

## A MULTIPLE LINEAR REGRESSION ANALYSIS OF TIKTOK'S MARKETING STRATEGIES AND E-COMMERCE SUSTAINABILITY IN GREATER JAKARTA, INDONESIA

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### ABSTRACT

Indonesia's rapidly expanding digital economy has positioned TikTok as a dominant force in social commerce. However, empirical evidence regarding the effectiveness of TikTok marketing strategies in supporting sustainable E-commerce performance remains limited. This study examines how TikTok's marketing strategies influence key dimensions of E-commerce sustainability in JaBoDeTaBek (Jakarta, Bogor, Depok, Tangerang, and Bekasi), Indonesia's most digitally active metropolitan region. Using survey data from 65 active TikTok users, multiple linear regression analysis was conducted to evaluate the effects of platform usage, content strategy, engagement tactics, and advertising strategy on purchase intention, brand recognition, and customer engagement. The results show that platform usage is the strongest predictor of purchase intention ( $\beta = 0.586$ ,  $p < 0.001$ ;  $R^2 = 0.671$ ). Content strategy significantly influences all three outcomes, including purchase intention ( $\beta = 0.285$ ,  $p = 0.022$ ), brand recognition ( $\beta = 0.563$ ,  $p < 0.001$ ), and customer engagement ( $\beta = 0.497$ ,  $p < 0.001$ ). Engagement tactics demonstrate a positive effect on customer engagement but do not significantly predict brand recognition, while advertising strategy shows no significant independent effect across the models. These findings indicate that narrative-driven and algorithm-compatible content plays a more critical role than conventional advertising in shaping consumer responses on TikTok. The study contributes to the growing literature on social commerce and provides practical insights for digital marketers and MSMEs seeking sustainable E-commerce performance in emerging markets.

**Keywords:** TikTok Marketing; Social Media Marketing; E-Commerce Sustainability; Consumer Behavior; Social Commerce; Southeast Asia

## INTRODUCTION

Indonesia's digital economy has experienced rapid transformation in recent years, driven by increased internet penetration, widespread smartphone adoption, and the growing use of social media platforms for commercial activities. Among these platforms, TikTok has emerged as a dominant force, reshaping digital consumer interaction through short-form video content, personalized recommendation algorithms, and community-driven engagement. Indonesia ranks among the top five countries globally in terms of TikTok users, with the JaBoDeTaBek metropolitan region (Jakarta, Bogor, Depok, Tangerang, and Bekasi) representing one of the most active centers of digital commerce activity in the country.

While prior studies have explored the role of social media in influencing purchase decisions and brand engagement (Kapoor et al., 2018; Wahab et al., 2022), there remains limited empirical research specifically focused on TikTok's marketing effectiveness in emerging markets. Existing literature on social media marketing has traditionally concentrated on established platforms such as Instagram and Facebook, which have long dominated digital marketing research and practice (Dwivedi et al., 2021). As a result, TikTok's hybrid role as both an entertainment platform and an emerging commercial ecosystem has only recently begun to attract scholarly attention. Moreover, little is known about how TikTok's core marketing mechanisms, including content strategies, engagement tactics, platform usage, and advertising, interact to influence consumer behavior in Indonesia's urban context (Alhanatleh et al., 2023).

To address this research gap, the present study examines how TikTok's marketing strategies influence the sustainability of E-commerce performance in the JaBoDeTaBek region (Greater Jakarta). Recent research increasingly recognizes TikTok as a social commerce platform capable of shaping consumer attitudes and behavioral intentions through interactive and algorithm-driven content ecosystems. For instance, Grabowska et al. (2025) applied the Technology Acceptance Model (TAM) to demonstrate that perceived usefulness and perceived ease of use significantly influence consumers' purchase intentions on TikTok. Similarly, Wijayanti and Isa (2024) highlight that interactive and vivid content on TikTok enhances consumer engagement, which in turn strengthens purchase intention. In addition, Kumalasari and Sumiyana (2024) emphasize that technology adoption factors play a crucial role in shaping users' behavioral intention toward TikTok Shop within the social commerce environment. Building on these perspectives, the present study investigates how key marketing mechanisms on TikTok, including platform usage, content strategies, engagement tactics, and advertising, interact to influence consumer responses and contribute to sustainable E-commerce outcomes in Indonesia's urban digital market.

Building on these theoretical frameworks, the study examines the relationships between TikTok marketing strategies and consumer responses in social commerce environments. Specifically, it analyzes four key strategy dimensions, platform usage, engagement tactics, content strategy, and advertising strategy, and their associations with three consumer outcomes: purchase intention and behavior, brand recognition and loyalty, and customer engagement and retention. This research provides an empirical assessment of TikTok's marketing effectiveness in an emerging market context using an integrated TAM-SIT perspective. Focusing on the Greater Jakarta (JaBoDeTaBek) region enables the study to capture insights from one of Southeast Asia's most digitally active urban populations, where social commerce adoption continues to grow rapidly.

To guide the analysis, the study addresses the following research questions:

*RQ1: How do TikTok marketing strategies (platform usage, content strategy, engagement tactics, and advertising strategy) influence purchase intention, brand recognition, and customer*

*engagement among users in the JaBoDeTaBek region?*

*RQ2: How do TikTok users perceive the role of platform-based marketing strategies in shaping their attitudes toward E-commerce brands in urban Indonesia?*

To answer these questions, a quantitative survey was conducted among active TikTok users and online shoppers in Greater Jakarta. The collected data were analyzed using multiple linear regression to evaluate the relationships between TikTok marketing strategies and the selected consumer outcome variables. Through this approach, the study aims to provide insights into how TikTok marketing practices can support the sustainability of E-commerce engagement in Indonesia and inform strategic decisions for businesses operating within the platform-driven digital economy.

## LITERATURE REVIEW

### **TikTok as a Social Media Marketing Platform**

TikTok, developed by ByteDance, was launched in China in 2016 under the name Douyin and expanded internationally in 2017 as TikTok. Initially created for short-form video sharing, the platform has rapidly evolved into a major social commerce ecosystem. By integrating entertainment content, live streaming, and in-app shopping, TikTok enables businesses to reach large audiences through content-driven marketing and influencer collaborations. Its E-commerce model emphasizes demographic targeting, impulse purchasing, and interactive engagement between creators and merchants. Features such as TikTok Live and TikTok Shop further enhance real-time shopping experiences, transforming consumer purchasing behavior and challenging traditional retail models (Ma & Yu, 2021).

### **Platform Usage**

Recent research highlights high consumer satisfaction with shopping on TikTok, attributing this to competitive pricing, captivating promotions, and the platform's immersive and entertaining user experience. Despite these strengths, TikTok faces challenges, including stiff competition from established E-commerce platforms and the constant demand for innovation to keep users engaged. Nonetheless, its unique integration of entertainment and commerce is setting new benchmarks in digital marketing and shaping the future of online retail (Ma, 2024).

### **Engagement Tactics**

Wang (2024) examines TikTok's digital marketing strategies and their significant impact on user engagement, brand awareness, and sales conversion. Key features such as short-form videos and live streaming are particularly effective at capturing users' attention and fostering interaction. TikTok also supports brand visibility by enabling businesses to connect more deeply with their audiences. Real-time engagement, limited time offers, and influencer endorsements are shown to influence purchasing decisions directly. Moreover, TikTok's advanced data analytics and personalized content recommendations enhance the user experience and further support consumer engagement and conversion. Interactive features such as likes, shares, and comments are critical in building a community on the platform. Influencers also hold considerable sway over user behavior by offering relatable and authentic product recommendations, which boost trust and positively impact purchase intentions (Wang, 2024).

### **Content Strategy**

Content quality and brand reputation are vital to the success of social commerce platforms like TikTok Shop. According to Saktiawan et al. (2023), businesses must invest in strategic brand-building efforts such as influencer partnerships and developing high-quality, engaging content. For TikTok, maintaining consumer trust through secure payment systems, transparent review mechanisms, and responsive customer service is essential. The study emphasizes that brand image and consumer trust are significant predictors of purchase intention, underscoring their importance in driving sustainable E-commerce growth.

### **Advertising Strategy**

Firdaus et al. (2025) highlight the important role of brand ambassadors and advertising in shaping consumer behavior on TikTok Shop. Their findings indicate that endorsements from credible personalities enhance consumer trust and increase the perceived value of products, making consumers more likely to consider purchasing them. In addition, well-designed advertising strategies can improve user engagement with product content, thereby increasing the likelihood of purchase. The study also shows that both advertising and ambassador endorsements positively influence purchase intention, which acts as a mediating factor between marketing exposure and actual buying behavior. These results suggest that integrating influencer endorsements with targeted advertising can strengthen product visibility, consumer trust, and sales performance on TikTok Shop. More broadly, TikTok's marketing ecosystem combines entertainment, social interaction, and E-commerce, creating highly engaging and personalized consumer experiences. However, sustaining this growth requires continuous improvements in content quality, merchant credibility, and consumer trust. As digital economies evolve, further research is needed to understand the long-term implications of social commerce strategies for global E-commerce development (Zhang, 2023).

### **Sustainability in Business Theory**

The E-commerce model explains how online businesses create value, generate revenue, and manage digital operations through platforms that integrate marketplaces, payment systems, logistics, and customer services. Common formats include B2C, B2B, C2C, and D2C. Research shows that the expansion of digital infrastructure and E-commerce ecosystems plays an important role in supporting international trade in emerging markets such as Indonesia and Malaysia (Narayan, 2025). However, while E-commerce can improve market access and reduce transaction barriers, it also depends heavily on resilient supply chains. Disruptions such as those experienced during the COVID-19 pandemic demonstrated the vulnerability of global logistics systems and highlighted the need for sustainable supply chain management to maintain stable E-commerce growth (Narayan, 2025). In addition, platforms such as TikTok have expanded the E-commerce model by integrating entertainment and commerce within social media environments. Through short-form videos, live streaming, and algorithm-driven content recommendations, TikTok can increase brand visibility, consumer engagement, and purchase intention, allowing businesses to strengthen long-term relationships with online consumers (Zhang, 2023).

### **Purchase Intention and Behavior**

TikTok significantly influences consumer purchase intentions through several key mechanisms. User-generated content enhances authenticity and relatability, making consumers more receptive to products shared by other users. In addition, influencer endorsements shape purchasing behavior because audiences often perceive influencers as credible and trustworthy sources. Algorithmic recommendation systems further strengthen this effect by personalizing content based on individual user preferences, increasing both engagement and purchase

likelihood. Combined with immersive short-video formats and integrated shopping features, these elements position TikTok as a powerful platform for digital commerce and brand engagement (Sohid et al., 2024).

#### Brand Recognition and Loyalty

TikTok also contributes significantly to building brand recognition and loyalty. According to Alcántara-Pilar et al. (2024), influencer attractiveness positively affects credibility perceptions, enhancing brand recognition, consumer trust, and purchase intention. The study also finds that influencer credibility is strongly linked to trust in brands and products. Then, trust and online engagement are closely related to consumer willingness to buy, mediating between marketing efforts and final purchases. Influencer qualities contribute to credibility and engagement, although their direct impact on purchase intent may be more indirect. The research underscores the importance of leveraging credible influencers as a key strategy for fostering loyalty and encouraging repeat purchases.

#### Customer Engagement and Retention

TikTok introduced platform updates in 2022, including integrated search and shopping features such as the FACT+ model, which strengthened product discovery and conversion potential (Zhou, 2022). However, the study also highlights several challenges, including inconsistent product quality, concerns about influencer credibility, and limited regulatory oversight. Addressing these issues is essential for maintaining platform reliability and supporting sustainable digital commerce. Sustainable E-commerce growth depends on interconnected factors, including purchase intention, brand recognition and loyalty, and customer engagement and retention. TikTok's personalized, content-driven ecosystem enhances consumer experience and shapes purchasing behavior, but long-term growth requires stronger platform governance, consistent content quality, and trust-building mechanisms (Zhou, 2022).

#### Theoretical Foundation

##### Technology Acceptance Model

The Technology Acceptance Model (TAM), is a fundamental framework for forecasting consumer adoption of digital technology. It focuses on two fundamental variables: perceived usefulness (PU), the conviction that using a system improves task performance, and perceived ease of use (PEOU), the conviction that the system necessitates little effort to utilize. These variables affect Behavioral Intention, which forecasts actual system use (Schorr, 2023). In TikTok marketing, TAM elucidates users' impressions of the platform's operation, including the navigability of adverts and the intelligibility of product-related information. These views influence user engagement and purchase behavior. Al-Khasawneh et al. (2022) used the TAM to examine TikTok adoption, identifying UGC and perceived enjoyment as the most significant predictors, followed by sense of belonging, ease of use, and usefulness. Their model explained 47.8% of users' behavioral intention variation, underscoring the crucial influence of entertainment, social connection, and creative expression on TikTok's popularity. In addition, Granić (2022) performed a comprehensive evaluation of forty-seven empirical studies about the use of educational technology. The results indicated that TAM remains the predominant theoretical framework in this field. The principal contributing elements were PU, ease of use, self-efficacy, enjoyment, and social influence. The analysis highlighted that while TAM is helpful, it requires expansion and adaptation to many situations and developing technologies for more thorough insights.

### Social Influence Theory

Social Influence Theory explains how social interactions shape individuals' attitudes, beliefs, and behavioral responses within social environments. The theory identifies three mechanisms of influence: compliance, where individuals conform to gain approval or avoid disapproval; identification, where behaviors are adopted to maintain relationships with admired groups or individuals; and internalization, where behaviors align with personal values. Recent research shows that social influence remains a key factor in technology adoption and digital consumer behavior, particularly on social media platforms where peer interaction, endorsements, and community engagement shape users' perceptions and behavioral intentions (Erkan & Evans, 2016; Sokolova & Kefi, 2020). In social commerce environments such as TikTok, these mechanisms operate through algorithm-driven content exposure, influencer credibility, and peer-generated content that influence consumer responses to digital marketing activities. Empirical evidence further supports this perspective. Manca et al. (2022), using a hybrid choice model, found that interpersonal interaction and normative expectations often influence adoption decisions more strongly than individual preferences. These findings highlight that digital signal such as likes, shares, and influencer endorsements function not only as compliance cues but also as mechanisms that foster identification and internalization in online environments.

### Research Application from the Previous Research

To strengthen the theoretical foundation of this study, several previous studies related to social media marketing and e-commerce performance were reviewed. These studies provide insights into how digital marketing strategies, platform usage, and consumer engagement influence online business outcomes. A summary of the relevant previous research is presented in Table 1.

**Table 1. Research Application from the Previous Research**

Researchers	Article Title	Results
Wu (2023), Xi'an, FanYi University, Shaanxi, China	Social media marketing strategy and effect evaluation in E-commerce	Independent Variables: Social media marketing strategies, including platform selection, content creation, engagement tactics, and advertising approaches. Dependent Variables: E-commerce performance indicators, such as sales growth, customer acquisition, brand awareness, and customer retention. The findings indicate that effective social media marketing strategies significantly contribute to E-commerce performance, enabling businesses to strengthen market competitiveness and achieve sustainable growth in the digital marketplace.
Jamil et al. (2022), North China Electric Power University, Beijing, China	Role of Social Media Marketing Activities in Influencing Customer Intentions: A Perspective of a New Emerging Era	The research concludes that social media marketing activities are crucial in shaping customer intentions. By fostering social identification and satisfaction, businesses can enhance customer engagement and drive positive behavioral intentions on social media platforms.
Pongwe and Churk (2024). College of Business Education, Dodoma, Tanzania	Social Media Marketing Platforms and Sales Revenue in Tanzania	Independent Variable: Social media marketing platforms utilized by TTCL, including Facebook, Twitter, and Instagram.

<p>Xie et al. (2023),                  Xi'an Jiaotong-                  Liverpool University</p>	<p>Telecommunication                  Company Limited</p> <p>TikTok's Innovation                  Strategy: An In-depth                  Analysis of Its E-commerce                  Expansion</p>	<p>Dependent Variable: Sales revenue generated by TTCL.</p> <p>The findings indicate that the strategic use of social media marketing platforms significantly contributes to sales revenue growth in the telecommunications sector, suggesting that effective digital engagement can enhance overall market performance.</p> <p>TikTok has integrated E-commerce into its platform through strategies that combine social media interaction with online shopping features. Drawing on theoretical perspectives and case studies, the authors highlight TikTok's distinctive approach to merging entertainment-driven content with digital commerce.</p>
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### Research Model and Hypothesis Development

Based on TAM, this research correlates with the perceived user acceptance, adoption, and ease of use of technology. TAM shares insight and explains how users accept TikTok as a social media platform, and if it is useful, they will use it often for shopping. Furthermore, SIT reveals that user behavior encompasses social interaction and is subject to external influences. In addition, TikTok's trends or influences may sway users' purchase decisions and brand loyalty. Figure 1 illustrates the proposed theoretical model.

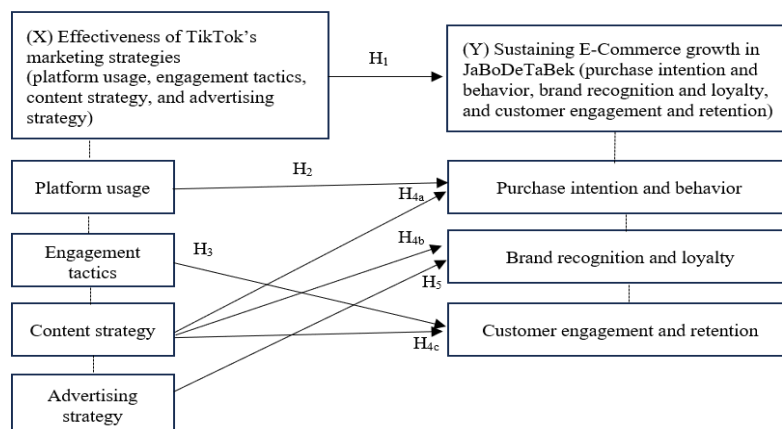


Figure 1. Research Model

H<sub>0</sub> (Null Hypothesis): TikTok's marketing strategies do not significantly influence the sustainability of E-commerce growth in the Greater Jakarta region.

H<sub>1</sub> (Alternative Hypothesis): TikTok's marketing strategies significantly influence the sustainability of E-commerce growth in the Greater Jakarta region.

As a social commerce platform, TikTok provides features with actionable strategies that positively affect sustained growth, increase sales, and strengthen brand engagement (Sohid et al., 2024).

H<sub>2</sub>: The frequency of TikTok usage for product discovery positively influences consumers' purchase intention.

Social media platform usage plays a critical role in the success of E-commerce businesses by enhancing perceived usefulness, facilitating product discovery, and strengthening firms' competitive advantages in digital markets (Wu, 2023).

H<sub>3</sub>: TikTok engagement tactics, such as influencer marketing and live commerce, significantly affect consumer engagement and brand loyalty.

Interactive social media activities, including influencer endorsements and live-streaming commerce, have been shown to strengthen customer engagement and enhance positive behavioral intentions toward brands (Jamil et al., 2021).

H<sub>4a</sub>: TikTok's content strategy positively influences consumers' purchase intention.

H<sub>4b</sub>: TikTok's content strategy positively influences brand recognition.

H<sub>4c</sub>: TikTok's content strategy positively influences consumer engagement.

Short-form, personalized, and trend-driven video content significantly shapes consumer responses and purchase intentions within social commerce ecosystems (Ma & Yu, 2021).

H<sub>5</sub>: TikTok's advertising strategies significantly affect brand recognition and online shopping behavior.

Firdaus et al. (2025) emphasize that well-targeted and creatively designed advertisements can capture attention, spark interest, and drive conversions.

## RESEARCH METHOD

### Research Design

Quantitative research involves systematic collection and analysis of numerical data to examine relationships among variables and test hypotheses using statistical methods (Mohajan, 2020). Within this approach, descriptive analysis identifies trends and behavioral patterns, while explanatory analysis evaluates relationships between variables, enabling a comprehensive understanding of digital consumer behavior. This study applies to a quantitative design to analyze how TikTok marketing strategies influence the sustainability of E-commerce performance in the Greater Jakarta (JaBoDeTaBek) region. The independent variable is TikTok's marketing strategy, represented by four dimensions: platform usage, engagement tactics, content strategy, and advertising strategy. The dependent construct is E-commerce sustainability, measured through consumer response indicators including purchase intention, brand recognition, and consumer engagement. These indicators reflect sustained consumer interaction and market performance within TikTok-driven social commerce environments. The proposed model assumes that effective TikTok marketing strategies contribute positively to consumer engagement, brand visibility, and purchasing interest, thereby supporting sustainable E-commerce performance in the region.

### Population and Sampling

The target population consists of TikTok users in the Greater Jakarta (JaBoDeTaBek) region. Due to the platform's large user base, the population was treated as effectively infinite. A purposive sampling method was applied to ensure respondents had relevant experience with TikTok-based social commerce. Participants were required to (1) reside in Greater Jakarta, (2) be active TikTok users, and (3) have made at least one purchase through TikTok Shop. A total of N = 65 respondents completed the survey distributed via Google Forms. This sample size satisfies commonly recommended guidelines for regression analysis relative to the number of predictors (Hair et al., 2021). Descriptive statistics, including age, gender, residence, purchasing frequency, internet usage, and occupation, are presented in Table 2, focusing on respondents' roles as digital consumers in TikTok-driven E-commerce activities.

### **Data Collection and Processing**

The questionnaire was distributed online through digital communication channels widely used by Indonesian social media users, including TikTok Direct Message (DM) and WhatsApp. These platforms were selected because they enable direct interaction with active TikTok users and facilitate efficient dissemination of online surveys within the target population. Using these channels allows the researcher to reach respondents who are actively engaged with social media and familiar with TikTok-based E-commerce activities. The instrument adopted a Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), enabling respondents to express varying degrees of agreement with each statement. As Koo and Yang (2025) noted, the Likert scale is a widely used psychometric tool in quantitative studies to assess perceptions, attitudes, and behavioral tendencies. This format facilitates the conversion of subjective responses into quantifiable data, which is essential for robust statistical analysis. The data collection period spanned from June 16 to June 22, 2025. A total of 65 respondents completed and submitted the questionnaire. Due to the manageable size and specific population targeting, all responses were retained and treated as the entire population for data analysis, rather than drawing from a random sample. Data was processed using the Statistical Package for the Social Sciences (SPSS) version 27.0.

### **Data Measurement and Statistics**

To ensure the integrity of the measurement instruments, the study performed validity and reliability tests, verifying that each item accurately and consistently measured its intended construct. The validity test correlates each item with the total score using a two-tailed test at a 0.05 significance level; items are valid if  $r_{\text{count}} > r_{\text{table}}$ . Using Cronbach's alpha, the reliability test confirms consistency; instruments are reliable if  $\alpha \geq 0.70$ , and only valid items are included (Sugiarta et al., 2023). Additionally, a series of assumption tests, including normality and multicollinearity, were conducted to confirm the suitability of the data for inferential analysis. The Shapiro–Wilk (SW) test is seen as more suitable for small sample sizes ( $n < 50$ ); however, it remains useful for bigger samples. The Kolmogorov–Smirnov (KS) test is often advised for larger sample sizes ( $n \geq 50$ ). The SW test is recognized as one of the most potent and dependable univariate methods for evaluating normality, especially in small to moderate sample sizes (Khatun, 2021). The Variance Inflation Factor (VIF) is often used to identify multicollinearity. VIF values between 5 and 10 signify a significant correlation that may be problematic. VIF values over 10 indicate significant multicollinearity, rendering coefficient estimations inaccurate. Tolerance, the reciprocal of VIF, indicates the possibility of multicollinearity; diminished values suggest increased multicollinearity (Shrestha, 2020).

Inferential statistical methods were employed to test the research hypotheses, including Analysis of Variance (ANOVA) and Multiple Linear Regression (MLR). The regression model was developed systematically by examining interaction effects, assessing model assumptions, and evaluating overall model significance through ANOVA. To assess explanatory power, the coefficient of determination ( $R^2$ ) was calculated to determine the proportion of variance in the dependent variables explained by the predictors. In addition, Eta-squared ( $\eta^2$ ) was used as an effect size indicator in ANOVA to evaluate the magnitude of each variable's influence. Effect size measures such as  $\eta^2$  provide a clearer interpretation of practical significance beyond p-values and strengthen the interpretation of statistical results (Yagin et al., 2024). Together, these statistical indicators improve the robustness of the analysis by identifying both the significance and the magnitude of the relationships between TikTok marketing strategies and E-commerce outcomes on TikTok. Multiple linear regression (MLR) was used to examine the correlations

among the research variables. MLR is a robust statistical technique that examines the connection between a single dependent variable and several independent variables

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$$

In this research,  $Y$  Represents the outcome variables, specifically purchase intention and behavior, brand recognition and loyalty, and customer engagement and retention.  $\beta_0$  Is the intercept, while  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ , and  $\beta_4$  The coefficients that measure the strength and direction of the relationship between the respective independent and dependent variables. The predictor variables are:  $X_1$ : Platform usage,  $X_2$ : Engagement tactics,  $X_3$ : Content strategy,  $X_4$ : Advertising strategy. The model assumes a linear relationship, and the residual term  $\epsilon$  (error term) which represents the variation in the dependent variable not explained by the model (Zhang, 2024). These techniques were employed to examine the strength and significance of the relationships between TikTok marketing strategies (independent variables) and the indicators of E-commerce growth (dependent variables). Using these methods ensures that the findings are statistically valid and analytically rigorous.

## RESULTS AND DISCUSSION

### Data Respondents' Characteristics

A total of 65 respondents participated in this study. The demographic characteristics of the respondents are presented in Table 2, including gender, age group, occupation, area of residence, daily internet usage, monthly income, and frequency of online purchases through TikTok. These characteristics provide contextual insight into the profile of TikTok users in the Greater Jakarta (JaBoDeTaBek) region.

### Gender and Age Distribution

In terms of gender, 37 respondents (56.9%) were female, while 28 respondents (43.1%) were male, indicating a slightly higher participation rate among female TikTok users in this study. Regarding age distribution, most respondents were 20–30 years old (61.5%,  $n = 40$ ), followed by 31–40 years old (29.2%,  $n = 19$ ). A smaller proportion of respondents were over 40 years old (9.2%,  $n = 6$ ). This distribution suggests that the sample is dominated by young adult users, who represent the most active demographic group on TikTok and are highly engaged with social commerce platforms.

### Area of Residence

Regarding geographic distribution, more than half of the respondents resided in Jakarta (52.3%,  $n = 34$ ). The remaining participants were distributed across surrounding metropolitan areas, including Bogor (16.9%,  $n = 11$ ), Bekasi (13.8%,  $n = 9$ ), Tangerang (12.3%,  $n = 8$ ), and Depok (4.6%,  $n = 3$ ). This distribution reflects the urban concentration of digital consumers within the Greater Jakarta region, which is known for its high internet penetration and active E-commerce ecosystem.

### Daily Internet Usage

The findings also indicate intensive internet usage among respondents. Most participants reported spending 6–10 hours per day online (52.3%,  $n = 34$ ). Additionally, 24.6% of respondents ( $n = 16$ ) reported spending more than 10 hours per day on internet activities, while 23.1% ( $n = 15$ ) reported spending less than five hours per day. These results suggest that the sample represents digitally active users, which is consistent with the target population of social media-based E-commerce consumers.

### Monthly Income

In terms of income levels, 41.5% of respondents (n = 27) reported earning more than IDR 10 million per month, followed by 38.5% (n = 25) earning IDR 6–10 million. A smaller portion reported earnings of IDR 1–5 million (10.8%, n = 7), while 9.2% (n = 6) reported monthly income below IDR 1 million. The relatively high proportion of middle- to high-income respondents suggests that many participants possess adequate purchasing power to engage in online shopping activities through social commerce platforms.

### Frequency of TikTok Purchases

Regarding online purchasing behavior through TikTok, 66.2% of respondents (n = 43) reported making fewer than three purchases in the past three months. Meanwhile, 21.5% (n = 14) reported making three to five purchases, and 12.3% (n = 8) indicated making more than five purchases during the same period. This pattern suggests that while TikTok is widely used for product discovery and browsing, the frequency of actual transactions remains moderate for most users.

Overall, the demographic profile indicates that the respondents primarily consist of young, urban, digitally active consumers with moderate to high internet usage, making them relevant participants for examining the influence of TikTok marketing strategies on E-commerce sustainability.

**Table 2. Demographic Characteristics of Respondents (N = 65)**

Demographic variables	Description	Frequency	Percentage
Gender	Female	37	56.9%
	Male	28	43.1%
Age	20 - 30 years old	40	61.5%
	31 - 40 years old	19	29.2%
	> 40 years old	6	9.2%
Occupation	Employee	48	73.8%
	Freelance	4	6.2%
	Student	4	6.2%
	Entrepreneur	1	1.5%
	Other	8	12.3%
Area of residence	Jakarta	34	52.3%
	Bogor	11	16.9%
	Bekasi	9	13.8%
	Tangerang	8	12.3%
	Depok	3	4.6%
Average of daily internet usage	6 to 10 hours	34	52.3%
	More than 10 hours	16	24.6%
	Less than 5 hours	15	23.1%
Monthly income (in IDR)	More than 10 million	27	41.5%
	6 to 10 million	25	38.5%
	1 to 5 million	7	10.8%
	Less than 1 million	6	9.2%
Online Product Purchase in the Past 3 Months	Less than 3 times	43	66.2%
	3 to 5 times	14	21.5%
	More than 5 times	8	12.3%

### Validity Test (Pearson Correlation) Results

The validity of each measurement item was examined using Pearson's item–total correlation analysis, which evaluates the relationship between individual items and the total score of their respective constructs. An item is considered valid when the correlation coefficient

exceeds the recommended threshold of  $r > 0.50$  and is statistically significant ( $p < 0.05$ ). As presented in Table 3, all measurement items demonstrate strong and statistically significant correlations with their respective construct totals, with correlation coefficients ranging from 0.655 to 0.917 ( $p < 0.001$ ). These results indicate that each indicator reliably represents the underlying constructs of TikTok marketing strategies and E-commerce sustainability used in this study.

**Table 3. Item Validity Test Results (Pearson Item–Total Correlation)**

Construct	Item	Pearson r	Sig. (2-tailed)	N
Platform Usage	X1	0.81	0.000***	65
	X2	0.801	0.000***	65
	X3	0.746	0.000***	65
	X4	0.655	0.000***	65
	X5	0.774	0.000***	65
	X6	0.85	0.000***	65
Engagement Tactics	X7	0.738	0.000***	65
	X8	0.765	0.000***	65
	X9	0.843	0.000***	65
	X10	0.693	0.000***	65
	X11	0.732	0.000***	65
Content Strategy	X12	0.789	0.000***	65
	X13	0.804	0.000***	65
	X14	0.887	0.000***	65
	X15	0.917	0.000***	65
	X16	0.847	0.000***	65
	X17	0.737	0.000***	65
	X18	0.821	0.000***	65
Advertising Strategy	X19	0.815	0.000***	65
	X20	0.839	0.000***	65
	X21	0.784	0.000***	65
	X22	0.827	0.000***	65
	X23	0.808	0.000***	65
	X24	0.775	0.000***	65
Purchase Intention & Behavior	Y1	0.847	0.000***	65
	Y2	0.835	0.000***	65
	Y3	0.76	0.000***	65
	Y4	0.8	0.000***	65
	Y5	0.839	0.000***	65
	Y6	0.737	0.000***	65
Brand Recognition & Loyalty	Y7	0.808	0.000***	65
	Y8	0.823	0.000***	65
	Y9	0.885	0.000***	65
	Y10	0.88	0.000***	65
	Y11	0.904	0.000***	65
	Y12	0.788	0.000***	65
Customer Engagement & Retention	Y13	0.713	0.000***	65
	Y14	0.886	0.000***	65
	Y15	0.889	0.000***	65
	Y16	0.856	0.000***	65
	Y17	0.818	0.000***	65
	Y18	0.827	0.000***	65

**Note:** Correlation is significant at  $p < 0.05^*$ ,  $p < 0.01^{**}$ , and  $p < 0.001^{***}$  level (2-tailed).

### Reliability Test (Cronbach's Alpha) Results

The reliability of the measurement instrument was evaluated using Cronbach's Alpha, which assesses the internal consistency of items within each construct. A coefficient value above 0.70 is generally considered acceptable for social science research. As shown in Table 4, all constructs demonstrate strong internal reliability, with Cronbach's Alpha values ranging from 0.850 to 0.922.

These results indicate that the measurement items used in this study consistently capture the underlying constructs of TikTok marketing strategies and E-commerce sustainability.

**Table 4. Reliability Test Results (Cronbach's Alpha)**

Items	Indicator	Items	Cronbach's Alpha	N
X1-X6	Platform usage	6	0.865	65
X7-X12	Engagement tactics	6	0.850	65
X13-X18	Content strategy	6	0.905	65
X19-X24	Advertising strategy	6	0.893	65
Y1-Y6	Purchase intention and behavior	6	0.889	65
Y7-Y12	Brand recognition and loyalty	6	0.922	65
Y13-Y18	Customer engagement and retention	6	0.909	65

The items of each indicator X and Y have Cronbach's Alpha > 0.700, which indicates reliability, and both indicators can be used in this research and for further analysis.

### Assumption Test Results

To ensure the appropriateness of the regression analysis, several statistical assumptions were tested, including normality and multicollinearity. Data normality was assessed using the Shapiro–Wilk test, and the results are presented in Table 5.

**Table 5. Normality Test Results (Shapiro-Wilk)**

Items	Dependent Indicator	Shapiro-Wilk Sig.	N
Y1-Y6	Purchase intention and behavior	0.145	65
Y7-Y12	Brand recognition and loyalty	0.328	65
Y13-Y18	Customer engagement and retention	0.148	65

As shown in Table 5, all Shapiro–Wilk significance values exceed 0.05, indicating that the data for purchase intention and behavior, brand recognition and loyalty, and customer engagement and retention are normally distributed. Therefore, the normality assumption required for parametric regression analysis is satisfied.

To assess potential multicollinearity among the independent variables, Tolerance and Variance Inflation Factor (VIF) statistics were calculated. The results are presented in Table 6.

**Table 6. Multicollinearity Test Results**

Items	Independent Indicator	Tolerance	VIF
X1-X6	Platform usage	0.338	2.959
X7-X12	Engagement tactics	0.456	2.195
X13-X18	Content strategy	0.324	3.085
X19-X24	Advertising strategy	0.240	4.173

As shown in Table 6, all VIF values are below 5 and tolerance values exceed 0.10, indicating no serious multicollinearity among the independent variables. However, the relatively higher VIF for advertising strategy (VIF = 4.173) suggests a moderate correlation with other

predictors, particularly content strategy, which should be considered when interpreting the regression results.

### Linearity Test Results

Prior to conducting Multiple Linear Regression (MLR), a linearity test was performed to examine whether the relationships between the independent and dependent variables followed a linear pattern. ANOVA-based linearity assessment used, and the results are presented in Table 7.

**Table 7. ANOVA-Based Linearity Test Results**

Indicator		F (Linearity)	Sig. (p-value)
Independent	Dependent		
Platform usage	Purchase intention and behavior	125.941	< 0.001***
	Brand recognition and loyalty	50.075	0.02*
	Customer engagement and retention	79.335	< 0.001***
Engagement tactics	Purchase intention and behavior	36.203	0.01**
	Brand recognition and loyalty	48.508	< 0.001***
	Customer engagement and retention	77.635	< 0.001***
Content strategy	Purchase intention and behavior	75.515	< 0.001***
	Brand recognition and loyalty	140.465	< 0.001***
	Customer engagement and retention	115.320	< 0.001***
Advertising strategy	Purchase intention and behavior	70.314	< 0.001***
	Brand recognition and loyalty	91.311	< 0.001***
	Customer engagement and retention	69.728	< 0.001***

**Note:** Correlation is significant at  $p < 0.05^*$ ,  $p < 0.01^{**}$ , and  $p < 0.001^{***}$  level (2-tailed).

The results show that all independent variables have statistically significant linear relationships with the dependent indicators ( $p < 0.05$ ). Therefore, the linearity assumption required for regression analysis is satisfied. Among the predictors, platform usage shows strong linear relationships with purchase intention and behavior ( $F = 125.941$ ,  $p < 0.001$ ) and customer engagement and retention ( $F = 79.335$ ,  $p < 0.001$ ). Content strategy also demonstrates strong linear associations, particularly with brand recognition and loyalty ( $F = 140.465$ ,  $p < 0.001$ ) and customer engagement and retention ( $F = 115.320$ ,  $p < 0.001$ ). Engagement tactics and advertising strategy similarly show significant linear relationships across all dependent variables.

To further assess the strength of these relationships, coefficient of determination ( $R^2$ ) and Eta-squared ( $\eta^2$ ) values were calculated. These indicators represent the proportion of variance explained by each predictor and the corresponding effect size. The results are presented in Table 8.

**Table 8. Measure of Association Test Results**

Indicators	Dependent					
	Y1 ( $R^2$ )	Y1 ( $\eta^2$ )	Y2 ( $R^2$ )	Y2 ( $\eta^2$ )	Y3 ( $R^2$ )	Y3 ( $\eta^2$ )
Platform Usage	0.671	0.787	0.460	0.632	0.540	0.728
Engagement Tactics	0.351	0.563	0.447	0.585	0.582	0.663
Content Strategy	0.545	0.668	0.691	0.774	0.641	0.744
Advertising Strategy	0.526	0.671	0.599	0.711	0.524	0.669

The results indicate that platform usage and content strategy exhibit the strongest associations with the dependent variables. For example, platform usage explains 67.1% of the variance in purchase intention and behavior ( $R^2 = 0.671$ ), while content strategy explains 69.1%

of the variance in brand recognition and loyalty ( $R^2 = 0.691$ ). In comparison, engagement tactics show relatively weaker explanatory power, whereas advertising strategy demonstrates moderate associations across the dependent variables. The Multiple Linear Regression (MLR) results are presented in Table 9.

**Table 9. Multiple Linear Regression Test Results**

Indicator		Independent	B (Unstd.)	$\beta$ (Std.)	t	Sig. (p-value)	Model	
Dependent							R <sup>2</sup>	Adj. R <sup>2</sup>
Purchase intention and behavior		Platform usage	0.573	0.586	4.939	< 0.001***	0.714	0.695
		Engagement tactics	-0.013	-0.013	-0.125	0.901		
		Content strategy	0.314	0.285	2.350	0.022*		
		Advertising strategy	0.044	0.043	0.305	0.761		
Brand recognition and loyalty		Platform usage	-0.003	-0.003	-0.028	0.978	0.735	0.717
		Engagement tactics	0.163	0.167	1.694	0.096		
		Content strategy	0.608	0.563	4.823	< 0.001***		
		Advertising strategy	0.206	0.203	1.495	0.140		
Customer engagement and retention		Platform usage	0.193	0.199	1.835	0.071	0.762	0.746
		Engagement tactics	0.388	0.394	4.221	< 0.001***		
		Content strategy	0.543	0.497	4.495	< 0.001***		
		Advertising strategy	-0.118	-0.115	-0.891	0.376		

**Note:** Correlation is significant at  $p < 0.05^*$ ,  $p < 0.01^{**}$ , and  $p < 0.001^{***}$  level (2-tailed).

The findings indicate that content strategy is the most consistent predictor across all dependent variables. It significantly predicts purchase intention and behavior ( $\beta = 0.285$ ,  $p = 0.022$ ), brand recognition and loyalty ( $\beta = 0.563$ ,  $p < 0.001$ ), and customer engagement and retention ( $\beta = 0.497$ ,  $p < 0.001$ ). Platform usage also shows a significant positive effect on purchase intention and behavior ( $\beta = 0.586$ ,  $p < 0.001$ ), while engagement tactics significantly influence customer engagement and retention ( $\beta = 0.394$ ,  $p < 0.001$ ). In contrast, advertising strategy does not show statistically significant effects on any of the dependent variables.

## Discussion

This study evaluates the effectiveness of marketing strategies on TikTok in sustaining E-commerce engagement in the Greater Jakarta (JaBoDeTaBek) region. Four key dimensions, platform usage, engagement tactics, content strategy, and advertising strategy, were examined in relation to consumer outcomes, including purchase intention and behavior, brand recognition and loyalty, and customer engagement and retention. The measurement model demonstrated satisfactory psychometric quality. Validity testing using Pearson item–total correlation confirmed that all indicators exceeded the commonly accepted threshold ( $r > 0.50$ ). Reliability analysis also indicated strong internal consistency, with Cronbach’s Alpha values ranging from 0.850 to 0.922. In addition, the Shapiro–Wilk test confirmed that the data were normally distributed ( $p > 0.05$ ), supporting the application of parametric Multiple Linear Regression

(MLR). Regression findings show that platform usage, engagement tactics, and content strategy are positively associated with consumer behavioral outcomes. These results indicate that interactive platform features and content-oriented marketing practices significantly influence purchase intention, brand recognition, and user engagement within social commerce environments.

In contrast, advertising strategy does not exhibit a statistically significant effect on the outcomes examined. One possible explanation is the overlap between advertising and content formats on TikTok, where sponsored videos, influencer collaborations, and live commerce often resemble organic content. As a result, users may perceive advertising as part of the broader content ecosystem rather than as a distinct promotional stimulus. Another explanation relates to the statistical power of the analysis. With a sample size of  $N = 65$ , the regression model may have limited sensitivity to detect smaller effect sizes. In addition, a potential suppressor effect may occur when correlated predictors share variance in explaining consumer responses. In this context, engagement tactics and content strategy may capture much of the variance associated with consumer interaction, thereby reducing the independent contribution of advertising strategy in the model.

Overall, the findings suggest that content-driven engagement and interactive platform usage play a more influential role than traditional advertising exposure in TikTok-based social commerce. The platform's algorithm-driven distribution system prioritizes entertaining and trend-oriented content, which can strengthen consumer engagement and influence purchasing behavior. Consequently, businesses operating within the TikTok ecosystem may achieve stronger outcomes by emphasizing authentic content creation, influencer collaboration, and community interaction rather than relying solely on paid advertising.

**Platform Usage and Content Strategy: The Dominant Drivers of Purchase Behavior**  
Platform usage emerged as the strongest predictor of purchase intention ( $\beta = 0.586$ ,  $p < 0.001$ ;  $R^2 = 0.671$ ). This finding supports the Technology Acceptance Model (TAM), which proposes that perceived usefulness and ease of use influence technology adoption and behavioral outcomes. The intuitive interface of TikTok facilitates seamless product discovery and interaction, encouraging transactional engagement. This result aligns with prior research showing that active platform usage can enhance E-commerce competitiveness (Wu, 2023). However, frequent usage alone may not guarantee long-term brand relationships without stronger emotional or social engagement. Content strategy also demonstrates significant effects across all three outcomes: purchase intention ( $\beta = 0.285$ ,  $p = 0.022$ ), brand recognition ( $\beta = 0.563$ ,  $p < 0.001$ ), and customer engagement ( $\beta = 0.497$ ,  $p < 0.001$ ). These results reinforce both TAM and Social Influence Theory (SIT), particularly the mechanism of internalization, where consumers adopt behaviors that align with relatable and authentic content. Previous studies similarly emphasize that content richness and authenticity strongly influence consumer behavior on algorithm-driven platforms. For example, Sohid et al. (2024) show that user-generated content and influencer marketing increase purchase intention through perceived authenticity, while Saktiawan et al. (2023) highlight the role of brand image and trust in shaping purchasing decisions. Overall, the findings indicate that content-driven storytelling and authentic engagement strategies are more effective than traditional advertising in influencing consumer behavior on TikTok.

### **The Limited Role of Engagement Tactics and Advertising**

Engagement tactics showed a moderate influence on customer engagement and retention ( $\beta = 0.394$ ,  $p < 0.001$ ), which is consistent with SIT's notions of identification and compliance. Our findings demonstrate that features such as likes, shares, comments, and live interactions

successfully build a sense of community and belonging. This supports the research by Jamil et al. (2021), who found that social media activities enhance customer engagement and drive positive behavioral intentions. However, our study found that these tactics had a limited impact on immediate transactional intent or long-term brand loyalty without strong content support. The most notable finding was the minimal standalone influence of advertising strategy across all three outcomes. This result contradicts the findings of Firdaus et al. (2025), who emphasized that well-targeted and creatively designed advertisements can capture attention and drive conversions on TikTok Shop. Our study's findings, however, align with existing concerns about ad fatigue and "banner blindness" in digital marketing. This suggests that users on TikTok may increasingly ignore overt ads unless they are integrated organically or paired with influencer content, highlighting the need for native, participatory marketing formats on the platform.

### **Hypothesis Testing and Demographic Context**

The hypothesis testing results indicate that the overall Multiple Linear Regression (MLR) model is statistically significant, leading to the rejection of the null hypothesis ( $H_0$ ) and supporting  $H_1$  that marketing strategies on TikTok significantly influence E-commerce growth in the JaBoDeTaBek region. Specifically,  $H_2$  is supported, showing that platform usage strongly influences purchase intention and behavior ( $\beta = 0.586$ ,  $p < 0.001$ ;  $R^2 = 0.671$ ).  $H_3$  receives partial support, as engagement tactics significantly affect customer engagement and retention ( $\beta = 0.394$ ,  $p < 0.001$ ) but demonstrate weaker influence on brand loyalty.  $H_4$  is also supported, with content strategy significantly predicting purchase intention ( $\beta = 0.285$ ,  $p = 0.022$ ). In contrast,  $H_5$  is not supported because advertising strategy shows no significant impact on the examined outcomes. These results can be further understood through the respondents' demographic profile. The sample primarily consists of young and highly active digital users, with 61.5% aged 20–30 and 77% spending at least six hours online daily. This intensive media consumption likely amplifies the influence of platform usage and content-driven interactions. In addition, the concentration of respondents in urban areas, particularly Jakarta (52.3%), combined with relatively high-income levels (about 80% earning at least IDR 6 million per month) may facilitate impulsive or convenience-based purchasing behaviors due to stronger purchasing power and easier access to logistics. However, although TikTok effectively supports product discovery, the relatively low purchase frequency, where 66.2% of respondents reported fewer than three purchases within three months, suggests that the platform functions more as an exploration and engagement channel rather than a primary transaction destination. This pattern helps explain why engagement tactics strengthen interaction and retention but do not necessarily translate into sustained brand loyalty or frequent purchasing behavior.

### **CONCLUSION**

This study examined how marketing strategies on TikTok influence E-commerce sustainability in the Greater Jakarta (JaBoDeTaBek) region, guided by the Technology Acceptance Model (TAM) and Social Influence Theory (SIT). Among the four variables analyzed, content strategy emerged as the most consistent predictor of purchase intention, brand loyalty, and customer retention. Platform usage strongly influenced purchase intention, while engagement tactics contributed to customer retention but showed limited influence on brand loyalty. In contrast, advertising strategy demonstrated minimal impact, indicating that organic and interactive content is more effective than traditional advertising formats on TikTok. The sample consisted mainly of young, digitally active, and relatively high-income users, who were highly responsive to personalized and discovery-based content. However, the relatively low

purchase frequency suggests that TikTok functions more as a product discovery and engagement platform rather than a primary transactional channel. To sustain E-commerce growth, brands should prioritize content-driven and community-oriented marketing strategies, leveraging social interaction and user behavior to strengthen engagement and create long-term customer value.

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