



Received: 07-03-2026
Accepted: 17-04-2026

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Application of RFM and PLS-SEM to Analyze University Students' Purchase Behavior Toward Cỏ Cây Hoa Lá Ginger–Lemongrass Herbal Shampoo on TikTok Shop in Bac Tu Liem

¹ Nguyen Thi Thu, ² Ta Thi Nhu Y, ³ Lam Tuan Vu, ⁴ Le Thi Hong Yen, ⁵ Nguyen Vu Anh Tuan
^{1, 2, 3, 4, 5} Hanoi University of Natural Resources and Environment, Vietnam

DOI: <https://doi.org/10.62225/2583049X.2026.6.2.6682>

Corresponding Author: **Nguyen Thi Thu**

Abstract

This study examines university students' purchase behavior toward Cỏ Cây Hoa Lá ginger–lemongrass herbal shampoo on TikTok Shop in Bac Tu Liem by integrating recency–frequency–monetary (RFM) analysis with partial least squares structural equation modeling (PLS-SEM). An online survey generated 458 responses, of which 387 valid questionnaires were retained for analysis. The structural model tested the effects of seven factors—perceived product quality, perceived value, brand trust, social influence, TikTok Shop shopping experience, attitude toward natural products, and price sensitivity—on purchase intention. The measurement scales met the required reliability and validity criteria. The KMO value for the independent-variable group was 0.688, total variance explained reached 72.376%, and both composite reliability and average variance extracted

satisfied the recommended thresholds. Brand trust exerted the strongest effect on purchase intention ($\beta = 0.365$), followed by perceived product quality ($\beta = 0.297$), perceived value ($\beta = 0.214$), attitude toward natural products ($\beta = 0.174$), social influence ($\beta = 0.151$), TikTok Shop shopping experience ($\beta = 0.143$), and price sensitivity ($\beta = 0.117$). The model explained 37.9% of the variance in purchase intention. RFM analysis showed that Lost Customers constituted the largest segment (23.51%), followed by Potential Loyalists (19.90%) and Hibernating customers (18.35%), whereas Champions accounted for 10.34%. These findings provide an empirical basis for strategies aimed at strengthening brand trust, improving perceived quality and platform experience, and managing customers according to their respective RFM segments.

Keywords: RFM, PLS-SEM, Purchase Behavior, TikTok Shop, Herbal Shampoo, University Students

1. Introduction

Amid the growing adoption of green consumption and naturally derived personal-care products, young consumers are showing increasing interest in products perceived as safe for human health and environmentally friendly. At the same time, social commerce has profoundly transformed how consumers search for information, interact with sellers, and make purchasing decisions. TikTok Shop integrates short-form videos, livestreaming, entertainment content, key opinion leaders/key opinion consumers (KOLs/KOCs), and in-platform transactions, thereby creating a highly viral shopping environment that can accelerate decision-making.

University students are active consumers who frequently use mobile devices, respond quickly to emerging trends, and readily absorb content generated by online communities. Bac Tu Liem accommodates a high concentration of universities, academies, and other educational institutions, forming a large student community with extensive access to digital technologies. When purchasing hair-care products, students consider quality, safety, and natural origins, while also facing affordability constraints and being influenced by reviews, user-generated videos, and livestream content on TikTok.

Cỏ Cây Hoa Lá is a Vietnamese natural-cosmetics brand positioned around green, safe, and environmentally responsible values. Its ginger–lemongrass herbal shampoo is a representative product formulated with familiar ingredients such as ginger, lemongrass, soapberry, and other natural herbs. The product is actively promoted through digital channels, particularly TikTok Shop. Its product attributes, price, brand image, and communication approach make it an appropriate case for examining student purchasing behavior in a social-commerce environment.

Previous Vietnamese studies have mainly examined purchasing behavior on Shopee, Lazada, or Tiki. Research on TikTok

Shop remains relatively recent and has generally focused on psychological factors, demographic characteristics, or purchase decisions. RFM analysis, however, reflects actual transactional behavior through Recency, Frequency, and Monetary value, whereas SEM enables the testing of relationships among perceptions, attitudes, and purchase intention. Combining the two approaches helps identify both which customers create value and why they develop an intention to purchase.

Against this background, the study seeks to identify the factors affecting students' intention to purchase Cỏ Cây Hoa Lá ginger–lemongrass herbal shampoo on TikTok Shop and to segment student customers using the RFM model. Its principal contribution lies in integrating PLS-SEM and RFM in the specific context of natural hair-care products, university students, and TikTok Shop as a social-commerce platform.

2. Literature Review and Theoretical Foundation

2.1 Review of Related Studies

Vietnamese studies have shown that RFM can classify e-commerce customers into loyal, potential, at-risk, and lost segments, thereby supporting personalized marketing and customer relationship management. Nguyễn Văn Huy (2022) ^[12], Lê Thị Phương Anh (2021) ^[9], Nguyễn Thị Hồng Nhung (2022) ^[8], and Nguyễn Thanh Tùng (2021) ^[11] all emphasized the role of Recency, Frequency, and Monetary value in identifying customer value on Shopee, Lazada, and online beauty-product markets.

Within the SEM stream of research, Trần Minh Quân (2022) ^[10], Phạm Thị Lan Anh (2021) ^[6], Nguyễn Thị Thu Hằng (2020) ^[5], Lê Thị Minh Châu (2021) ^[1], and Trần Thị Hạnh (2022) ^[3] examined factors such as perceived quality, perceived value, trust, social influence, platform experience, and attitudes toward natural products. Their findings generally confirmed that trust, quality, value, and community influence significantly affect online purchase intentions or decisions.

In the TikTok Shop context, Phạm Thị Bích Hạnh, Trần Vũ Ánh Như, and Nguyễn Quỳnh Lâm (2024) ^[4] identified five factors affecting students' purchase decisions: shopping intention, product variety, price, trust, and usefulness. International studies by Poh, Hasan, and Sudiyo (2024) ^[26], Kristina and Realize (2025) ^[21], Ardianti and Sofyan (2024) ^[15], and Siregar, Hartoyo, and Ali (2024) ^[28] highlighted the roles of social-media content, livestreaming, influencers, customer reviews, electronic word of mouth (eWOM), fear of missing out (FOMO), perceived value, and components of the Theory of Planned Behavior in shaping purchase intention on TikTok.

Regarding segmentation, Anitha and Patil (2022) ^[14], Wong, Tong, and Haw (2024) ^[34], and Martiansah *et al.* (2025) ^[23] demonstrated that combining RFM with clustering techniques can improve segmentation accuracy and support the design of marketing strategies tailored to individual customer groups. Nevertheless, studies directly integrating RFM and SEM in the Vietnamese TikTok Shop context—particularly for natural hair-care products and student consumers remain limited.

2.2 The RFM Model

The RFM model evaluates customers using three dimensions: Recency, or the time elapsed since the most recent purchase; Frequency, or the number of purchases

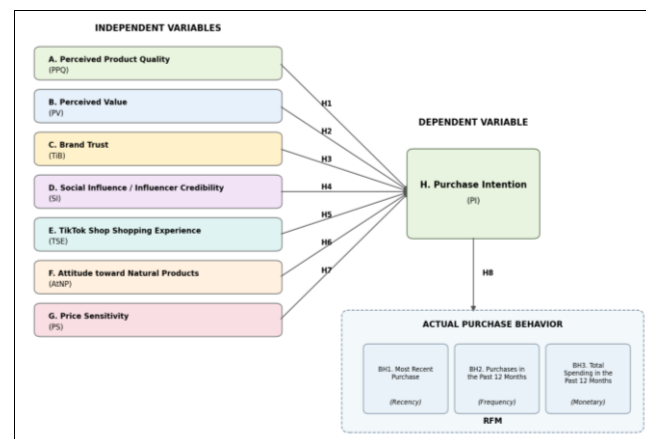
made within a given period; and Monetary value, or total spending. Recency reflects the current state of the customer relationship, Frequency captures repeat-purchase intensity and behavioral stability, and Monetary value represents the customer's financial contribution. Combining all three indicators provides a more comprehensive assessment of customer value than considering any one indicator in isolation.

In this study, each RFM dimension is scored on a five-point scale and used to classify customers into eight groups: Champions, Loyal Customers, Potential Loyalists, New Customers, Big Spenders, At Risk, Hibernating, and Lost Customers. The segmentation results provide a basis for developing customer retention, development, and reactivation strategies.

2.3 SEM and the Research Factors

Structural equation modeling enables the simultaneous assessment of the measurement model and the structural model, allowing multiple relationships among latent variables to be tested within a single analytical framework. This study employs PLS-SEM because it is suitable for predictive objectives, models containing multiple latent constructs, and survey data on consumer behavior.

The model includes seven independent variables: Perceived Product Quality (PPQ), Perceived Value (PV), Brand Trust (TiB), Social Influence/Influencer Credibility (SI), TikTok Shop Shopping Experience (TSE), Attitude toward Natural Products (AtNP), and Price Sensitivity (PS). Purchase Intention (PI) is the dependent variable in the structural model. Actual purchasing behavior is additionally described through the three RFM indicators.



Source: Research model presented in the authors' original report.

Fig 1: Proposed Research Model

Table 1: Research Hypotheses

Hyp.	Relationship	Expected effect
H1	PPQ → PI	Positive
H2	PV → PI	Positive
H3	TiB → PI	Positive
H4	SI → PI	Positive
H5	TSE → PI	Positive
H6	AtNP → PI	Positive
H7	PS → PI	Negative in the initial hypothesis
H8	PI → actual purchase behavior (RFM)	Conceptual relationship; RFM was analyzed separately in the original report

Source: Reconstructed from the research model and hypotheses in the authors' original report.

3. Research Methodology

3.1 Research Design and Survey Scope

The study applies a sequential mixed-methods design. The qualitative phase involved discussions with students who had previously purchased the product to explore, refine, and finalize the measurement scales for the TikTok Shop context. The quantitative phase used an online questionnaire administered through Google Forms and a five-point Likert scale ranging from “Strongly disagree” to “Strongly agree.”

The respondents were students enrolled at universities and academies in Bac Tu Liem and neighboring areas who had either purchased or intended to purchase Cỏ Cây Hoa Lá ginger-lemongrass herbal shampoo through TikTok Shop. The geographical scope covered institutions including Electric Power University, the Military Technical Academy, the Academy of Finance, Hanoi University of Mining and Geology, Hanoi University of Public Health, Hanoi University of Industry, Hanoi University of Natural Resources and Environment, and Hanoi Financial and Banking University.

Random sampling was applied. A total of 458 questionnaires were collected; after incomplete, duplicate, or logically inconsistent responses had been removed, 387 valid questionnaires remained for analysis. The data were processed using Microsoft Excel, SPSS 26, and SmartPLS.

3.2 Measurement Scales and Analytical Procedure

The measurement scales were adopted and adapted from Zeithaml (1988) [35]; Dodds, Monroe, and Grewal (1991) [18]; Sweeney and Soutar (2001) [29]; Morgan and Hunt (1994) [24]; Chaudhuri and Holbrook (2001) [16]; Venkatesh *et al.* (2003) [32]; Hajli (2015) [19]; Rose *et al.* (2012) [27]; Verhagen and Van Dolen (2011) [33]; Ajzen (1991) [13]; Chen and Chang (2012) [17]; Lichtenstein, Ridgway, and Netemeyer (1993) [22]; and Pavlou (2003) [25]. Their content was adjusted to reflect short-form video, livestreaming, influencer marketing, and transactions conducted through TikTok Shop.

The analytical procedure comprised descriptive statistics; Cronbach's alpha reliability testing; exploratory factor analysis (EFA); assessment of the PLS-SEM measurement model through factor loadings, composite reliability, average variance extracted (AVE), discriminant validity, and variance inflation factors (VIF); bootstrapping of the structural model; evaluation of R^2 and f^2 ; and, finally, RFM scoring and customer classification. Scales were accepted when Cronbach's alpha and composite reliability exceeded 0.70, AVE was above 0.50, factor loadings met the required

thresholds, and VIF values indicated no serious multicollinearity.

4. Research Results

4.1 Sample Characteristics

Table 2: Sample Characteristics (N = 387)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	71	18.3
Gender	Female	316	81.7
Year of study	First year	43	11.1
Year of study	Second year	131	33.9
Year of study	Third year	145	37.5
Year of study	Fourth year	68	17.6
Field of study	Economics and business	114	29.5
Field of study	Engineering and technology	76	19.6
Field of study	Social sciences and humanities	87	22.5
Field of study	Natural resources, environment, and agriculture	49	12.7
Field of study	Other	61	15.8
Monthly expenditure	Below VND 3 million	113	29.2
Monthly expenditure	VND 3–5 million	171	44.2
Monthly expenditure	VND 5–7 million	84	21.7
Monthly expenditure	Above VND 7 million	19	4.9
Online shopping frequency	Rarely	59	15.2
Online shopping frequency	Occasionally	113	29.2
Online shopping frequency	Frequently	164	42.4
Online shopping frequency	Always	51	13.2

Source: Authors' analysis of survey data, 2026.

Women represented 81.7% of the sample, which is consistent with the typical customer profile for natural hair-care products but also introduces a limitation in terms of gender balance. Second- and third-year students accounted for the largest shares, while 73.4% of respondents reported average monthly expenditure below VND 5 million. In total, 55.6% of students shopped online frequently or always, indicating a relatively high degree of familiarity with e-commerce.

4.2 Reliability, EFA, and the Measurement Model

Table 3: Reliability and Convergent Validity Results

Scale	Cronbach's alpha	Composite reliability	AVE	Factor loadings
AtNP	0.752	0.858	0.669	0.741–0.864
PI	0.765	0.864	0.680	0.803–0.842
PPQ	0.825	0.896	0.741	0.848–0.869
PS	0.739	0.851	0.656	0.766–0.832
PV	0.840	0.903	0.757	0.864–0.874
SI	0.829	0.895	0.740	0.816–0.890
TSE	0.792	0.903	0.824	0.874–0.940
TiB	0.852	0.910	0.771	0.873–0.884

Source: Authors' analysis of survey data, 2026.

All scales recorded Cronbach's alpha values above 0.70. Brand Trust had the highest reliability (0.852), followed by Perceived Value (0.840), Social Influence (0.829), and Perceived Product Quality (0.825). Composite reliability values ranged from 0.851 to 0.910, while AVE values ranged from 0.656 to 0.824, confirming satisfactory composite reliability and convergent validity.

EFA for the independent-variable group produced a KMO value of 0.688. Bartlett's test yielded $\chi^2 = 2,896.124$, $df = 210$, and $p < 0.001$. Seven factors were extracted, explaining 72.376% of the total variance. For the dependent variable PI, KMO = 0.694, $p < 0.001$, and total variance explained reached 68.005%. The Fornell–Larcker matrix showed that the square root of each construct's AVE exceeded its correlations with the remaining constructs. Inner VIF values ranged from 1.009 to 1.047, while outer VIF values ranged from 1.220 to 2.163, indicating no meaningful multicollinearity.

4.3 PLS-SEM Structural Model Results

Table 4: Structural Model Testing Results

Hyp.	Relationship	β	T	p	f^2	Conclusion
H1	PPQ → PI	0.297	7.060	< 0.001	0.139	Supported
H2	PV → PI	0.214	5.462	< 0.001	0.072	Supported
H3	TiB → PI	0.365	9.099	< 0.001	0.212	Supported
H4	SI → PI	0.151	3.247	< 0.001	0.035	Supported
H5	TSE → PI	0.143	3.780	< 0.001	0.033	Supported
H6	AtNP → PI	0.174	3.908	< 0.001	0.047	Supported
H7	PS → PI	0.117	2.763	0.006	0.022	Significant, but opposite to the expected negative direction

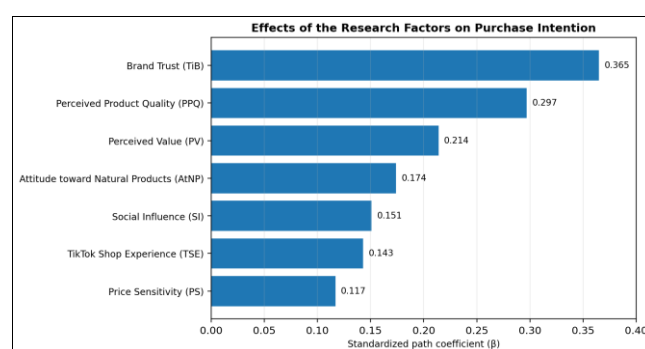
Source: Authors' analysis of survey data, 2026.

Brand Trust was the strongest predictor of purchase intention ($\beta = 0.365$, $p < 0.001$). In an online shopping environment, trust functions as a mechanism for reducing information asymmetry and helps consumers accept claims regarding ingredients, benefits, and product quality. The effect size of $f^2 = 0.212$ indicates a moderate effect and the largest contribution within the model.

Perceived Product Quality ranked second ($\beta = 0.297$), reflecting the importance of signals such as natural ingredients, product performance, packaging, reviews, and brand reputation. Perceived Value ($\beta = 0.214$) indicates that students evaluate the combined functional, emotional, and social benefits relative to the costs incurred. A positive Attitude toward Natural Products ($\beta = 0.174$) provides a psychological foundation for purchase intention, although it

must be activated through trust and perceived quality. Social Influence ($\beta = 0.151$) and TikTok Shop Shopping Experience ($\beta = 0.143$) had positive but smaller effects, suggesting that reviews, KOLs/KOCs, livestreams, and a convenient purchase process mainly reinforce and shorten the decision journey. Price Sensitivity had a positive coefficient ($\beta = 0.117$) and was statistically significant. Because the direction of the relationship was opposite to the initially hypothesized negative effect, H7 was not supported in the expected direction. The result suggests that respondents were more value-oriented than simply driven by low prices.

The R^2 value for Purchase Intention was 0.379 and the adjusted R^2 was 0.367, meaning that the model explained approximately 36.7%–37.9% of the variance in purchase intention. This represents a moderate level of explanatory power and is appropriate for consumer-behavior research. The original report proposed H8 regarding the relationship between purchase intention and actual behavior; however, it did not report a direct path coefficient. Actual behavior was instead assessed separately through RFM analysis.



Source: Authors' analysis of survey data, 2026.

Fig 2: Effects of the Research Factors on Purchase Intention

4.4 RFM Analysis Results

Table 5: Structure and Characteristics of the RFM Segments

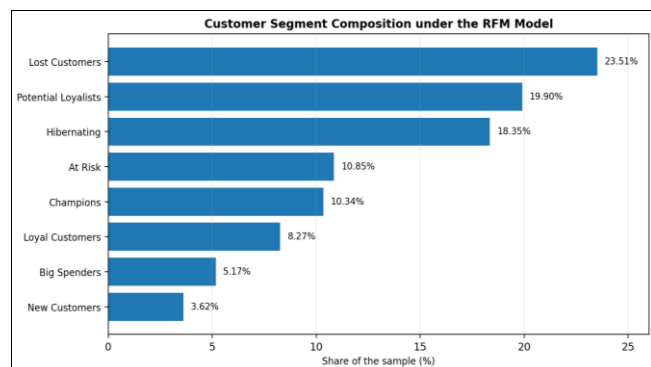
Segment	Share (%)	Mean R	Mean F	Mean M
Champions	10.34	4.425	3.125	4.275
Loyal Customers	8.27	3.563	3.406	2.844
Potential Loyalists	19.90	4.130	2.000	3.078
New Customers	3.62	5.000	1.000	1.714
Big Spenders	5.17	2.400	1.650	4.250
At Risk	10.85	1.476	3.214	2.833
Hibernating	18.35	1.535	1.423	1.761
Lost Customers	23.51	3.121	1.604	2.209
Full sample	100.00	3.054	2.111	2.721

Source: Authors' analysis of survey data, 2026.

The mean values of the three dimensions were Recency = 3.05, Frequency = 2.11, and Monetary = 2.72. The moderate Recency score indicates that most students had made a purchase relatively recently; however, the low Frequency score reflects unstable repeat-purchase behavior. The moderate Monetary score is consistent with the relatively long usage cycle of shampoo and the tendency of student consumers to purchase quantities sufficient for personal use. Lost Customers formed the largest segment (23.51%), followed by Potential Loyalists (19.90%) and Hibernating customers (18.35%). Together, Lost Customers and Hibernating customers accounted for more than 40% of the sample, indicating weak customer engagement and a

substantial risk of value attrition. Champions represented 10.34%, Loyal Customers 8.27%, and Big Spenders 5.17%. Although smaller in size, these groups provide a foundation for revenue generation, repeat purchasing, and positive word of mouth.

Potential Loyalists had high Recency and relatively high Monetary scores but limited Frequency, indicating that they could be converted into loyal customers through timely engagement. New Customers accounted for only 3.62%, suggesting that expansion of the new-customer base remained modest. At Risk customers had previously purchased relatively frequently but recorded low recent-purchase scores; this segment should therefore be prioritized for reactivation.



Source: Authors' analysis of survey data, 2026.

Fig 3: Customer Segment Composition under the RFM Model

5. Discussion

The results confirm that purchases of herbal shampoo on TikTok Shop are not driven by any single factor. Rather, they result from the combined influence of trust, perceived quality, value, green attitudes, social influence, platform experience, and price perceptions. The relative magnitude of the effects suggests that, in the natural-products sector, reassurance and credibility are more important than short-term price stimuli.

The dominant effect of Brand Trust is consistent with the characteristics of personal-care products: consumers cannot fully verify quality before use and must rely on information about origin, ingredients, certifications, reviews, and brand image. This finding is also consistent with research on commitment–trust, green trust, and e-commerce acceptance, which views trust as reducing perceived risk and information-search costs.

Perceived Product Quality and Perceived Value form the rational foundation of purchase intention. In the TikTok Shop context, quality encompasses not only actual product performance but also communication signals such as demonstration videos, reviews, packaging, ingredient descriptions, and post-use feedback. Perceived Value reflects the overall trade-off between benefits and costs, helping explain why Price Sensitivity had a smaller effect and a positive coefficient in the study sample.

Social Influence and Platform Experience were significant but could not substitute for the brand's and product's core attributes. KOLs/KOCs, online communities, and livestreams help consumers verify information, attract attention, and reduce transaction friction. Nevertheless, when trust and perceived quality are not secured, platform-based stimuli are unlikely to generate sustainable purchasing behavior.

The RFM results add an actual-behavior perspective to the SEM findings. The segment structure indicates limited repeat purchasing and customer engagement, which is consistent with a product that has a relatively long usage cycle and with a TikTok Shop environment characterized by constantly changing trends, brands, and content. Integrating SEM and RFM therefore enables firms to connect psychological mechanisms with specific behavioral segments rather than applying a uniform marketing strategy.

6. Managerial Implications and Recommendations

6.1 Recommendations Based on the PLS-SEM Results

Strengthen brand trust: The firm should disclose the origin of ingredients, production processes, quality standards, and safety certifications; maintain a consistent image across all customer touchpoints; develop systematic review and feedback mechanisms; and fulfill commitments concerning quality, delivery, and returns.

Improve perceived quality: Quality should be controlled throughout the value chain, products should be refined in response to user needs, product descriptions should be standardized, and authentic images and videos should be used. Advisory services and after-sales care should also be strengthened.

Increase perceived value: Pricing should be commensurate with product quality and may be supplemented by free shipping, gifts, product bundles, loyalty points, and order-value-based incentives. Communication should clearly articulate functional and emotional benefits and the value associated with a green lifestyle.

Foster positive attitudes toward natural products: Communication content should explain long-term benefits, ingredients, and usage mechanisms. Certifications, scientific evidence, workshops, and product-trial programs can reduce skepticism and reinforce favorable attitudes.

Leverage social influence: KOLs and KOCs should be selected to fit the brand's positioning. Priority should be given to authentic content, verifiable reviews, and user-generated content, while customer communities and referral programs should be developed.

Enhance the TikTok Shop experience: The product page, short-form videos, livestreams, message response, checkout, and order-tracking processes should be optimized. Vouchers, mini-games, product recommendations, and personalized offers can be used to reduce friction and increase conversion.

Manage price through a value-based approach: The company should offer multiple sizes or product packages that match students' purchasing power, use selective time-bound promotions, avoid competing solely through low prices, and emphasize the correspondence between cost and benefits.

6.2 Recommendations by RFM Segment

Champions, Loyal Customers, and Big Spenders: Customer lifetime value should be maintained and expanded through tiered membership programs, exclusive livestream benefits, personalized vouchers, bundles, and larger product sizes. These customers should be encouraged to publish reviews, share their experiences, and create user-generated content that strengthens social proof.

Potential Loyalists and New Customers: Remarketing should begin immediately after the first purchase and should include vouchers for the next order, regular livestream

series, transaction-based loyalty points, and product-use guidance. The main objective is to maintain high Recency and increase Frequency.

At Risk and Hibernating customers: Reactivation campaigns should be prioritized through personalized messages, return-customer discount codes, appreciation livestreams, and limited-time offers. The reasons for declining engagement should be monitored so that messages can be tailored appropriately.

Lost Customers: The probability and cost of recovery should be assessed before additional resources are committed. Short surveys can identify the reasons for attrition, conditional re-engagement campaigns can be tested, and customers with a low probability of returning can be excluded from routine advertising audiences.

Data management system: The firm should update RFM scores periodically and connect transaction data with customer feedback, interaction histories, and campaign outcomes. This will facilitate a transition from mass marketing to data-driven marketing and enable budget allocation according to the value of each segment.

7. References

- Lê TMC. An SEM analysis of consumer behavior toward natural products in e-commerce: The cases of Tiki and Lazada [Master's thesis, University of Economics and Law, Vietnam National University Ho Chi Minh City], 2021.
- Nguyễn TH. The effects of consumer ethnocentrism and perceived value on consumer brand loyalty toward domestic coffee-shop chains in Ho Chi Minh City. *Journal of Finance-Marketing Research*. 2024; 15(1):87-101. Doi: <https://doi.org/10.52932/jfm.vi1.450>
- Trần TH. SEM in the study of students' purchasing behavior toward natural skincare products on Shopee [Master's thesis, University of Economics Ho Chi Minh City], 2022.
- Phạm TBH, Trần VÂN, Nguyễn QL. Factors affecting students' purchase decisions on the TikTok Shop e-commerce platform. *Economic and Financial Research*, June 15, 2024.
- Nguyễn TTH. An SEM-based investigation of online consumer behavior in Vietnam: The cases of Lazada and Tiki [Master's thesis, National Economics University], 2020.
- Phạm TLA. Applying SEM to the study of online consumer behavior on mobile e-commerce applications [Master's thesis, Foreign Trade University], 2021.
- Phạm TLH. An SEM study of natural-cosmetics purchasing behavior on mobile e-commerce applications [Master's thesis, National Economics University], 2020.
- Nguyễn THN. Applying RFM to analyze beauty-product purchasing behavior on Shopee Vietnam [Master's thesis, Thuongmai University], 2022.
- Lê TPA. Customer segmentation on Shopee and Lazada using the RFM model [Master's thesis, National Economics University], 2021.
- Trần MQ. Factors affecting purchase intention on e-commerce platforms in Vietnam: An SEM application [Master's thesis, University of Economics Ho Chi Minh City], 2022.
- Nguyễn TT. Applying RFM to analyze cosmetics customers on Lazada [Master's thesis, Foreign Trade University], 2021.
- Nguyễn VH. Applying the RFM model to classify e-commerce customers in Vietnam [Master's thesis, Thuongmai University], 2022.
- Ajzen I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*. 1991; 50(2):179-211. Doi: [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Anitha P, Patil MM. RFM model for customer purchase behavior using K-Means algorithm. *Journal of King Saud University-Computer and Information Sciences*. 2022; 34(5):1785-1792. Doi: <https://doi.org/10.1016/j.jksuci.2019.12.011>
- Ardianti T, Sofyan JF. The influence of eWOM and fear of missing out in the intention to buy skincare products through TikTok. *Jurnal Indonesia Sosial Teknologi*. 2024; 5(5):2281-2293. Doi: <https://doi.org/10.59141/jist.v5i5.1059>
- Chaudhuri A, Holbrook MB. The chain of effects from brand trust and brand affect to brand performance: The role of brand loyalty. *Journal of Marketing*. 2001; 65(2):81-93. Doi: <https://doi.org/10.1509/jmkg.65.2.81.18255>
- Chen Y-S, Chang C-H. Enhance green purchase intentions: The roles of green perceived value, green perceived risk, and green trust. *Management Decision*. 2012; 50(3):502-520. Doi: <https://doi.org/10.1108/00251741211216250>
- Dodds WB, Monroe KB, Grewal D. Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research*. 1991; 28(3):307-319. Doi: <https://doi.org/10.1177/002224379102800305>
- Hajli N. Social commerce constructs and consumer's intention to buy. *International Journal of Information Management*. 2015; 35(2):183-191. Doi: <https://doi.org/10.1016/j.ijinfomgt.2014.12.005>
- Haryadhi PT, Izaak WC. Factors influencing the purchase decisions of TikTok users for Skintific skincare in Surabaya. *East Asian Journal of Multidisciplinary Research*. 2025; 4(9):4715-4726. Doi: <https://doi.org/10.55927/eajmr.v4i9.369>
- Kristina E, Realize. Analysis of the influence of social media content, influencer marketing, and customer reviews on purchase decisions in TikTok Shop. *Dinasti International Journal of Economics, Finance & Accounting*. 2025; 6(3):2665-2679. Doi: <https://doi.org/10.38035/dijefa.v6i3.5041>
- Lichtenstein DR, Ridgway NM, Netemeyer RG. Price perceptions and consumer shopping behavior: A field study. *Journal of Marketing Research*. 1993; 30(2):234-245. Doi: <https://doi.org/10.1177/002224379303000208>
- Martiansah R, Monalisa S, Muttakin F, Fronita M. Customer segmentation analysis through RFM-D model and K-Means algorithm. *Jurnal Sistem Cerdas*. 2025; 8(1):1-11. Doi: <https://doi.org/10.37396/jsc.v8i1.504>
- Morgan RM, Hunt SD. The commitment-trust theory of relationship marketing. *Journal of Marketing*. 1994; 58(3):20-38. Doi: <https://doi.org/10.1177/002224299405800302>

25. Pavlou PA. Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*. 2003; 7(3):101-134. Doi: <https://doi.org/10.1080/10864415.2003.11044275>
26. Poh S, Hasan DG, Sudiyono KA. The power of social commerce: TikTok's impact on Gen Z consumer purchasing behavior. *Manajemen dan Bisnis*. 2024; 23(2):501-515. Doi: <https://doi.org/10.24123/mabis.v23i2.835>
27. Rose S, Clark M, Samouel P, Hair N. Online customer experience in e-retailing: An empirical model of antecedents and outcomes. *Journal of Retailing*. 2012; 88(2):308-322. Doi: <https://doi.org/10.1016/j.jretai.2012.03.001>
28. Siregar NF, Hartoyo, Ali MM. Model of forming purchase intention for skincare products through TikTok social media with Theory of Planned Behavior analysis. *Jurnal Aplikasi Bisnis dan Manajemen*. 2024; 10(2):479-494. Doi: <https://doi.org/10.17358/jabm.10.2.479>
29. Sweeney JC, Soutar GN. Consumer perceived value: The development of a multiple-item scale. *Journal of Retailing*. 2001; 77(2):203-220. Doi: [https://doi.org/10.1016/S0022-4359\(01\)00041-0](https://doi.org/10.1016/S0022-4359(01)00041-0)
30. Herniati NP. Uncovering Gen Z Indonesia's impulse shopping behaviour on e-commerce TikTok Shop. *The Manager Review*. 2025; 7(1):31-62. Doi: <https://doi.org/10.33369/tmr.v7i1.41292>
31. Pradina DA, Kurniawati Y, Afwan AS, Heikal J. RFM segmentation and K-Means clustering of skincare product: The Scarlett case study. *Jurnal Sains dan Teknologi*. 2024; 6(2):213-216. Doi: <https://doi.org/10.55338/saintek.v6i2.3644>
32. Venkatesh V, Morris MG, Davis GB, Davis FD. User acceptance of information technology: Toward a unified view. *MIS Quarterly*. 2003; 27(3):425-478. Doi: <https://doi.org/10.2307/30036540>
33. Verhagen T, Van Dolen W. The influence of online store beliefs on consumer online impulse buying: A model and empirical application. *Information & Management*. 2011; 48(8):320-327. Doi: <https://doi.org/10.1016/j.im.2011.08.001>
34. Wong C-G, Tong G-K, Haw S-C. Exploring customer segmentation in e-commerce using RFM analysis with clustering techniques. *Journal of Telecommunications and the Digital Economy*. 2024; 12(3):97-125. Doi: <https://doi.org/10.18080/jtde.v12n3.978>
35. Zeithaml VA. Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*. 1988; 52(3):2-22. Doi: <https://doi.org/10.1177/002224298805200302>