems. However, technology-related evaluations alone do not fully capture purchase evaluation in social-commerce environments, where consumers also depend on the quality of the information presented through the interface. The information-quality perspective derived from the DeLone and McLean Information Systems Success Model therefore provides the informational foundation for Content Quality by emphasizing the relevance, accuracy, understandability, and usefulness of information for decision-making. This perspective is particularly relevant to AR-supported shopping because the value of an immersive interface depends not only on the availability of the technology itself, but also on the quantity, presentation, diagnosticity, and controllability of the product information conveyed through the shopping experience (Hoffmann et al., 2022). Social Presence Theory complements these technological and informational perspectives by addressing the relational dimension of social commerce. Because Instagram also functions as an interpersonal communication environment, responsive brand communication and socially rich digital cues may create a stronger sense of human contact and psychological proximity, thereby providing the theoretical basis for Brand Interactivity. This layered framework is consistent with evidence showing that consumer responses to AR are shaped by technological perceptions and value-creation mechanisms such as virtuality, informativeness, interactivity, and the development of utilitarian and hedonic value (Dogra et al., 2023; Negm, 2024), as well as evidence that AR-supported content and digitally mediated communication can contribute to consumer engagement and trust formation (Sunenti & Santoso, 2025). Accordingly, the three perspectives are treated as complementary rather than competing explanations: the Technology Acceptance Model informs the technological dimension represented by Augmented Reality, the information-quality perspective informs the informational dimension represented by Content Quality, and Social Presence Theory informs the relational dimension represented by Brand Interactivity. The study therefore contributes to social-commerce research by examining these three theoretically grounded dimensions simultaneously within a single predictive framework rather than treating them as isolated determinants of consumer evaluation.

From a managerial perspective, the proposed framework provides a basis for comparing the relative predictive contributions of technological, informational, and relational dimensions within Instagram-based social commerce. Examining Augmented Reality, Content Quality, and Brand

Interactivity simultaneously allows practitioners to evaluate how immersive product presentation, decision-relevant information, and responsive brand communication are differentially associated with Purchase Intention while accounting for their overlapping contributions. This comparative perspective is important because greater technological sophistication or higher levels of brand interaction should not be assumed to translate automatically into stronger purchase intention. Instead, the framework enables these dimensions to be evaluated jointly and provides an empirical basis for identifying which aspects of the social-commerce experience warrant greater managerial attention. The findings may therefore inform the design of shopping experiences that combine useful product visualization, high-quality information, and responsive communication to support consumer evaluation and reduce uncertainty. The remainder of the article presents the research methodology, empirical findings, theoretical and managerial implications, and conclusions.

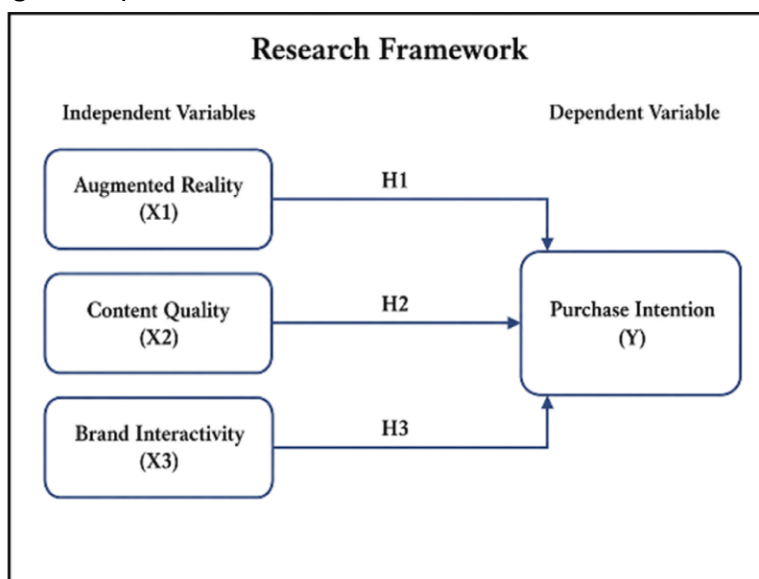


Figure 1. Research Framework

RESEARCH METHOD

This study employed a quantitative, cross-sectional research design to examine Augmented Reality experience, Content Quality, and Brand Interactivity as predictors of Purchase Intention within the Instagram Shopping context. Multiple linear regression was selected because the primary analytical objective was to estimate the unique predictive association of three continuous predictors with a single continuous outcome while statistically controlling for the remaining predictors. Each variable was represented by a composite mean score calculated from its corresponding indicators. This analytical choice was deliberate and aligned with the predictive objective of the study rather than being adopted as a default estimation procedure. The measurement diagnostics reported below did not recover four clearly differentiated empirical factors, indicating that the observed data did not provide sufficiently strong evidence of construct separation to justify treating the variables as fully distinct latent constructs. Under these conditions, imposing a confirmatory latent-variable model would imply a degree of measurement differentiation that the data do not support. Multiple linear regression using theory-defined composite scores was therefore considered an appropriate and transparent approach for exploratory prediction. Because the heteroskedasticity diagnostics produced mixed evidence, including a statistically significant Breusch–Pagan test, HC3 heteroskedasticity-

consistent standard errors were used for the final inferential evaluation of the regression coefficients. This adjustment provides inference that is less sensitive to nonconstant error variance than conventional ordinary least-squares standard errors. Given the nonexperimental and cross-sectional design, the estimated coefficients were interpreted as conditional predictive associations rather than causal effects. An a priori power analysis was conducted for a fixed-model multiple linear regression with three predictors. Assuming a medium effect size of $f^2 = 0.15$, a significance level of $\alpha = 0.05$, and statistical power of 0.80, the minimum required sample size was 77 respondents (Faul et al., 2009). The final analytical sample of 202 respondents therefore exceeded the minimum sample requirement.

Data were collected between 13 and 29 January 2026 through an online questionnaire administered using Google Forms. A non-probability purposive sampling technique was employed to recruit Indonesian Instagram users aged 18–35 years with relevant experience in Instagram-based shopping. The questionnaire was disseminated through personal WhatsApp messages, WhatsApp Status, close-friend and family networks, university class groups, Facebook student communities, Twitter, and Instagram Story. Recruitment information provided examples of AR-supported shopping experiences, including virtual try-on applications for cosmetics, fashion products, glasses, and accessories; spatial product placement; AR advertisements; and branded filters used in a shopping-related context. These examples were provided to help prospective respondents distinguish an AR-supported shopping experience from ordinary Instagram browsing.

Before accessing the demographic and measurement sections, prospective respondents completed screening questions concerning informed consent, active Instagram use, previous use of Instagram Shopping, and self-reported experience with an AR-supported shopping feature through Instagram during the preceding three months. The three-month eligibility period was applied to increase the likelihood that respondents could recall the shopping experience when evaluating the questionnaire statements. Eligibility was based on self-report; the study did not collect platform logs, screenshots, brand names, product categories, or the exact AR format used by each respondent. Consequently, respondents should not be assumed to have experienced an identical AR feature or product category. A total of 203 submissions were received. One submission was excluded because the respondent reported neither previous use of Instagram Shopping nor an AR-supported shopping experience and did not complete the demographic and measurement sections. The final dataset therefore consisted of 202 complete and eligible responses.

All measurement items were assessed using a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The structured questionnaire comprised 20 indicators distributed equally across four theoretical constructs, with five indicators assigned to each construct. The Augmented Reality items were developed and contextually adapted with reference to established measures of perceived ease of use, vividness, usefulness, AR-supported product evaluation, and retail user experience (Poushneh & Vasquez-Parraga, 2017). Within the present study, these items captured respondents' evaluations of the usefulness, ease, clarity of product visualization, purchase-decision support, and overall value of their self-reported AR-supported Instagram Shopping experience.

The Content Quality items were informed by established information-quality frameworks and social-media content-quality measures and captured the clarity, relevance, usefulness, visual appeal, and decision-support value of product information (Dabbous & Barakat, 2020). The Brand Interactivity items were developed with reference to Dabbous and Barakat (2020) and represented accessibility of brand communication, responsiveness, opportunities for consumer participation, perceived attention from the brand, and enjoyment associated with brand interaction. Purchase Intention was measured using indicators contextually adapted from prior e-commerce and AR-supported shopping research and reflected purchase interest, product consideration, purchase likelihood, preference, and recommendation intention. All items were presented in Indonesian and contextually worded to reflect respondents' experiences with Instagram-based shopping and AR-supported product evaluation.

Data analysis proceeded in three stages. First, the dataset was screened for eligibility, completeness, and coding consistency, followed by descriptive analysis of respondent characteristics and the study variables. Item-level measurement quality was assessed using Pearson item-total correlations and corrected item-total correlations. A corrected item-total correlation of approximately 0.30 or higher was used as a general indicator of adequate item discrimination, while lower values were evaluated together with theoretical relevance and reliability diagnostics rather than being treated as an automatic deletion criterion (Hair et al., 2019). Internal consistency was subsequently assessed using Cronbach's alpha and alpha-if-item-deleted diagnostics. Because deleting individual indicators did not raise any scale to the conventional reliability benchmark of 0.70, all 20 items were retained to preserve their theoretical coverage, while the observed reliability limitations were taken into account in the interpretation of the subsequent analyses.

Second, exploratory factor analysis was conducted to examine the empirical structure of the measurement items. Principal axis factoring was employed because the analysis focused on shared variance among the indicators, with sampling adequacy and factorability evaluated using the Kaiser-Meyer-Olkin statistic and Bartlett's test of sphericity. Factor retention was assessed primarily through parallel analysis, in which the observed eigenvalues were compared with those generated from 1,000 random datasets (Horn, 1965). Because the theoretical framework specified four potentially correlated constructs, a theory-constrained four-factor solution with direct oblimin rotation was also examined. Factor loadings of approximately 0.40 or higher were used as a general criterion for interpreting item-factor relationships. The factor analysis was used diagnostically to evaluate construct differentiation rather than as confirmatory evidence of measurement validity.

Third, composite scores were calculated by averaging the five indicators assigned to each theoretically specified construct. Multiple linear regression was then performed with Purchase Intention as the dependent variable and Augmented Reality, Content Quality, and Brand Interactivity as predictors. Overall model performance was evaluated using the multiple correlation coefficient, R^2 , adjusted R^2 , and the overall F-test, whereas individual predictors were assessed using unstandardized coefficients (B), standardized coefficients (β), confidence intervals, and p-values. Multicollinearity, residual normality, heteroskedasticity, residual independence, and influential observations were examined using tolerance and variance inflation factor values, graphical and formal residual diagnostics, the Glejser and Breusch-Pagan tests, the Durbin-Watson statistic, standardized residuals, leverage, and Cook's distance. Because the heteroskedasticity diagnostics produced mixed evidence, including a statistically significant Breusch-Pagan test, HC3 heteroskedasticity-consistent standard errors were used for the final inferential evaluation of the regression coefficients. HC3 adjusts the estimated covariance matrix and provides inference that is more robust to nonconstant error variance than conventional ordinary least-squares standard errors (MacKinnon & White, 1985). A directional hypothesis was considered supported when the corresponding coefficient was positive and statistically significant at $p < 0.05$ based on HC3-adjusted inference. Standardized coefficients were additionally used to compare the relative predictive magnitudes of the three predictors within the fitted model. Given the cross-sectional design and the measurement limitations identified in the reliability and exploratory factor analyses, all regression results were interpreted as predictive associations rather than evidence of causal effects.

RESULTS AND DISCUSSION

Table 1 presents the demographic profile of the 202 eligible respondents. Male respondents represented 64.4% of the sample, whereas female respondents represented 35.6%. Almost half of the respondents were aged 26–30 years (47.5%), followed by those aged 22–25 years (27.7%). Regarding educational attainment, bachelor's degree holders constituted the largest group (40.1%), followed by senior high school or vocational school graduates (33.7%). The occupational profile was dominated by entrepreneurs (37.1%) and employees (35.6%). These characteristics indicate that the sample primarily

consisted of young adults with active educational or economic roles; however, they should not be interpreted as representative of all Indonesian Instagram users because the study employed purposive sampling.

Table 1. Respondent Demographic Profile

Characteristic	Classification	Frequency	Percentage (%)
Gender	Male	130	64.4%
	Female	72	35.6%
Age	18-21 Years	33	16.3%
	22-25 Years	56	27.7%
	26-30 Years	96	47.5%
	31-35 Years	17	8.4%
Education	Senior high school/vocational school	68	33.7%
	Diploma (D3)	37	18.3%
	Bachelor (S1)	81	40.1%
	Postgraduate degree	16	7.9%
Occupation	Student	45	22.3%
	Employee	72	35.6%
	Entrepreneur	75	37.1%
	Other	10	5.0%

Source: Authors' calculations based on the survey data (2026)

Table 2 reports the descriptive statistics of the four composite variables. Mean scores ranged from 4.022 to 4.084 on the five-point scale. Brand Interactivity recorded the highest mean ($M = 4.084$, $SD = 0.566$), followed closely by Purchase Intention ($M = 4.081$, $SD = 0.552$) and Augmented Reality experience ($M = 4.069$, $SD = 0.554$). Content Quality had a mean of 4.022 ($SD = 0.583$). These values indicate generally favorable responses across the constructs. Nevertheless, high mean scores are descriptive and do not independently demonstrate measurement validity or predictive significance.

Table 2. Descriptive Statistics of the Study Variables

Variable	Code	Mean	Standard deviation	Minimum	Maximum
Augmented Reality experience	AR	4.069	0.554	1.4	4.8
Content Quality	CQ	4.022	0.583	1.2	4.8
Brand Interactivity	BI	4.084	0.566	1.4	4.8
Purchase Intention	PI	4.081	0.552	1.4	4.8

Source: Authors' calculations based on the survey data (2026)

Measurement Quality Assessment

Table 3. Item Validity and Exploratory Factor Analysis Results

Panel A. Overall factorability and factor retention

Assessment	Result	Interpretation
Kaiser-Meyer-Olkin	0.838	Adequate sampling adequacy
Bartlett's test	$\chi^2(190) = 1,364.200$, $p < 0.001$	Correlation matrix is factorable
Parallel analysis	1 factor retained	One dominant common factor
Kaiser criterion	5 eigenvalues above 1	Reported as a secondary diagnostic

Assessment	Result	Interpretation
Forced theoretical solution	4 oblique factors	Four constructs were not cleanly recovered

Panel B. Item-level evidence

Item	Corrected item-total correlation	Factor loading	Communality	Decision
AR1	0.453	0.621	0.386	Acceptable
AR2	0.362	0.433	0.187	Acceptable
AR3	0.435	0.610	0.372	Acceptable
AR4	0.349	0.500	0.250	Acceptable
AR5	0.270	0.332	0.110	Retained with caution
CQ1	0.606	0.885	0.783	Acceptable
CQ2	0.366	0.444	0.197	Acceptable
CQ3	0.394	0.506	0.256	Acceptable
CQ4	0.348	0.452	0.204	Acceptable
CQ5	0.317	0.345	0.119	Retained with caution
BI1	0.481	0.652	0.426	Acceptable
BI2	0.417	0.522	0.273	Acceptable
BI3	0.409	0.553	0.305	Acceptable
BI4	0.267	0.346	0.120	Retained with caution
BI5	0.369	0.474	0.225	Acceptable
PI1	0.458	0.655	0.429	Acceptable
PI2	0.352	0.427	0.182	Acceptable
PI3	0.440	0.643	0.413	Acceptable
PI4	0.225	0.303	0.092	Retained with caution
PI5	0.405	0.476	0.227	Acceptable

Note: Corrected item-total correlations of at least 0.30 and factor loadings of at least 0.40 were used as primary interpretive criteria. The factor loadings in Panel B were obtained from separate one-factor principal-axis analyses for each theoretical scale. AR5, CQ5, BI4, and PI4 were retained because deleting them did not increase the corresponding Cronbach's alpha to 0.70.

Source: Authors' calculations based on the survey data (2026)

Table 4. Internal Consistency and Alpha if Item Deleted

Construct	Number of items	Cronbach's α	Highest α if item deleted	Item producing highest α	Decision
Augmented Reality	5	0.616	0.615	AR5	Retain all items
Content Quality	5	0.651	0.637	CQ5	Retain all items
Brand Interactivity	5	0.635	0.636	BI4	Retain all items
Purchase Intention	5	0.619	0.635	PI4	Retain all items

Source: Authors' calculations based on the survey data (2026).

Measurement diagnostics indicated adequate factorability but limited differentiation among the theoretically specified scales. The KMO value was 0.838 and Bartlett's test was statistically significant, $\chi^2(190) = 1,364.200$, $p < 0.001$. However, parallel analysis retained one dominant factor, and the theory-constrained four-factor solution did not reproduce a clear simple structure corresponding to

Augmented Reality, Content Quality, Brand Interactivity, and Purchase Intention. Internal consistency was also modest, with Cronbach's alpha coefficients ranging from 0.616 to 0.651. AR5, CQ5, BI4, and PI4 showed comparatively weak item-level evidence, but deleting these items did not increase the corresponding reliability coefficients to 0.70; all items were therefore retained to preserve theoretical coverage. These findings indicate substantial overlap among the measured perceptions. Consequently, the theory-defined composite scores were retained for exploratory prediction, but the subsequent regression coefficients should be interpreted as conditional associations among partially overlapping measures rather than as effects of clearly differentiated latent constructs.

Regression diagnostics indicated no serious multicollinearity, with VIF values ranging from 2.638 to 2.985, while the Durbin-Watson statistic of 1.832 was consistent with residual independence. Formal normality tests indicated a minor departure from residual normality. Evidence concerning heteroskedasticity was mixed: the Glejser tests were nonsignificant for the individual predictors, whereas the Breusch-Pagan test was statistically significant ($p = 0.020$). Accordingly, HC3 heteroskedasticity-consistent standard errors were used for final inference. One observation had an absolute standardized residual above 3, but no observation had a Cook's distance above 1; therefore, all 202 eligible observations were retained.

Table 5. Regression Assumptions and Diagnostic Tests

Assumption	Test or indicator	Result	Interpretation
Residual normality	Shapiro-Wilk	$W = 0.986$, $p = 0.040$	Minor departure
Residual normality	Jarque-Bera	$\chi^2 = 7.797$, $p = 0.020$	Minor departure
Heteroskedasticity	Glejser: AR	$p = 0.361$	Not significant
	Glejser: CQ	$p = 0.061$	Not significant
	Glejser: BI	$p = 0.877$	Not significant
Heteroskedasticity	Breusch-Pagan	$LM = 9.820$, $p = 0.020$	Possible heteroskedasticity
Multicollinearity	AR tolerance/VIF	0.379/2.638	Acceptable
	CQ tolerance/VIF	0.360/2.779	Acceptable
	BI tolerance/VIF	0.335/2.985	Acceptable
Residual independence	Durbin-Watson	1.832	Acceptable
Unusual residuals	standardized residual > 3	1 observation	Reviewed and retained
Influence	Maximum Cook's distance	0.211	No highly influential case
Final inference	Standard-error estimator	HC3	Used for coefficient tests

Source: Authors' calculations based on the survey data (2026).

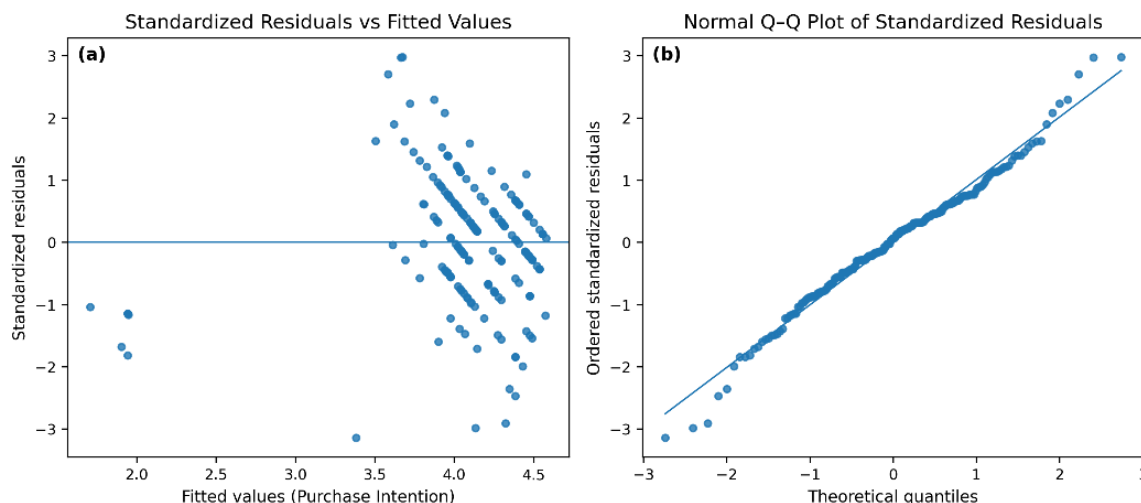


Figure 2. Regression Diagnostic Plots

(a) Standardized residuals versus fitted values; (b) normal Q–Q plot of standardized residuals.

Source: Authors' calculations based on the survey data (2026).

The overall regression model was statistically significant, $F(3, 198) = 134.863$, $p < 0.001$. The multiple correlation coefficient was 0.819, and the model explained 67.1% of the observed variance in Purchase Intention ($R^2 = 0.671$; adjusted $R^2 = 0.666$). Thus, the three predictors provided substantial combined predictive information within the analyzed sample. However, the coefficient of determination represents model-level explanatory fit and should not be interpreted as evidence of causality or statistical interaction among the predictors.

Table 6. Model Summary and Analysis of Variance

Panel A. Model Summary					
Multiple R	R ²	Adjusted R ²	Standard error of estimate	N	
0.819	0.671	0.666	0.319	202	
Panel B. ANOVA					
Source	Sum of squares	df	Mean square	F	p-value
Regression	41.164	3	13.721	134.863	< 0.001
Residual	20.145	198	0.102	—	—
Total	61.309	201	—	—	—

Dependent variable: Purchase Intention.

Source: Authors' calculations based on multiple linear regression (2026)

Table 7 reports the regression coefficients using HC3 heteroskedasticity-consistent standard errors. Augmented Reality experience was positively associated with Purchase Intention ($B = 0.340$, $\beta = 0.341$, HC3 $t = 3.594$, $p < 0.001$), supporting H1. Content Quality also showed a positive and statistically significant association and had the largest standardized coefficient ($B = 0.416$, $\beta = 0.439$, HC3 $t = 4.569$, $p < 0.001$), supporting H2. Brand Interactivity showed a positive coefficient, but its association with Purchase Intention was not statistically significant ($B = 0.108$, $\beta = 0.111$, HC3 $t = 1.093$, $p = 0.276$); H3 was therefore not supported. In standardized terms, Content Quality showed the strongest conditional association with Purchase Intention, followed by Augmented Reality experience, whereas the Brand Interactivity coefficient was statistically indistinguishable from zero. These coefficients indicate the relative magnitudes of the conditional associations within the fitted

model and should not be interpreted as separate shares of explained variance. The substantive hypothesis decisions were unchanged relative to the conventional OLS results.

Table 7. Regression Coefficients and Hypothesis Testing

Predictor	B	Standardized β	HC3 SE	HC3 t	HC3 p	HC3 95% CI	Tolerance	VIF	Decision
Constant	0.581	—	0.258	2.250	0.026	[0.072, 1.090]	—	—	—
Augmented Reality	0.340	0.341	0.095	3.594	< 0.001	[0.154, 0.527]	0.379	2.638	H1 supported
Content Quality	0.416	0.439	0.091	4.569	< 0.001	[0.236, 0.596]	0.360	2.779	H2 supported
Brand Interactivity	0.108	0.111	0.099	1.093	0.276	[-0.087, 0.303]	0.335	2.985	H3 not supported

Dependent variable: Purchase Intention. B denotes the unstandardized coefficient. HC3 standard errors and confidence intervals were used for inferential decisions.

Source: Authors' calculations based on multiple linear regression (2026)

The estimated regression equation was:

$$PI = 0.581 + 0.340(AR) + 0.416(CQ) + 0.108(BI).$$

Holding the other predictors constant, a one-point higher Augmented Reality composite score was associated with an estimated 0.340-point higher Purchase Intention score, whereas a one-point higher Content Quality score was associated with an estimated 0.416-point higher Purchase Intention score. These estimates indicate that differences in Content Quality were associated with the largest conditional difference in Purchase Intention within the observed data, followed by Augmented Reality experience. Brand Interactivity showed a smaller positive coefficient ($B = 0.108$), but its HC3 confidence interval included zero; therefore, no statistically reliable practical magnitude can be inferred for this predictor. Because the study is observational and cross-sectional, these estimates should not be interpreted as expected changes resulting from managerial interventions.

The positive association between Augmented Reality experience and Purchase Intention supports H1. This finding is consistent with previous research indicating that AR-supported visualization can facilitate product evaluation when consumers cannot physically inspect products before purchase (Guo & Zhang, 2024; Uhm et al., 2022).. By providing additional visual and interactive information, AR may enhance perceived diagnosticity and reduce uncertainty during online product evaluation. Nevertheless, the present study did not record the specific AR format, product category, or brand encountered by each respondent. The coefficient should therefore be interpreted as an association with respondents' general perceptions of AR-supported Instagram shopping rather than as the effect of a standardized AR intervention. Moreover, because the measurement scales exhibited substantial shared variance, the precise magnitude of the AR coefficient should be interpreted cautiously.

Content Quality had the largest standardized coefficient and therefore showed the strongest conditional association with Purchase Intention within the fitted model, supporting H2. This result is consistent with the information-quality perspective, which emphasizes the importance of relevant, understandable, useful, and appropriately presented information in consumer decision-making. The finding also aligns with Dabbous and Barakat (2020), who reported that the quality of brand-generated social-media content is associated with consumers' purchase-related responses. More recent social-commerce evidence similarly indicates that informative and credible digital content can contribute to purchase-related evaluations through mechanisms such as flow and trust (Ghenie et al., 2026). In the Indonesian context, Zaki and Kristiani (2026) likewise found that content marketing in social commerce contributed positively to consumers' purchase decisions, further emphasizing the importance of decision-relevant digital content. In the present context, visually attractive content may therefore be

insufficient unless it also provides information that consumers can use to evaluate the product. However, because the exploratory factor analysis indicated substantial shared variance among the measures, Content Quality should be regarded as the strongest predictor within this exploratory model rather than as a definitively isolated causal determinant.

Brand Interactivity was positively but nonsignificantly associated with Purchase Intention after Augmented Reality experience and Content Quality were included in the model. Using HC3 inference, the association remained statistically nonsignificant ($\beta = 0.111$, $p = 0.276$), and H3 was not supported. This finding should not be interpreted as evidence that brand interaction is irrelevant to social commerce. Rather, the present data do not demonstrate a statistically reliable unique association between Brand Interactivity and Purchase Intention after accounting for the other predictors. Interactive communication may operate through mechanisms such as engagement, trust, satisfaction, or relationship quality, none of which were tested as mediators in the present model. This interpretation is consistent with recent Indonesian evidence showing that chatbot-based interaction can contribute to purchase decisions while trust functions as an important mediating mechanism between digital marketing features and consumer responses (Amaretta & Mangabarani, 2026). In addition, the substantial shared variance among the measurement scales may have reduced the empirical distinctiveness of Brand Interactivity relative to Augmented Reality and Content Quality. Future research using more clearly differentiated measures is therefore needed before concluding that Brand Interactivity lacks an independent purchase-related role.

At the model level, Augmented Reality experience, Content Quality, and Brand Interactivity jointly explained 67.1% of the observed variance in Purchase Intention. This result indicates substantial predictive fit within the analyzed sample but does not establish causal influence or statistical interaction among the predictors. The measurement findings impose an important qualification on predictor-specific interpretation. Parallel analysis retained one dominant factor, and the reliability coefficients ranged from 0.616 to 0.651, indicating substantial common variance among the measured perceptions. Such overlap limits the precision with which unique contributions can be separated and means that individual regression coefficients may be sensitive to the degree of shared measurement variance. Accordingly, the direction and relative ordering of the coefficients remain useful for exploratory prediction, but their exact magnitudes should be regarded as provisional until stronger construct differentiation is demonstrated in an independent sample.

The theoretical contribution of the study lies in demonstrating how technological, informational, and relational perceptions can be examined jointly within an exploratory social-commerce framework. The findings show that an integrated model can account for a substantial proportion of variation in Purchase Intention, while the EFA results simultaneously indicate that consumers' perceptions of AR, content, and brand interaction were not empirically differentiated as clearly as the theoretical framework assumed. The study therefore does not claim confirmatory validation of four distinct constructs. Instead, it identifies the joint predictive relevance of these dimensions while highlighting construct differentiation as an important measurement challenge for future social-commerce research.

From a managerial perspective, the coefficient ordering provides a provisional basis for prioritizing social-commerce activities rather than a causal ranking of investment returns. Content Quality deserves particular attention because it showed the strongest conditional association with Purchase Intention. In practice, brands can improve decision-relevant content by providing accurate product descriptions, materials, dimensions, sizing information, usage contexts, demonstration videos, and visually coherent product presentations. Augmented Reality should complement this informational function by facilitating product evaluation through features such as virtual try-on, spatial visualization, and context-specific product previews rather than being implemented primarily as an entertainment feature. Brand Interactivity should remain part of the customer-engagement strategy through responsive direct messages, timely responses to comments, live-shopping interactions, and opportunities for consumer participation. However, the present findings do not demonstrate an

independent association between Brand Interactivity and Purchase Intention after the other predictors are considered. Its managerial role may therefore be more appropriately positioned as supporting product clarification, engagement, and trust-building rather than as a standalone driver of purchase intention.

CONCLUSION

This study examined Augmented Reality experience, Content Quality, and Brand Interactivity as predictors of Purchase Intention among 202 Indonesian Instagram Shopping users. The regression model explained 67.1% of the observed variance in Purchase Intention, with Content Quality showing the strongest positive and statistically significant association ($\beta = 0.439$, $p < 0.001$), followed by Augmented Reality experience ($\beta = 0.341$, $p < 0.001$), whereas Brand Interactivity showed a smaller positive but statistically nonsignificant association ($\beta = 0.111$, $p = 0.276$); accordingly, H1 and H2 were supported, while H3 was not supported. The study contributes to social-commerce research by jointly examining technological, informational, and relational dimensions within an exploratory predictive framework, while the measurement findings indicate that these dimensions were not empirically differentiated as clearly as the theoretical model assumed. For practitioners, the results provide a cautious basis for prioritizing accurate and decision-relevant product content, complemented by AR features that facilitate product evaluation, while responsive brand communication should remain part of the customer-engagement strategy even though its independent association with Purchase Intention was not statistically supported after the other predictors were controlled. These findings should be interpreted in light of several limitations, including modest internal consistency, the retention of one dominant factor in parallel analysis, heterogeneous and self-reported AR exposure, and the use of a cross-sectional purposive sample, all of which limit causal inference and broader generalization. Future research should therefore refine and validate the measurement structure using independent samples, document specific AR formats and product categories, replicate the model across different social-commerce platforms, and employ longitudinal or experimental designs to examine whether mechanisms such as brand trust, perceived risk, customer engagement, or consumer flow explain the relationships between AR-supported shopping experiences and Purchase Intention.

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