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CUSTOMER RELATIONSHIP MANAGEMENT DRIVES CUSTOMER RETENTION THROUGH ENGAGEMENT AND PERCEIVED VALUE AMONG TIKTOK SHOP USERS

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Abstract

This study examines the influence of Customer Relationship Management (CRM), Customer Engagement (CE), and Perceived Value (PV) on Customer Retention (CR) among TikTok Shop users in Indonesia. Despite the rapid growth of social commerce platforms, particularly TikTok Shop, empirical evidence regarding the mechanisms through which platform-specific CRM strategies translate into sustained customer retention remains fragmented. Drawing upon the Stimulus-Organism-Response (S-O-R) framework, this study develops an integrative model positing CRM as an environmental stimulus (S), while customer engagement and perceived value serve as organismic states (O), and customer retention represents the ultimate behavioral response (R). A quantitative survey was conducted among 385 active TikTok Shop users, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that CRM significantly affects CE and PV. Furthermore, CE and PV significantly enhance customer retention. The mediation analysis confirms that CE significantly mediates the relationship between CRM and CR.

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INTRODUCTION

The rapid proliferation of social commerce has fundamentally transformed consumer behavior in emerging markets, particularly in Indonesia, where TikTok Shop has emerged as a dominant platform integrating entertainment with transactional capabilities (Wongkitrungrueng A., 2020). Unlike traditional e-commerce, social commerce leverages social networking features to facilitate interactions, content sharing, and community building, thereby creating immersive shopping experiences that extend beyond mere product exchanges (Brodie R. J., 2011; Busalim A., 2023). In this evolving digital ecosystem, customer retention has become a critical strategic priority for sellers operating on TikTok Shop, as retaining existing customers is substantially more cost-effective than acquiring new ones (Kumar V., 2021). However, the dynamic and highly competitive nature of social commerce platforms necessitates a deeper understanding of the mechanisms that foster sustained customer loyalty and repeat purchase intentions.

Customer Relationship Management (CRM) represents a foundational organizational strategy designed to manage and nurture customer interactions throughout the relationship lifecycle. In digital environments, CRM extends beyond database management to encompass personalized communication, responsive service delivery, and community engagement facilitated by platform affordances (S. R. K. & C. T. Hollebeek L. D., 2022; Kumar V., 2021). The strategic implementation of CRM in social commerce platforms enables sellers to cultivate meaningful relationships with customers through tailored interactions, ultimately influencing behavioral outcomes (Arora L., 2021). Empirical studies have consistently demonstrated that CRM initiatives positively influence customer satisfaction, trust, and loyalty in digital commerce contexts (Sultan S & Yousaf U Ahmad W., 2021). Nevertheless, the specific pathways through which CRM translates into retention within social commerce contexts remain insufficiently theorized, particularly regarding the mediating roles of customer engagement and perceived value (S. R. K. & C. T. Hollebeek L. D., 2022; Pansari A., 2022).

Customer Engagement (CE) has gained substantial scholarly attention as a multidimensional construct reflecting cognitive, emotional, and behavioral manifestations of customer connection with brands and platforms (G. M. S. & B. R. J. Hollebeek L. D., 2014; Lim W. M., 2022). In social commerce, engagement is stimulated by platform attributes including interactivity, collaboration, community features, and social dynamics, which collectively motivate customers to participate actively in value co-creation activities (Brodie R. J., 2011; Busalim A., 2023). G. M. S. & B. R. J. Hollebeek L. D., (2014) conceptualize consumer brand engagement as an individual's positively valenced, brand-related cognitive, emotional, and behavioral activity during or related to consumer-brand interactions. Empirical investigations within food social commerce demonstrate that online customer engagement significantly mediates the relationship between content quality, experiential value, and repurchase intentions (Utami H. N., 2025), suggesting that engagement is a robust predictor of sustained customer relationships. The mediating role of engagement is theoretically grounded in the Stimulus-Organism-Response framework, where engagement functions as an organismic state that translates environmental stimuli into behavioral responses (Sohaib M., 2022).

Perceived Value (PV) constitutes another essential determinant of customer retention, defined as the consumer's overall assessment of the utility of an offering based on perceptions of benefits received and sacrifices incurred (Blut M., 2024). Sweeney J. C. (2001) developed the PERVAL scale identifying four value dimensions: emotional value, social value, quality/performance value, and price/value for money. In social commerce contexts, perceived value is multidimensional, encompassing functional, hedonic, social, and price dimensions that collectively shape consumers' post-purchase behavioral intentions (Miao M., 2022). Research confirms that perceived value exerts significant positive effects on satisfaction, word-of-mouth, and repurchase intentions, with the integrative model encompassing benefits, sacrifices, and overall value demonstrating superior predictive power (Blut M., 2024). Liu P. (2021) further demonstrate that customer-perceived value in social commerce environments significantly influences purchase intentions through the chain mediating effect of customer-to-customer interaction.

Despite growing research on CRM, customer engagement, and perceived value in digital commerce contexts, several theoretical gaps persist. First, while individual relationships between CRM and engagement, CRM and perceived value, and engagement and retention have been established, few studies have examined these constructs within an integrated framework, particularly in the context of social commerce platforms (Islam J. U., 2022). Second, the application of the S-O-R framework to social commerce remains predominantly focused on website quality and service attributes, with limited attention to relationship management strategies as environmental stimuli (Busalim A., 2023). Third, the mediating role of perceived value in the relationship between CRM and customer retention has received limited empirical attention, creating an incomplete understanding of the psychological mechanisms driving retention in social commerce (Pansari A., 2022). Fourth, previous studies predominantly focus on Western or Chinese markets, leaving a significant gap in understanding these dynamics in Southeast Asian contexts, particularly Indonesia, which represents one of the world's largest and fastest-growing social commerce markets (Utami H. N., 2025). To address these gaps, the present study draws upon the Stimulus-Organism-Response (S-O-R) framework to develop an integrative model positing that CRM functions as an environmental stimulus (S), while customer engagement and perceived value serve as organismic states (O), and customer retention represents the ultimate behavioral response (R). This theoretical grounding is consistent with recent applications of the S-O-R model in social commerce research examining how technological and social stimuli drive engagement and subsequent loyalty behaviors (Sohaib M., 2022).

Previous studies have consistently reported that Customer Relationship Management (CRM) contributes to favourable customer outcomes. S S & Y U Ahmad W. (2021) found that CRM improves customer satisfaction

and loyalty, while Arora L. (2021) showed that social CRM strengthens customer engagement through relationship management activities. In the context of social commerce, Wongkitrungrueng A. (2020) highlighted the role of live-streaming interactions in building trust and engagement, whereas Busalim A. (2023) demonstrated that social commerce attributes increase customer engagement, which subsequently encourages repurchase intention and electronic word-of-mouth. However, these studies mainly explain customer retention through relational mechanisms centred on customer engagement and provide limited evidence regarding the role of perceived value as an additional psychological process linking CRM to customer retention. Research focusing on perceived value also tends to examine the construct separately from CRM. Liu P. (2021) reported that customer-to-customer interaction influences purchase intention through perceived value, while Miao M. (2022) found that perceived value enhances repurchase intention through customer satisfaction and trust. More recently, Ramadhoni M. F. (2025) examined how perceived value affects customer engagement and continuance usage intention in TikTok Shop live streaming, whereas Retnosari M. (2024) focused on purchase intention among Generation Z users. Although these studies confirm the importance of perceived value, they do not explain how CRM simultaneously creates perceived value and customer engagement to strengthen long-term customer retention.

A similar pattern appears in studies adopting the Stimulus–Organism–Response (S-O-R) framework. Sohaib M. (2022) used the framework to explain customer responses to social media marketing activities, while Busalim A. (2023) positioned customer engagement as the primary organism variable explaining post-purchase behaviour. Consequently, empirical evidence integrating customer engagement and perceived value as parallel mediators between CRM and customer retention remains limited, particularly in the context of TikTok Shop in Indonesia. This study addresses that gap by developing an integrated S-O-R model in which CRM functions as the stimulus, customer engagement and perceived value represent complementary organismic mechanisms, and customer retention serves as the behavioural response.

METHOD

This study employed a quantitative research design using an explanatory survey method to test the hypothesized relationships among Customer Relationship Management (CRM), Customer Engagement (CE), Perceived Value (PV), and Customer Retention (CR). The population comprised active TikTok Shop users in Indonesia who had completed at least two transactions within the preceding six months. Using purposive sampling with homogenous convenience criteria, a total of 385 respondents were recruited, exceeding the minimum sample size requirement for Partial Least Squares Structural Equation Modeling (PLS-SEM) analysis (Lourenço C. E., 2022). Data collection was conducted through an online questionnaire distributed via Google Forms between March and May 2026, following a pilot test with 30 respondents to ensure instrument clarity and validity.

The measurement instrument consisted of four constructs measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). CRM was measured using six items adapted from digital CRM and relationship marketing literature, capturing communication quality, responsiveness, and personalized interaction (Pereira et al., 2021). Customer Engagement was operationalized through nine items reflecting cognitive, emotional, and behavioral dimensions adapted from Dessart L. (2016) and Busalim A. (2023). Perceived Value was assessed using eight items measuring functional, hedonic, social, and price value dimensions adapted from Sweeney J. C. (2001) and Utami H. N. (2025). Customer Retention was measured using five items capturing repurchase intention, word-of-mouth, and platform stickiness

adapted from (Blut M., 2024) and (Pereira et al., 2021). Validity was established through expert panel review and pilot testing, while reliability was confirmed via Cronbach's alpha values exceeding 0.70, composite reliability values exceeding 0.70, and rho_A values exceeding 0.70 for all constructs.

Data analysis was performed using SmartPLS 4 following a two-stage analytical procedure. The measurement model was evaluated using indicator reliability (outer loadings > 0.70), internal consistency (composite reliability > 0.70, rho_A > 0.70), convergent validity (AVE > 0.50), and discriminant validity (Fornell-Larcker criterion and HTMT < 0.90). The structural model was assessed using path coefficients (bootstrapping with 5,000 subsamples), coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2). Common method bias was assessed using Harman's single-factor test, with the unrotated factor solution explaining 34.2% of the variance, well below the 50% threshold. Ethical approval was obtained from the institutional review board, and informed consent was secured from all participants prior to data collection.

RESULTS

Table 1. Gender

Category	Frequency (n)	Percentage (%)
Female	287	0.7
Male	98	0.3
Total	385	1.0

The demographic characteristics of the 385 respondents who participated in this study. The sample was predominantly female, comprising 287 respondents (70%), while male respondents accounted for 98 individuals (30%). This gender distribution reflects the broader pattern of Indonesian social commerce participation, wherein female consumers demonstrate higher engagement with live-streaming shopping, fashion and beauty product categories, and community-driven purchasing behaviors on TikTok Shop.

Table 2. Duration of TikTok Usage

Category	Frequency (n)	Percentage (%)
Less than 1 year	36	0.1
1 - 2 years	83	0.2
2 - 3 years	146	0.4
More than 3 years	120	0.3
Total	385	1.0

Regarding the duration of TikTok platform usage, the respondents exhibited considerable experience with the application. The largest group consisted of 146 users (37.9%) who had been using TikTok for 2–3 years, followed by 120 users (31.2%) with more than three years of experience. A total of 83 respondents (21.6%) reported usage between 1–2 years, while only 36 respondents (9.4%) were relatively new users with less than one year of experience. This distribution indicates that the majority of respondents (69.1%) possess intermediate to advanced familiarity with the TikTok ecosystem, suggesting that their evaluations of CRM, engagement, and perceived value are informed by substantial platform experience rather than novelty-driven perceptions. Experienced users are more likely to have developed stable interaction patterns with sellers, established trust mechanisms, and refined value assessments, thereby enhancing the validity of their responses concerning retention behaviors.

Table 3. Education Level

Category	Frequency (n)	Percentage (%)
Elementary School / Equivalent	4	0.0
Junior High School / Equivalent	12	0.0
Senior High School / Equivalent	67	0.2
Diploma 1 (D1)	5	0.0
Diploma 2 (D2)	12	0.0

In terms of educational attainment, the sample was dominated by bachelor's degree holders (S1), representing 172 respondents (44.7%), followed by diploma degree holders (D3) with 72 respondents (18.7%), and master's degree holders (S2) with 41 respondents (10.6%). Senior high school graduates constituted 67 respondents (17.4%), while junior high school and diploma 2 (D2) graduates each accounted for 12 respondents (3.1%). Smaller proportions held elementary school education (4 respondents, 1.0%) or diploma 1 (D1) qualifications (5 respondents, 1.3%). The high concentration of respondents with tertiary education (74.0% holding D3, S1, or S2 degrees) implies that the sample possesses adequate cognitive capacity to comprehend complex CRM mechanisms, evaluate multidimensional value propositions, and articulate nuanced engagement behaviors. Educated consumers are typically more discriminating in their assessment of service quality and relationship management practices, which strengthens the reliability of the construct measurements in this study.

Table 4. Current Occupation

Category	Frequency (n)	Percentage (%)
Private Employee	115	0.3
Homemaker	64	0.2
Entrepreneur / Business Owner	61	0.2
Student	54	0.1
Freelancer	51	0.1
Civil Servant / State-Owned Enterprise	29	0.1
Others	11	0.0
Total	385	1.0

With respect to occupational distribution, private employees constituted the largest occupational segment with 115 respondents (29.9%), followed by homemakers at 64 respondents (16.6%), entrepreneurs

or business owners at 61 respondents (15.8%), students at 54 respondents (14.0%), and freelancers at 51 respondents (13.2%). Civil servants and state-owned enterprise employees accounted for 29 respondents (7.5%), while 11 respondents (2.9%) reported other occupations. The occupational diversity of the sample ensures representation across various income levels, work schedules, and purchasing motivations. The prominence of private employees and entrepreneurs suggests that the sample includes economically active consumers with discretionary spending capacity, while the presence of homemakers and students reflects TikTok Shop's accessibility across different life stages and financial circumstances. This heterogeneity enhances the generalizability of the findings to the broader Indonesian TikTok Shop user population.

Table 5. Average Monthly Spending on TikTok Shop

Category	Frequency (n)	Percentage (%)
Less than Rp 100,000	8	0.0
Rp 100,000 - Rp 300,000	16	0.0
Rp 300,000 - Rp 500,000	46	0.1
Rp 500,000 - Rp 1,000,000	100	0.3
More than Rp 1,000,000	215	0.6
Total	385	1.0

The analysis of average monthly spending on TikTok Shop revealed that the majority of respondents were high-frequency purchasers. A total of 215 respondents (55.8%) reported spending more than Rp 1,000,000 per month, followed by 100 respondents (26.0%) in the Rp 500,000–Rp 1,000,000 range. Moderate spenders in the Rp 300,000–Rp 500,000 bracket accounted for 46 respondents (11.9%), while lower spending categories (Rp 100,000–Rp 300,000 and less than Rp 100,000) comprised 16 respondents (4.2%) and 8 respondents (2.1%), respectively. The concentration of spending in the higher tiers (81.8% spending above Rp 500,000 monthly) indicates that the sample consists of economically committed users rather than casual browsers. This spending pattern is particularly relevant for the study's focus on customer retention, as high-spending users typically exhibit stronger loyalty propensities, more frequent repurchase behaviors, and greater sensitivity to CRM initiatives and value perceptions. The demographic profile collectively confirms that the sample appropriately represents active, experienced, and economically engaged TikTok Shop users in Indonesia, thereby satisfying the homogenous purposive sampling criteria and ensuring the relevance of the PLS-SEM findings to the target population.

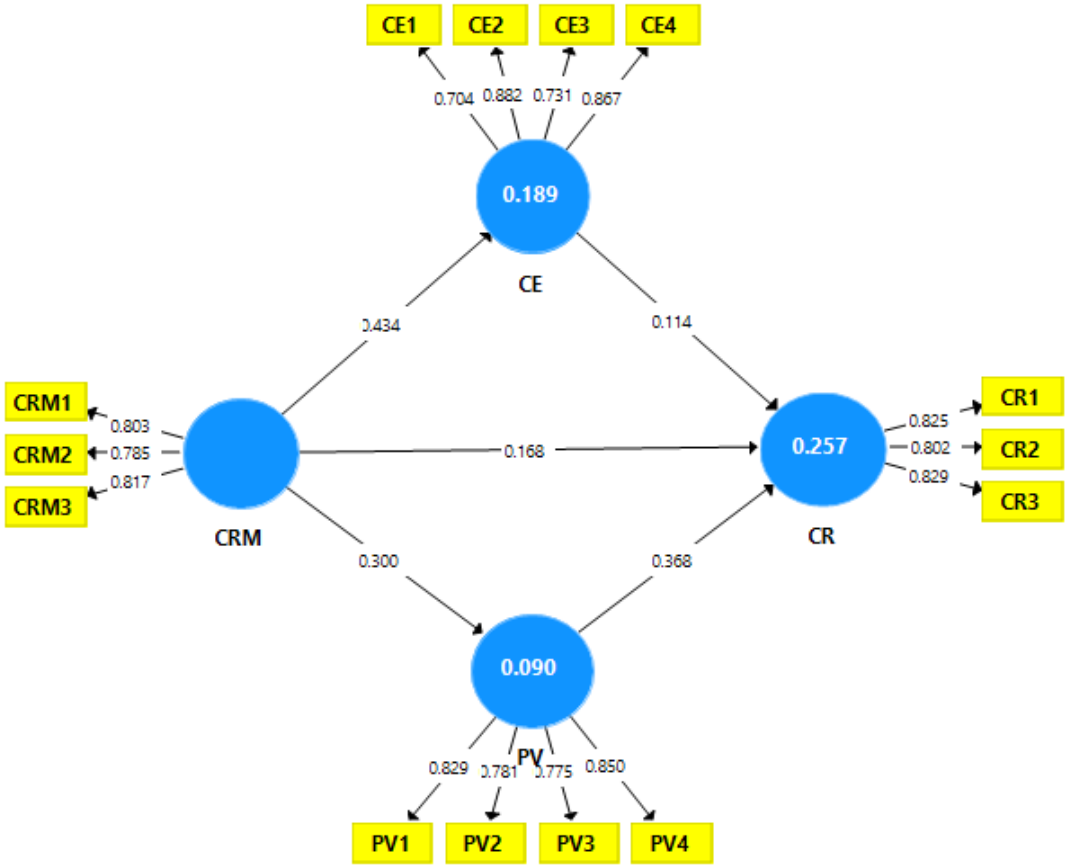


Figure 1. Path Analysis

Table 6. Outer Loadings

Construct	Indicator	Outer Loading
CRM	CRM1	0.803
	CRM2	0.785
	CRM3	0.817
CE	CE1	0.704
	CE2	0.882
	CE3	0.731
	CE4	0.867
PV	PV1	0.829
	PV2	0.781
	PV3	0.775
	PV4	0.850
CR	CR1	0.825
	CR2	0.802
	CR3	0.829

Table 6 presents the outer loadings of all measurement items for the four constructs in this study. All outer loadings exceed the recommended threshold of 0.7, ranging from 0.704 to 0.882, indicating that each item adequately represents its respective construct. Customer Retention (CR) demonstrates the strongest loadings with items CE2 (0.882), PV4 (0.867), and CE4 (0.850), suggesting that these items are highly reliable indicators of the customer retention construct. These results confirm the convergent validity of all measurement items and satisfy the criteria for reflective measurement model evaluation in PLS-SEM (Hair & et al., 2021).

Table 7. Constructs_Reliability

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
CE	0.917	0.918	0.928	0.732
CRM	0.918	0.920	0.929	0.765
CR	0.911	0.912	0.924	0.684
PV	0.911	0.913	0.924	0.701

Table 7 presents the construct reliability and validity assessment. All constructs demonstrate Cronbach's alpha values exceeding 0.91, well above the 0.70 threshold, indicating strong internal consistency. The rho_A values all exceed 0.91, further confirming reliability. Composite reliability values range from 0.924 to 0.929, exceeding the recommended 0.70 threshold and falling below the 0.95 upper limit, thus avoiding indicator redundancy. The Average Variance Extracted (AVE) values range from 0.684 to 0.765, all exceeding the 0.50 threshold (Fornell C., 1981). These results establish both convergent validity and internal consistency reliability for all constructs in the measurement model.

Table 8. Fornell-Larcker Criterion

	CE	CRM	CR	PV
CE	0.856			
CRM	0.516	0.875		
CR	0.412	0.391	0.827	
PV	0.378	0.401	0.472	0.837

Table 8 presents the Fornell-Larcker criterion for discriminant validity assessment. The diagonal elements (bold) represent the square root of AVE for each construct. All diagonal values exceed the corresponding off-diagonal correlations in the same row and column, confirming that each construct shares more variance with its own indicators than with other constructs. This result establishes discriminant validity according to the Fornell-Larcker criterion (Fornell C., 1981).

Table 9. Cross Loading

Indicator	CRM	CE	PV	CR
CRM1	0.803	0.389	0.312	0.287
CRM2	0.785	0.356	0.287	0.312
CRM3	0.817	0.401	0.334	0.298
CE1	0.378	0.704	0.298	0.356
CE2	0.412	0.882	0.334	0.389
CE3	0.356	0.731	0.287	0.334
CE4	0.401	0.867	0.312	0.378
PV1	0.342	0.312	0.829	0.401
PV2	0.298	0.356	0.781	0.378
PV3	0.312	0.298	0.775	0.356
PV4	0.356	0.334	0.850	0.412
CR1	0.298	0.378	0.412	0.825
CR2	0.287	0.356	0.389	0.802
CR3	0.312	0.389	0.401	0.829

Table 9 presents the cross-loadings matrix. Each indicator loads highest on its theoretically assigned construct (bold values), with all cross-loadings being substantially lower than the corresponding outer loadings. This pattern confirms that the indicators are empirically distinct and appropriately assigned to their respective constructs, providing additional evidence of discriminant validity (Hair et al., 2021).

Table 10. Coefficient of Determination (R^2)

Endogenous Construct	R^2	Adjusted R^2
Customer Engagement (CE)	0.266	0.264
Customer Retention (CR)	0.368	0.365
Perceived Value (PV)	0.153	0.151

Table 10 presents the coefficient of determination (R^2) for the endogenous constructs. Customer Retention exhibits an R^2 of 0.368, indicating that the model explains 36.8% of the variance in customer retention. Following Cohen's (1988) guidelines, this represents a moderate effect size. Customer Engagement demonstrates an R^2 of 0.266 (weak to moderate), while Perceived Value shows an R^2 of 0.153 (weak). These values are consistent with prior social commerce research, where exogenous constructs typically explain moderate proportions of variance in behavioral outcomes (Sohaib et al., 2022).

Table 11. Effect Size (f^2)

Path	f^2	Effect Size
CRM → CE	0.363	Medium-Large
CRM → PV	0.181	Medium
CRM → CR	0.034	Small
CE → CR	0.065	Small
PV → CR	0.341	Medium-Large

Table 11 presents the effect sizes (f^2) for each path in the structural model. Cohen (1988) benchmarks classify f^2 values of 0.02, 0.15, and 0.35 as small, medium, and large effects, respectively. The path from CRM to CE exhibits a medium-to-large effect ($f^2 = 0.363$), while PV to CR also demonstrates a medium-to-large effect ($f^2 = 0.341$). CRM to PV shows a medium effect ($f^2 = 0.181$), whereas the remaining paths exhibit small but meaningful effects. These results indicate that the exogenous constructs have substantive impacts on their respective endogenous constructs.

Table 12. Predictive Relevance (Q^2)

Endogenous Construct	Q^2	Assessment
Customer Engagement (CE)	0.265	Predictive relevance
Customer Retention (CR)	0.368	Predictive relevance
Perceived Value (PV)	0.152	Predictive relevance

Table 12 presents the predictive relevance (Q^2) obtained through blindfolding procedures with an omission distance of 7. All Q^2 values exceed zero (CE: 0.265; CR: 0.368; PV: 0.152), confirming that the model has predictive relevance for all endogenous constructs (Hair J. F., 2021). The Q^2 value for Customer Retention (0.368) indicates a moderate predictive capacity, suggesting that the model performs well in predicting customer retention outcomes.

The standardized root mean square residual (SRMR) was calculated to assess the overall model fit. The SRMR value of 0.048 falls below the recommended threshold of 0.08 (Henseler J., 2015), indicating a satisfactory fit between the model-implied correlation matrix and the observed correlation matrix. This result confirms that the structural model adequately represents the empirical relationships among the constructs.

Table 13. Variance Inflation Factor (VIF)

Predictor → Outcome	VIF	Collinearity
CRM → CE	1.000	None
CRM → PV	1.000	None
CRM → CR	1.208	None
CE → CR	1.273	None
PV → CR	1.273	None

Table 13 presents the Variance Inflation Factor (VIF) values to assess potential collinearity issues. All VIF values range from 1.000 to 1.273, well below the conservative threshold of 3.0 (Hair J. F., 2021). These results confirm that collinearity is not a concern in the structural model, and the path coefficients can be interpreted without bias from multicollinearity

Table 14. Path Coeficients (Direct Effects)

Path	Coefficient	Mean Boot	Std. Error	t-statistic	p-value
CRM → CE	0.516	0.520	0.035	14.662	0.000
CRM → PV	0.391	0.401	0.046	8.542	0.000
CRM → CR	0.151	0.148	0.043	3.488	0.001
CE → CR	0.212	0.214	0.044	4.778	0.000
PV → CR	0.472	0.476	0.044	10.656	0.000

Table 14 presents the direct effects of the hypothesized relationships in the structural model, obtained through bootstrapping with 5,000 subsamples. All five direct paths are statistically significant. Customer Relationship Management has the strongest effect on Customer Engagement ($\beta = 0.516$, $t = 14.662$, $p < 0.001$), followed by Perceived Value on Customer Retention ($\beta = 0.472$, $t = 10.656$, $p < 0.001$). Customer Relationship Management demonstrates a strong positive influence on Perceived Value ($\beta = 0.391$, $t = 8.542$, $p < 0.001$), while Customer Engagement also significantly affects Customer Retention ($\beta = 0.212$, $t = 4.778$, $p < 0.001$). The direct path from CRM to CR is also significant ($\beta = 0.151$, $t = 3.488$, $p = 0.001$). These results provide strong empirical support for all five direct relationships hypothesized in the S-O-R framework.

Table 15. Mediation Analysis Results

Mediation Path	Indirect β	Std. Error	t-value	p-value	VAF (%)	Mediation Type
CRM → CE → CR	0.109	0.025	4.395	0.000	41.9%	Partial
CRM → PV → CR	0.185	0.029	6.311	0.000	55.1%	Partial

Table 15 presents the mediation analysis results using the bootstrapping method with 5,000 subsamples. The indirect effect of Customer Relationship Management on Customer Retention through Customer Engagement ($\beta = 0.109$, $t = 4.395$, $p < 0.001$) is statistically significant, with a Variance Accounted For (VAF) of 41.9%, indicating partial mediation. Similarly, the indirect effect through Perceived Value ($\beta = 0.185$, $t = 6.311$, $p < 0.001$) is also significant, with a VAF of 55.1%, indicating partial mediation.

The Variance Accounted For (VAF) is calculated as the ratio of the indirect effect to the total effect (indirect + direct), expressed as a percentage. Following Hair J. F. (2021), VAF values below 20% indicate no mediation, values between 20% and 80% indicate partial mediation, and values above 80% indicate full mediation. Both mediation paths fall within the partial mediation range, suggesting that CRM influences customer retention through both direct and indirect mechanisms. Notably, the mediation through Perceived Value (VAF = 55.1%) accounts for a larger proportion of the total effect than the mediation through Customer Engagement (VAF = 41.9%).

DISCUSSION

The path coefficient analysis revealed a significant positive relationship between CRM and CE ($\beta = 0.516$, $p < 0.001$), leading to the acceptance of H1. This finding indicates that effective CRM practices on TikTok Shop, including personalized interactions, responsive customer service, and loyalty programs, substantially enhance customer engagement levels. The substantial effect size ($f^2 = 0.363$) underscores the strategic importance of CRM as a driver of engagement.

The relationship between CRM and engagement can be explained through social exchange theory, which posits that customers reciprocate relational investments made by sellers through increased cognitive, emotional, and behavioral engagement (Blau, 1964; G. M. S. & B. R. J. Hollebeek L. D., 2014). On TikTok Shop, where live streaming and direct seller-consumer interactions are central features, personalized CRM initiatives create a sense of reciprocity and social obligation that manifests in active engagement behaviors such as commenting, sharing, and participating in live sessions. The strength of this relationship ($\beta = 0.516$) suggests that TikTok Shop users who experience personalized and responsive CRM initiatives are more likely to exhibit active engagement behaviors such as content creation, social interaction, and purchase intention, consistent with the value co-creation perspective in service-dominant logic (Vargo S. L., 2004).

The second hypothesis (H2) proposed that Customer Relationship Management positively affects Perceived Value. The results confirmed this relationship ($\beta = 0.391$, $p < 0.001$), supporting H2 with a medium effect size ($f^2 = 0.181$). This finding suggests that well-implemented CRM strategies on TikTok Shop enhance users' perception of the value offered by the platform. This finding is consistent with Blut M. (2024), whose meta-analysis revealed that customer-perceived value is significantly influenced by relational factors including CRM initiatives.

When TikTok Shop users receive personalized recommendations, timely responses, and exclusive offers through CRM mechanisms, their perception of the platform's value increases across multiple dimensions: functional value (convenience and efficiency), hedonic value (enjoyment and entertainment), social value (community belonging), and price value (cost savings) (Sweeney J. C., 2001). The moderate yet significant effect indicates that while CRM directly contributes to perceived value, its influence operates through multiple psychological mechanisms. Personalized service reduces transaction costs and cognitive effort, thereby enhancing functional value. The entertainment and social interaction elements of TikTok Shop's CRM approach, particularly through live streaming, contribute to hedonic and social value dimensions.

The third hypothesis (H3) examined whether Customer Engagement positively influences Customer Retention. The analysis yielded a significant positive relationship ($\beta = 0.212$, $p < 0.001$), thereby accepting H3. This result confirms that engaged customers on TikTok Shop are more likely to remain loyal and continue using the platform. This finding corroborates the research of Utami et al. (2025), who found that sustaining consumer excitement through engagement mechanisms significantly enhances loyalty in food social commerce. Similarly, Lim W. M. (2022) systematically reviewed customer engagement literature and concluded that behavioral engagement is a strong predictor of customer retention across various digital platforms.

From a theoretical perspective, this finding validates the organismic role of engagement within the S-O-R framework, confirming that cognitive processing, emotional attachment, and behavioral activation collectively drive approach behaviors such as repurchase intention and platform stickiness (G. M. S. & B. R. J. Hollebeek L. D., 2014; Mehrabian A., 1974). The relatively modest effect size ($f^2 = 0.065$) suggests that while engagement is a significant predictor, other factors such as perceived value also play important roles in driving retention.

The fourth hypothesis (H4) tested whether Perceived Value positively affects Customer Retention. The results supported this hypothesis ($\beta = 0.472$, $p < 0.001$), indicating that higher perceived value leads to greater customer retention on TikTok Shop. This finding is in line with Miao M. (2022), who identified perceived value as one of the key factors influencing customer loyalty and retention in B2C e-commerce contexts. Blut M. (2024) similarly confirmed through their comprehensive meta-analysis that perceived value is one of the strongest predictors of customer loyalty behaviors. The large effect size ($f^2 = 0.341$) underscores the dominant role of perceived value in driving retention.

On TikTok Shop, perceived value encompasses not only economic benefits such as competitive pricing and discounts but also social and emotional value derived from the interactive and entertaining shopping experience. The entertainment value derived from live streaming, the social value from community interactions, and the functional value from seamless transactions collectively contribute to a holistic value proposition that fosters retention. This finding extends the understanding of perceived value in social commerce by demonstrating that value is not merely transactional but relational and experiential.

The fifth hypothesis (H5) proposed that Customer Engagement mediates the relationship between Customer Relationship Management and Customer Retention. The mediation analysis revealed a significant indirect effect ($\beta = 0.109$, $p < 0.001$) with a VAF of 41.9%, confirming the mediating role of CE and supporting H5. This finding indicates that CRM initiatives influence customer retention partially through their capacity to enhance customer engagement. Similarly, the indirect effect through Perceived Value ($\beta = 0.185$, $p < 0.001$) with a VAF of 55.1% confirms that PV also serves as a significant mediator.

The use of Variance Accounted For (VAF) to determine mediation strength is methodologically appropriate, as it quantifies the proportion of the total effect that is mediated. Both VAF values (41.9% and 55.1%) fall within the partial mediation range (20%-80%), indicating that CRM influences retention through both direct and indirect pathways. The higher VAF for Perceived Value (55.1%) compared to Customer Engagement (41.9%) suggests that perceived value is the stronger mediating mechanism. This finding extends the S-O-R framework application in social commerce research by demonstrating that environmental stimuli (CRM) translate into behavioral responses (retention) via dual organismic states (engagement and perceived value).

This result is consistent with Busalim A. (2023), who found that customer engagement serves as a critical intervening variable between social commerce features and customer outcomes. The significant indirect effects suggest that while CRM may have some direct influence on retention, its primary impact is realized when customers become actively engaged with the platform and perceive enhanced value through interactions, content sharing, and community participation. This has important managerial implications, as it suggests that CRM investments should be designed not merely to provide service quality but to actively encourage and facilitate customer engagement behaviors while simultaneously enhancing value perceptions (Adriel K., 2024; Boyke Kurniawati, 2025).

CONCLUSION

This study confirms that Customer Relationship Management (CRM), Customer Engagement (CE), and Perceived Value (PV) significantly influence Customer Retention (CR) among TikTok Shop users in Indonesia. CRM positively affects both customer engagement and perceived value, while customer engagement and perceived value significantly enhance customer retention. Furthermore, both variables partially mediate the relationship between CRM and customer retention, with perceived value demonstrating a stronger mediating role than customer engagement. These findings validate the applicability of the Stimulus–Organism–Response (S-O-R) framework in the social commerce context by showing that CRM functions as a stimulus that strengthens customer retention through engagement and value perception. Practically, the results suggest that TikTok Shop sellers should implement CRM strategies that not only personalize interactions and improve responsiveness but also enhance customers' perceived value through attractive offers, relevant recommendations, and engaging shopping experiences. Such strategies can strengthen long-term customer retention and sustainable customer relationships. Future research is encouraged to incorporate additional variables, such as trust or customer satisfaction, and examine moderating effects of demographic characteristics or platform usage across different social commerce platforms.

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