




“The impact of personalized advertising on impulse shopping behavior on Tiktok”

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THE IMPACT OF PERSONALIZED ADVERTISING ON IMPULSE SHOPPING BEHAVIOR ON TIKTOK

Abstract

In today's fast-evolving e-commerce ecosystem, personalized advertising utilizing user data such as preferences, behaviors, and demographics to deliver customized ad content has emerged as an essential tool for businesses aiming to connect with customers more effectively. The purpose of this study is to explore the influence of personalized advertising on consumers' impulse buying behavior on TikTok in Vietnam. It investigates both direct and indirect effects through mediators – emotions, advertising value, perceived novelty and perceived relevance – and explores the moderating roles of self-control and privacy and security concerns. A quantitative approach was adopted using an online survey of 330 Vietnamese TikTok users aged 18-40 who had previously purchased via TikTok Shop. Measurement scales were adapted from prior studies and assessed on a five-point Likert scale. Data analysis employed SPSS 25 and AMOS 24, incorporating Cronbach's alpha reliability tests, exploratory factor analysis (EFA), confirmatory factor analysis (CFA), structural equation modeling (SEM), and moderation analysis using Hayes' macro. Personalized advertising has a significant direct effect on impulse buying behavior and indirect effects via emotions, advertising value, and perceived relevance. Emotions emerged as the strongest mediator, followed by advertising value and perceived relevance. While personalized advertising positively influences perceived novelty, novelty does not significantly affect impulse buying. The moderating role of self-control is negative, reducing the impact of emotions on impulse buying, whereas privacy and security concerns have no meaningful moderation effect. These insights enhance our understanding of the factors driving impulse buying behavior. This helps to suggest strategies for managers to optimize personalized advertising, ultimately improving marketing efficiency and encouraging customer purchases on the TikTok platform.

Keywords

personalized advertising, impulse buying, emotions,
perception of novelty, advertising value

JEL Classification

M31, M37, L82

INTRODUCTION

Vietnam's e-commerce market reached an impressive US\$ 25 billion in 2024, reflecting a 20% increase from the previous year and representing 9% of the nation's total retail and service revenue (PCMI, 2025). TikTok Shop secured a significant 35% market share while achieving an extraordinary 121% growth in sales (Vietdata, 2025). The platform has effectively integrated e-commerce functionalities, including short videos, images, and livestreams for product promotion, establishing itself as a leading player in social commerce (Putri et al., 2024). TikTok offers personalized advertising options tailored to individual users and empowers content creators to embed links within their ads and other content (Yuan et al., 2022). Additionally, TikTok has enhanced its content selection algorithm to ensure that product-related content is presented in a way that aligns with each user's profile (Chu et al., 2024). A survey conducted by Statista in 2023 revealed that 71.2% of respondents frequently shopped via TikTok Shop after viewing videos, stories, or livestreams related to specific products.

TikTok has emerged as a leading social media trend in Vietnam, with advertisements reaching 68.9% of the adult population (Datareportal, 2024). The role of personalized advertising in drawing consumer attention and customizing content to individual preferences is well-established (Legros et al., 2024). Moreover, online marketing techniques, such as tailored product and service recommendations, play a crucial role in not only making products easily accessible to consumers but also in optimizing their preferences and enhancing their shopping experiences. This, in turn, significantly influences consumers' affective and impulsive purchasing behaviors (Ampadu et al., 2022). Research has shown that video advertising content on the TikTok Shop platform directly impacts and stimulates changes in consumers' impulse buying behavior (Febriandika et al., 2023). Various content related factors that shape consumer behavior include the appearance of the creator or model, the creativity of the video, advertising skills, both verbal and written, and the overall quality of the video.

Impulse buying is commonly examined in e-commerce contexts, particularly within livestream driven shopping environments. It refers to sudden purchase decisions triggered by emotional needs and immediate desire rather than prior planning (Liyanage & Wijesundara, 2020; Muruganantham & Bhakat, 2013). In algorithm driven environments, personalized content enhances perceived relevance and engagement, while consumer psychological responses shape reactions to such stimuli (Lina & Ahluwalia, 2021; Sharifi et al., 2023; Istiasih, 2024). However, social commerce platforms like TikTok differ from traditional e-commerce by merging entertainment, real time interaction, and AI based personalization into a highly immersive shopping experience. Despite growing research on personalized advertising and impulse buying, limited attention has been given to how these mechanisms operate within algorithm driven social commerce environments. The convergence of entertainment content, personalized recommendations, and real time interaction may intensify emotional responses and accelerate impulsive purchasing decisions. This raises an important scientific problem concerning how personalized advertising within TikTok's social commerce ecosystem shapes consumers' emotional responses and impulse buying behavior.

1. LITERATURE REVIEW AND HYPOTHESES

Personalization serves as a crucial strategy for businesses seeking a competitive advantage by delivering tailored products and services that cater to the specific needs and desires of each customer (Murthi & Sarkar, 2003). This approach fosters a unique experience for every individual, enhancing interactions and increasing customer value by aligning the right product or service with the customer at the ideal moment and location (Kumar et al., 2022). Furthermore, previous research has shown that personalization goes beyond simply fulfilling customer needs; it involves utilizing personal data to make informed, optimized decisions regarding products and services, thereby contributing to overall business growth (Alves & Meisen, 2023).

The fundamental nature of social media is to serve as a platform where users engage with a diverse array of content (Aichner et al., 2021). The impact of personalized messages on users' perceptions

of advertisements within these platforms can be quite significant (Guo et al., 2024). Personalized advertising on social media creates experiences where adverts are tailored to the unique characteristics of individual customers (Guo et al., 2024). On e-commerce platforms like TikTok Shop, this form of advertising utilizes users' personal information, such as preferences, behaviors, and demographics, to deliver ads that are specifically customized for each user (Chu et al., 2024). TikTok gathers and analyzes user data to present advertising content that aligns with their distinct needs and preferences. This approach not only enhances the user experience by offering more relevant and engaging content (Wu, 2023) but also assists businesses in effectively reaching their target audience and improving the overall effectiveness of their advertising campaigns.

Impulsive buying is often driven by emotional factors and environmental stimuli. Silvera et al. (2008) suggest that emotions play a crucial role in this behavior, noting that a positive mood or

heightened emotional state can ignite the urge for impulsive purchases. Peck and Childers (2006) emphasize that physical interaction with a product, such as touching or viewing it up close, can further stimulate impulsive buying behavior. Chandra et al. (2022) indicate that personalized advertising can effectively deliver content tailored to users' needs, which helps reduce information overload and increases the likelihood of consumer engagement with the advertisement. When consumers perceive advertisements as highly personalized, they often feel a stronger connection to the product and are more naturally attracted to the content of the ad (De Keyzer et al., 2022; Arora et al., 2025). This connection enhances the chances of evoking positive emotions, which can trigger an immediate desire to acquire the product with minimal deliberation.

Emotion has long been recognized as a pivotal determinant in consumer decision-making (Sun et al., 2024), drawing extensive attention from diverse disciplines such as marketing, economics, and engineering since the 1960s. It functions as an internal signaling mechanism that guides individuals in responding to both rewarding and adverse stimuli (Sun et al., 2024). As noted by Li et al. (2024), emotions act as catalysts that expedite decision processes and provoke immediate behavioral reactions. Building on the well-established relationship between positive affect and impulsive purchasing, Ngo et al. (2025) emphasize that the feeling of enjoyment plays a central role in stimulating favorable responses to online stimuli, thereby enhancing impulsive buying tendencies. Their findings indicate that consumers are more likely to engage in unplanned purchases when immersed in engaging and aesthetically appealing online environments. Therefore, emotions particularly those shaped by personalized advertising emerge as a crucial psychological driver influencing consumers' spontaneous purchase intentions.

The notion of advertising value was introduced by Ducoffe (1996) to evaluate the "relative worth or utility of advertising to consumers." Saxena and Khanna (2013) identified two pivotal dimensions of advertising value: informativeness and irritation. Informativeness pertains to the degree to which an advertisement delivers useful information, while irritation arises when advertising messages cause dis-

comfort among viewers. In the realm of social media advertising, personalization is anticipated to boost users' perceptions of informativeness while mitigating feelings of irritation (Ye et al., 2025; Dwinanda et al., 2022). As noted by Saraiva and Lues (2024), when consumers encounter personalized advertisements on social media, they are likely to regard the content as more valuable and experience reduced irritation, as the information is specifically tailored to their needs, preferences, or browsing behavior. Additionally, consumers' perceptions of advertising value can significantly affect their propensity for impulsive buying (Feng et al., 2023; Lina & Ahluwalia, 2021; Deshpande et al., 2022). This study proposes that individuals are more inclined to make impulsive purchases when they perceive a sense of utility or usefulness in personalized social media advertisements. Customers may feel compelled to purchase a product or invest in a service that appears beneficial at the moment of exposure (Shamim & Islam, 2022).

Online retailers are increasingly adopting innovative strategies to cut through the overwhelming clutter of advertisements that consumers encounter daily (Hasanah & Kusumo, 2024). For instance, mobile social media and location-based advertising have emerged as effective methods for retailers and marketers to deliver personalized marketing messages to customers (Yang et al., 2024; Chauhan et al., 2021). The perceived novelty and relevance of advertising personalization are critical components of the advertising communication model (Aslam et al., 2021). The novelty found in personalized advertisements plays a significant role in identifying consumers' needs and desires in advance, presenting them with various products and services, and fostering impulsive buying behavior (Franke et al., 2023). Additionally, perceived novelty can enhance customers' propensity to engage in online impulse purchases, as social media platforms often feature elements that facilitate swift transactions (Mashilo et al., 2025). For example, the "Buy Now" button embedded in sponsored TikTok ads can direct customers immediately to online stores, encouraging quick purchases.

Personalized advertisement on social media is generated by analyzing a customer's profile and online behaviors, subsequently aligning the ad content with that individual's needs, preferences, or browsing history (De Keyzer et al., 2022; Segijn

& Van, 2022). This alignment leads customers to perceive personalized advertisements as relevant, as they resonate with specific aspects of their identities (Kim et al., 2022). Numerous studies have confirmed that perceived relevance serves as the primary mechanism explaining the effects of personalization (Guo et al., 2024; Segijn & Van, 2022; Abdel, 2021). Consequently, this study posits that customers' perception of advertising personalization on TikTok will have a positive influence on the perceived relevance of the advertisement. Furthermore, perceived relevance may also significantly affect the propensity for impulsive buying behavior (Nasir et al., 2021).

Some scholars contend that consumers' self-control capacity can have a negative impact on online impulsive buying behavior (Chen et al., 2022; Ayuningtyas & Irawan, 2021; Gulfraz et al., 2022). From this viewpoint, individuals with low self-regulatory abilities are more prone to impulsive buying tendencies, resulting in increased spending during unplanned purchasing situations (Ayuningtyas & Irawan, 2021). Conversely, consumers who exhibit high levels of self-control are generally more adept at resisting impulsive purchasing decisions (Sun et al., 2024). Over time, enhancing self-control can strengthen individuals' capacity to resist shopping temptations (Victoria et al., 2021). As a result, consumers with high self-control typically make purchase decisions based on long-term benefits and the actual value of the product, rather than succumbing to emotional triggers (Ahn & Kwon, 2022). Fumar et al. (2023) suggest that self-control moderates impulsive buying behavior by managing emotional factors and the fear of missing out (FOMO).

Privacy is defined as an individual's ability to control the terms under which their personal information is acquired and used (Westin, 1968). To receive personalized communications, Internet users often find themselves making a trade-off regarding their privacy (Chellappa & Sin, 2005). However, this trade-off also heightens individuals' privacy concerns. For instance, while a customized shopping list based on a person's online purchase history can be beneficial, it inevitably raises issues of privacy by making users aware that their transactions are being monitored (Ullah et al., 2023; Snyder et al., 2025). With the rise of mobile

internet, contemporary social media platforms are even capable of collecting users' physical location data, which enables more tailored services but simultaneously sparks further privacy-related controversies (Aslam et al., 2021). In the realm of personalized advertising, security and privacy concerns may adversely influence customers' willingness to make immediate purchases due to the anxiety these issues evoke (Legros et al., 2024).

This study aims to examine how personalized advertising influences impulse buying behavior within the context of TikTok-based social commerce in Vietnam. Specifically, the research investigates the direct and indirect effects of personalized advertising through emotional responses, perceived advertising value, perceived novelty, and perceived relevance. Besides, the study explores the moderating roles of self-control and privacy concerns in shaping consumers' impulsive purchasing decisions in an algorithm-driven social commerce environment. From the above literature analysis, the hypotheses put forward by the authors are (Figure 1):

H1: Personalized Advertising has a positive effect on consumers' Emotions.

H1a: Emotions mediate the relationship between Personalized Advertising and Impulsive Buying.

H2: Personalized Advertising has a positive effect on consumers' perceived Advertising Value.

H2a: Perceived Advertising Value mediates the relationship between Personalized Advertising and Impulsive Buying.

H3: Personalized Advertising has a positive effect on consumers' Perceived Novelty.

H3a: Perceived Novelty mediates the relationship between Personalized Advertising and Impulsive Buying.

H4: Personalized Advertising has a positive effect on consumers' Perceived Relevance.

H4a: Perceived Relevance mediates the relationship between Emotions and Impulsive Buying.

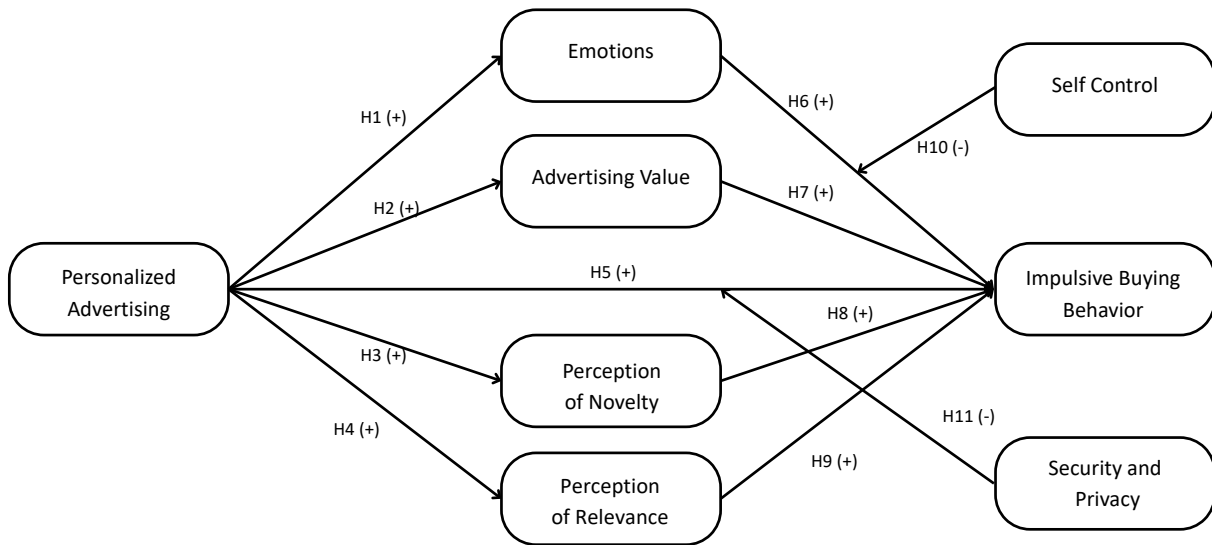


Figure 1. Proposed research model

- H5: Personalized Advertising has a positive effect on Impulsive Buying.*
- H6: Emotions have a positive effect on Impulsive Buying.*
- H7: Perceived Advertising value has a positive effect on Impulsive Buying.*
- H8: Perceived Novelty has a positive effect on Impulsive Buying.*
- H9: Perceived Relevance has a positive effect on Impulsive Buying.*
- H10: Self-Control moderates the relationship between Emotions and Impulsive Buying.*
- H11: Privacy and Security concerns moderate the relationship between Personalized Advertising and Impulsive Buying.*

while Emotion, Advertising Value, Perceived Relevance, and Novelty function as mediating variables. The dependent variable is Impulsive Buying Behavior, and two moderating variables — Self-Control and Privacy and Security concerns — are incorporated to assess their conditional effects on the proposed relationships.

The model and hypotheses are tested based on a dataset of 330 sample elements. The sample was collected through a survey using the convenience sampling method in Hanoi City. Customers aged 18-40 have been using online shopping services on the TikTok application. Customers aged 18-40 are considered a young, dynamic group with a high understanding of technology. This is the generation that has grown up with the development of the Internet and smart devices, leading to a high level of access to online services. The purchasing power of this group is very strong because they are often of working age, have a stable income and are willing to spend on online products/services. In particular, they are easily attracted to highly interactive, personalized shopping experiences, allowing them to feel connected to the product and brand.

2. RESEARCH METHODOLOGY

2.1. Proposed model

This study aims to develop and empirically test a conceptual model that examines how factors within Personalized Advertising influence Impulsive Buying Behavior on the social networking platform TikTok. In this model, Personalized Advertising serves as the independent variable,

2.2. Measurement instruments

The measurement instruments in this study were developed based on scales from previous studies and were adjusted to suit the research context. The scales used in the study are presented in Appendix.

2.3. Data collection and data analysis methods

The quantitative research method was conducted through a survey of a sample of customers aged 18–40 who participated in online shopping at TikTok Shop in Vietnam. The model and hypotheses were tested using a dataset of 330 valid responses collected via an official questionnaire distributed through Google Forms. The sample consisted of Vietnamese TikTok users primarily residing in major urban areas such as Hanoi, Ho Chi Minh City, and Da Nang, where social commerce adoption is particularly high. Respondents reported purchasing a variety of product categories through TikTok Shop, including fashion and accessories, cosmetics and beauty products, household items, and consumer electronics categories commonly traded on social commerce platforms in Vietnam. Participants were provided with a written consent form, stating the purpose of the study, procedures, risks, benefits, and the freedom to withdraw at any time without consequences. The authors commit to keeping the information confidential, and the content of the responses will only be used for this study.

Table 1. Descriptive statistics of the sample

Source: Primary research.

| Category | Variable | Frequency (n) | Percentage (%) |
|------------------------------|-----------------|---------------|----------------|
| Gender | Female | 257 | 77.9 |
| | Male | 73 | 22.1 |
| Occupation | Student | 156 | 47.3 |
| | Office workers | 103 | 31.2 |
| | Self-employed | 71 | 21.5 |
| Monthly Spending | < \$200 | 180 | 54.5 |
| | \$200 – <\$400 | 82 | 24.9 |
| | \$400 – < \$800 | 59 | 17.9 |
| Shopping Frequency on TikTok | ≥ \$800 | 9 | 2.7 |
| | < 1 time/month | 102 | 30.9 |
| | 1–2 times/month | 135 | 40.9 |
| | 3–5 times/month | 75 | 22.7 |
| | > 5 times/month | 18 | 5.5 |

As shown in Table 1, the sample is predominantly female (77.9%), with males accounting for 22.1%, reflecting stronger engagement of women with TikTok-based shopping. In terms of occupation, students represent the largest group (47.3%), followed by office workers (31.2%) and self-employed individuals (21.5%). Regarding monthly spend-

ing, the majority of respondents spend less than \$200 (54.5%), while only a small proportion report spending above \$800 (2.7%). In terms of shopping frequency, most respondents shop on TikTok 1–2 times per month (40.9%), followed by those shopping less than once per month (30.9%). A smaller segment reports higher engagement, with 22.7% shopping 3–5 times per month and only 5.5% shopping more than five times monthly. Overall, these findings suggest that TikTok is a relatively frequently used shopping platform, particularly among younger consumers such as students.

The questionnaire for the study was constructed using a 5-point Likert scale to assess observed variables, with the following rating scale: (1) completely disagree to (5) completely agree. Using a convenience sampling method, the study focused on individuals aged 18 to 40 who had made purchases on the TikTok platform through the impact of personalized advertising. The content of the scale in the study was inherited from previous studies. To ensure linguistic accuracy when applying scales from foreign studies, the study used the results from expert interviews to help calibrate the content of the scale to improve its suitability to the research context.

The study employed the Exploratory Factor Analysis (EFA) approach, adhering to the guidelines of Gorsuch (1983), which suggest that the sample size should be at least five times greater than the number of observed variables. In this research model, eight factors comprising twenty-nine observed variables were included; thus, the minimum required sample size was $29 \times 5 = 145$. To ensure robustness, 330 valid responses were collected. Data were analyzed using SPSS 25 and AMOS 24 to assess the reliability and validity of the measurement scales and to evaluate the relationships among the constructs. The main analytical techniques employed included reliability and validity testing, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM).

3. RESULTS

The research steps were carried out as follows: First, the research results were synthesized by descriptive analysis; next, the general model was tested

Table 2. Cronbach’s Alpha reliability test and KMO coefficient

Source: Primary research.

| | Personalized Advertising | Emotion | Advertising Value | Perceived Novelty | Perceived Relevance | Impulsive Buying |
|------------------|--------------------------|---------|-------------------|-------------------|---------------------|------------------|
| Cronbach’s Alpha | .825 | .826 | .782 | .821 | .784 | .832 |
| Bartlett | p < 5% | p < 5% | p < 5% | p < 5% | p < 5% | p < 5% |
| KMO | .893 | | | | | |
| EFA explain | 68.539% | | | | | |

through EFA and CFA; then, SEM analysis was performed to assess the quality of the model and the causal relationships between the independent, mediating, dependent variables, and finally, the effects of the moderator variables were analyzed.

We first used Cronbach’s Alpha formula to assess the reliability of the research model. The results showed that all Cronbach’s Alpha coefficients of the research factors and sub-factors exceeded 0.7, indicating a satisfactory level of reliability and ensuring consistency (Nunnally, 1978). The smallest Cronbach’s Alpha coefficient was 0.782; the KMO index was 0.893 (>0.5). The statistical significance level result in the Bartlett test is all less than 5%.

To evaluate the convergence and discriminant validity of the research model, we employed Exploratory Factor Analysis (EFA) with the Promax rotation technique. Due to the complex nature of the model, with many intermediate variables, the authors conducted a general EFA analysis for the independent variables, intermediate variables, and dependent variables.

Table 3. EFA rotation matrix

Source: Primary research.

| | 1 | 2 | 3 | 4 | 5 | 6 |
|-----|------|------|------|------|---|---|
| PA3 | .817 | | | | | |
| PA4 | .727 | | | | | |
| PA2 | .720 | | | | | |
| PA1 | .689 | | | | | |
| PN3 | | .804 | | | | |
| PN1 | | .792 | | | | |
| PN4 | | .784 | | | | |
| PN2 | | .707 | | | | |
| IB2 | | | .772 | | | |
| IB4 | | | .710 | | | |
| IB1 | | | .698 | | | |
| IB3 | | | .692 | | | |
| EM4 | | | | .753 | | |
| EM1 | | | | .728 | | |
| EM3 | | | | .723 | | |

| | 1 | 2 | 3 | 4 | 5 | 6 |
|-----|---|---|---|------|------|------|
| EM2 | | | | .706 | | |
| AV3 | | | | | .810 | |
| AV1 | | | | | .792 | |
| AV2 | | | | | .711 | |
| PR1 | | | | | | .771 |
| PR3 | | | | | | .768 |
| PR2 | | | | | | .736 |

The results of the EFA indicate that 22 observed variables are divided into six factors: Perception of Novelty, Personalized Advertising, Impulsive Shopping Behavior, Emotion, Perceived Relevance, and Perceived Value. The rotated matrix table shows that the factor loading coefficients are all greater than 0.5. There is no case where the variables simultaneously load onto the factor with a difference of less than 0.3. Therefore, the first step shows that the EFA model is appropriate, the factor scale values are all acceptable.

CFA results show that the model with Chi-square/df = 2.043 is good because it is in the range of 1 to 3; RMSEA = 0.056 is good (RMSEA < 0.08), PCLOSE = 0.096 > 0.001 is good; Important fit indices such as GFI = 0.902, TLI = 0.925, CFI = 0.938 and IFI = 0.939 (Figure 2). Therefore, the indices all meet the requirements. Thus, the model is suitable for market data.

To assess the quality and reliability of the scale, we used the Composite Reliability and Average Variance Extracted (CR and AVE) analysis technique in Table 4. According to Hair et al. (2022), if CR is greater than 0.7 and AVE exceeds 0.5, this shows that the observed variable is related to other variables in the same factor, demonstrating convergent validity. Conversely, if the square root of AVE is greater than the correlation coefficients between the two factors, this shows that the research factors are not correlated with other factors, demonstrating discriminant validity. The results in Table 4 show that

Source: Primary research.

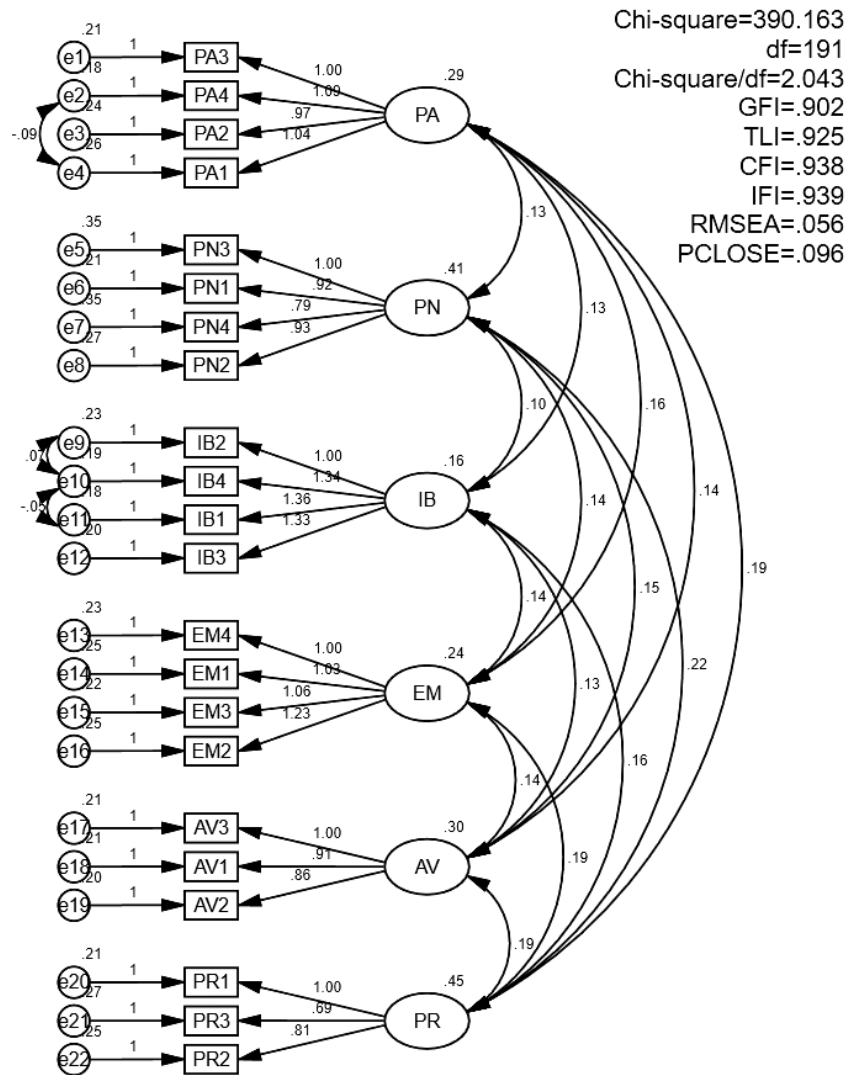


Figure 2. CFA analysis results

Table 4. Test of discriminant validity between research concepts

Source: Primary research.

| | CR | AVE | MSV | MaxR(H) | PA | PN | IB | EM | AV | PR |
|----|-------|-------|-------|---------|-------|-------|-------|-------|-------|-------|
| PA | 0.843 | 0.574 | 0.357 | 0.846 | 0.757 | | | | | |
| PN | 0.822 | 0.537 | 0.261 | 0.829 | 0.377 | 0.733 | | | | |
| IB | 0.831 | 0.553 | 0.470 | 0.839 | 0.613 | 0.374 | 0.744 | | | |
| EM | 0.826 | 0.543 | 0.470 | 0.828 | 0.610 | 0.453 | 0.685 | 0.737 | | |
| AV | 0.783 | 0.546 | 0.334 | 0.784 | 0.485 | 0.430 | 0.578 | 0.527 | 0.739 | |
| PR | 0.788 | 0.555 | 0.343 | 0.804 | 0.520 | 0.511 | 0.586 | 0.581 | 0.507 | 0.745 |

there is no problem with validity, so the discriminant validity meets the required standards.

After conducting the scale testing, the results showed that the scale and factor used in the formal study are suitable for testing the model and

hypotheses. Structural Equation Modeling (SEM) method was applied to test the research model, using the same standards as in the CFA cited earlier. The results of SEM are shown in Figure 3. The main test results of the SEM model are Chi-square/df = 2.938; RMSEA = 0.067; PCLOSE = 0.091; GFI

Source: Primary research.

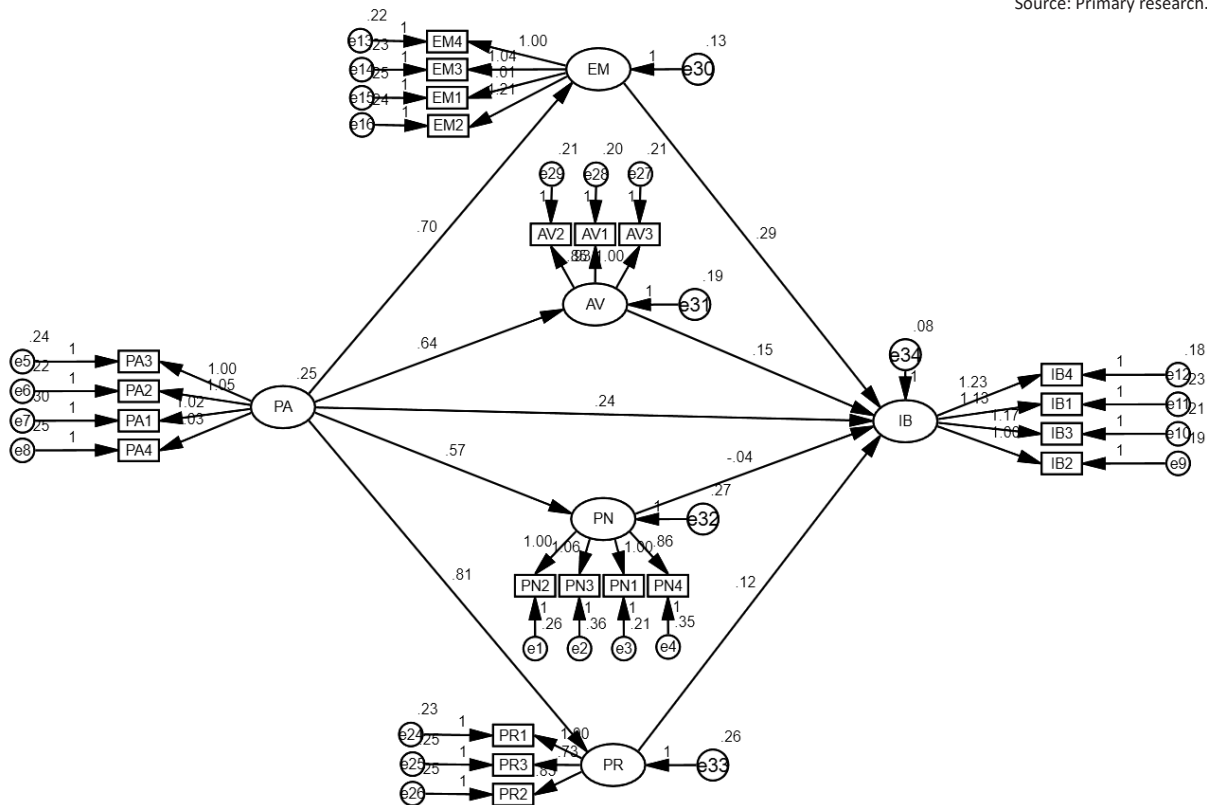


Figure 3. Results of SEM linear structural model testing

= 0.911; TLI = 0.907; CFI = 0.929 and IFI = 0.921. Therefore, the indices all experience the prerequisites. Thus, the model is suitable for market data.

Through the results of causal relationship testing between investigated factors and the reliability of statistical estimations, we can see that most of the relations in the investigated model are statistically significant at the 5% level ($p < 0.05$), except for Hypothesis 8 with $p = 0.355$. Therefore, the authors reject Hypothesis 8. Perception of Novelty does not affect Impulsive Buying Behavior. The

remaining hypotheses have positive regression. This field shows that the causal factors have a positive impact on the outcome factors; the results are presented in Table 5.

The results from the SEM structural model show that Personalized Advertising affects the following factors: Emotion, Advertising Value, Perception of Novelty, Perception of Relevance. The factors Personalized Advertising, Emotion, Advertising Value, and Perceived Relevance all affect Impulsive Shopping Behavior. The impact of

Table 5. Results of causal relationship testing between factors

Source: Primary research.

| | Linkage | Estimate | SE | CR | p | Result |
|----|---------|----------|------|-------|------|-----------|
| H1 | EM ← PA | .698 | .075 | 9.252 | *** | Supported |
| H2 | AV ← PA | .635 | .079 | 8.010 | *** | Supported |
| H3 | PN ← PA | .567 | .082 | 6.880 | *** | Supported |
| H4 | PR ← PA | .814 | .093 | 8.736 | *** | Supported |
| H5 | IB ← PA | .244 | .107 | 2.293 | .022 | Supported |
| H6 | IB ← EM | .293 | .074 | 3.956 | *** | Supported |
| H7 | IB ← AV | .152 | .057 | 2.683 | .007 | Supported |
| H8 | IB ← PN | -.040 | .044 | -.924 | .355 | Rejected |
| H9 | IB ← PR | .119 | .049 | 2.440 | .015 | Supported |

all factors is positive, meaning that all factors and sub-factors have positive impacts.

The specific results are as follows:

- accept hypothesis *H1* → Personalized Advertising positively affects Emotion with a regression weight of 0.698;
- accept hypothesis *H2* → Personalized Advertising positively affects Advertising Value with a regression weight of 0.635;
- accept hypothesis *H3* → Personalized Advertising positively affects Perception of Novelty with a regression weight of 0.567;
- accept hypothesis *H4* → Personalized Advertising positively affects Perception of Relatedness with a regression weight of 0.814;
- accept hypothesis *H5* → Personalized Advertising positively affects Impulsive Buying Behavior with a regression weight of 0.293;
- accept hypothesis *H6* → Emotion positively affects Impulsive Buying Behavior with a regression weight of 0.293;
- accept hypothesis *H7* → Advertising Value positively affects positively to Impulsive Buying Behavior with a regression weight of 0.152;
- reject hypothesis *H8* → Perception of Novelty positively affects Impulsive Buying Behavior;

- accept hypothesis *H9* → Perception of Relatedness positively affects Impulsive Buying Behavior with a regression weight of 0.119.

The direct effect of using Personalized Advertising (PA) on Impulsive Buying Behavior (IB) is 0.2443, indicating that using Personalized Advertising directly increases Impulsive Buying Behavior. The total effect of Personalized Advertising on Impulsive Buying Behavior is 0.6422. Besides, we can see that the indirect effect of Personalized Advertising and Impulsive Buying Behavior through the mediating variables is as follows: the indirect effect of Personalized Advertising (PA) on Impulsive Buying Behavior (IB) through the mediating variable Emotion (EM) is 0.2045. This shows that customers' Emotions play a positive mediating role in increasing Impulsive Buying Behavior when exposed to Personalized Advertising. The indirect effect of Personalized Advertising (PA) on Impulse Buying Behavior (IB) through the mediator Advertising Value (AV) is 0.0965, which is lower than Emotion, but still has an impact on enhancing Impulsive Buying Behavior, helping customers feel that Personalized Advertising brings more value to them. The indirect effect of Personalized Advertising (PA) on Impulsive Buying Behavior (IB) through the mediator Perceived Relevance (PR) is 0.0969. Although not as strong as emotion, perceived relevance still plays a certain role in enhancing Impulsive Buying Behavior, helping customers feel that Personalized Advertising is directly related to their needs, equivalent to the indirect effect through the mediator Advertising Value (AV) is 0.0965.

Table 6. Mediating variable test results

Source: Primary research.

| Hypothesis | Linkage | Direct effect | Indirect effect | Total effect |
|------------|--------------|---------------|-----------------|--------------|
| <i>H1a</i> | PA → EM → IB | .2443 | .2045 | 0.6422 |
| <i>H2a</i> | PA → AV → IB | | .0965 | |
| <i>H4a</i> | PA → PR → IB | | .0969 | |

Table 7. Results of testing moderator variables

Source: Primary research.

| Hypothesis | Linkage | Interaction effects model | t-value | p-value | Result |
|------------|--------------|---------------------------|---------|---------|-------------|
| <i>H10</i> | EM → SC → IB | -.1497 | -2.7310 | .0067 | Supported |
| <i>H11</i> | PA → PV → IB | -.0183 | -.2600 | .7951 | Unsupported |

Source: Primary research; Aiken and West (1991).

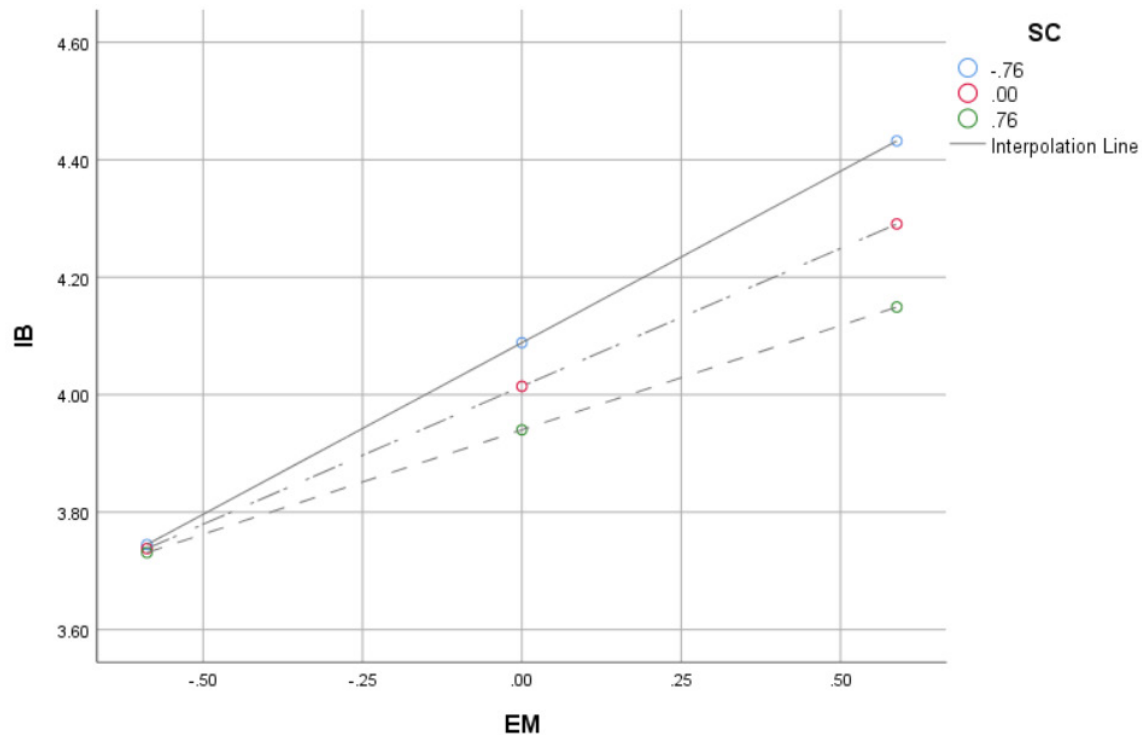


Figure 4. Simple 2x2 slope data plot – using plotting techniques

The moderating factors SC and PV were calculated as the average value of Self-Control (SC) items (SC1-SC4) and of Privacy and Security (PV) items (PV1-PV3). The moderator factor analysis process was worked through using the Hayes software in SPSS. The results are shown in Table 7 and Figure 4.

From the results in Table 7, it can be seen that the p-value of Emotion (EM), Self-Control (SC), and the interaction are all statistically significant with p-value < 0.05. This shows that Self-Control has a considerable moderating impact on the relationship between Emotion and Impulsive Buying Behavior. The impact coefficient is -0.1497, indicating a negative impact of Emotion on Impulsive Buying Behavior through the factor of Self-Control. Therefore, it can be concluded that when customers have a high sense of autonomy, emotions can be controlled and reduce the possibility of impulse buying in their behavior.

In contrast, in the results in Table 7, the impact of Personalized Advertising (PA) on Privacy and Security (PV) and Impulsive Buying Behavior (IB) is not statistically significant, with p-value = 0.7951 (> 0.05). This suggests that Privacy

and Security (PV) does not have a substantial moderating impact on the relationship between Personalized Advertising and Impulsive Buying Behavior. The impact coefficient is -0.0183, which suggests that the Privacy and Security factor when seeing Personalized Advertising, is of interest but not enough to make a significant change in consumer behavior. Figure 3 demonstrates that the slope of the high Self-Control line is lower than the low one, which proves that the group with high Self-Control will be less affected by emotions when making impulsive purchases on TikTok.

4. DISCUSSION

The study shows that Personalized Advertising (PA) has a positive influence on online Impulsive Buying Behavior (IB), with a coefficient of $\beta = 0.244$, consistent with many previous studies. That is, even without going through intermediate variables such as Emotion, Advertising Value or Perceived Relevance, Personalized Advertising can still directly affect impulsive consumption behavior. This confirms the strong and independent role of Personalized Advertising in promoting unplanned purchase behavior.

The effect of Personalized Advertising on Perceived Relevance is the most important factor, with a coefficient of $\beta = 0.814$. This shows that Vietnamese consumers are particularly sensitive to advertising content that is tailored to their individual needs. This finding supports prior studies showing that when advertising content aligns with consumers' personal needs, behavioral responsiveness increases (Utama et al., 2024; Dodoo & Wu, 2019; Aslam et al., 2021). The indirect effect of Personalized Advertising on impulse buying through perceived relevance ($\beta = 0.0969$) further confirms its mediating role (*H4a*). The strength of this relationship suggests that in algorithm-driven social commerce environments, relevance may be more influential than previously observed, as personalization accuracy enhances consumers' perception that the content is tailored specifically for them.

Positive emotions were another important mediator. Personalized Ads had a strong influence on user Emotions ($\beta = 0.698$). Positive emotional states such as interest, excitement, or curiosity were likely to trigger impulsive buying behavior, consistent with the findings of Ahn and Kwon (2022). Moreover, the research also learned that Positive Emotions mediated the relationship between Impulsive Buying Behavior and Personalized Ads, with an indirect effect of 0.2045. These findings are consistent with earlier studies that indicate that personalized recommendations have a significant effect on consumer behavior by enhancing perceived value and sense of urgency toward a product (Ngo et al., 2025; Li et al., 2024).

Advertising Value is also positively influenced by Personalized Advertising, with $\beta = 0.635$. Consumers appreciate advertising when it provides useful, interesting, or entertaining information. TikTok is a typical platform for such advertising content, with the ability to integrate Personalized Advertising into creative, trending videos to make an impression. The relationship between Impulsive Buying Behavior and Personalized

Advertising is mediated by Advertising Value with an indirect effect of $\beta = 0.0965$. The results are consistent with previous studies by Feng et al. (2023), Lina and Ahluwalia (2021), and Deshpande et al. (2022). Perceived Novelty is positively associated with Personalized Advertising ($\beta = 0.567$). Some previous studies have shown that personalization increases the feeling of novelty (Ye et al., 2025; Dwinanda et al., 2022; Dodoo & Wu, 2019). However, in this study, novelty did not have a significant impact on Impulsive Buying Behavior ($P = 0.355 > 0.05$). This suggests that while novelty can attract attention, it is not enough to drive purchase behavior without emotional or relevant associations. In Vietnam, where most advertising is "trendy", novelty is often not strong enough to create surprise or impulse consumption.

Self-control is a factor that reflects the extent to which individuals feel in control of their behavior, especially in the context of online shopping. The study results show that the impact coefficient of -0.1497 indicates that Self-Control has a negative effect on consumers' emotions when exposed to personalized advertising on TikTok. This is also consistent with previous research (Chen et al., 2022; Ayuningtyas & Irawan, 2021; Gulfraz et al., 2022). Specifically, people with high levels of self-control tend to have better emotional control, which may reduce the impact of positive emotions from personalized advertising on impulsive buying behavior. Conversely, individuals with low levels of self-control are more susceptible to emotional stimuli from advertising.

Finally, security and privacy did not have an important moderating impact on the relationship between personalized advertising and impulsive buying behavior ($p = 0.7951 > 0.05$), consistent with the findings of some prior researches (Legros et al., 2024; Aliyev, 2024). The reason may be that in Vietnam, consumers still prefer cash-on-delivery payment and are not yet affected much by personal data risks.

CONCLUSION

This study aimed to examine how personalized advertising influences impulse buying behavior within TikTok-based social commerce in Vietnam, drawing on survey data from 330 TikTok Shop users. The findings indicate that personalized advertising significantly stimulates impulsive buying both directly

and indirectly through emotional responses, perceived advertising value, perceived novelty, and perceived relevance. Among these mechanisms, perceived relevance and emotional engagement emerged as the most influential drivers of impulsive purchasing behavior. While perceived novelty enhanced attention, it did not significantly influence impulsive buying, whereas self-control weakened emotional responses and privacy concerns did not moderate purchasing behavior.

The research findings indicate several strategic directions for TikTok managers and brand managers. TikTok managers should prioritize the promotion of personalized advertising, as it has both direct and indirect effects on impulse buying behavior, mediated by factors such as emotion, advertising value, perception of novelty, and perception of relevance. This suggests that enhancing personalization strategies through AI-driven recommendations, real-time content customization, and tailored promotional messages can significantly boost users' emotional engagement and perceived value of advertisements. However, it is crucial to recognize that consumers with high self-control are less swayed by emotions when making impulse purchases, indicating the need for segmentation and differentiated advertising targeting to optimize effectiveness.

From an academic standpoint, this study adds valuable insights to the expanding literature on personalized advertising and consumer impulse buying behavior within social commerce environments. The findings underscore the significant mediating roles of emotion, advertising value, perception of novelty, and perception of relevance. This suggests that future research should not only focus on direct effects but also investigate more intricate mediated and moderated pathways. For example, integrating psychological constructs such as self-control, cognitive load, or susceptibility to persuasion could yield a deeper understanding of why personalization affects various consumer groups differently.

The model can be developed by adding other factors such as price, trust in the platform, user experience, the impact of KOLs and online communities to more comprehensively assess impulse buying behavior. Besides, comparisons can be made between different customer groups to assess the different levels of impact on customer groups. The current study only approaches from the consumer perspective, without considering the suppliers, businesses and sellers, which may not fully reflect the relationship between personalized advertising and shopping behavior. Therefore, the scope of the research can be extended to include advertisers, businesses and sellers on TikTok, providing a more multi-dimensional assessment of the effectiveness of personalized advertising in the e-commerce market.

AUTHOR CONTRIBUTIONS

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APPENDIX A

Table A1. Measurement scales

Source: Primary research.

| Coding | Observed variable name | Source |
|----------------------------------|--|-------------------------------------|
| Personalized Advertising | | |
| PA1 | My TikTok ads seem to be tailored just for me | Modified from Dodoo and Wu (2019) |
| PA2 | TikTok ads seem to reflect my interests | |
| PA3 | TikTok ads seem to reflect my needs | |
| PA4 | TikTok ads seem to reflect my desires | |
| Emotions | | |
| EM1 | When I see compelling personalized ad recommendations, I feel excited about buying them | Modified from Sun et al. (2024) |
| EM2 | When I see compelling personalized ad recommendations, I feel energized and motivated to buy them | |
| EM3 | When I see compelling personalized ad recommendations, I experience a strong desire to buy them, even if I don't really need them | |
| EM4 | If personalized recommendations highlight products that match my interests, it makes me feel happy and more likely to buy them impulsively | |
| Advertising Value | | |
| AV1 | Personalized Ads on TikTok provide me with useful information about products/services | Modified from Zhao et al. (2022) |
| AV2 | Personalized Ads on TikTok provide me with valuable information about products/services | |
| AV3 | Personalized Ads on TikTok provide me with important information about products/services | |
| Perception of Novelty | | |
| PN1 | My personalized ads on TikTok are unique | Modified from Setyani et al. (2019) |
| PN2 | My personalized ads on TikTok are really different | |
| PN3 | My personalized ads on TikTok are unexpected | |
| PN4 | My personalized ads on TikTok are engaging | |
| Perception of Relevance | | |
| PR1 | The content of personalized ads is important to me | Modified from Dodoo and Wu (2019) |
| PR2 | The content of personalized ads provides things that are meaningful to me | New variable |
| PR3 | The ad content is relevant to my behavior on TikTok/the internet | |
| Security and Privacy | | |
| PV1 | I am concerned about privacy when I see personalized ads on TikTok | Modified from Zhao et al. (2022) |
| PV2 | I am concerned about information being collected when I see personalized ads on TikTok. | |
| PV3 | I am sensitive about giving my personal information to websites when I see personalized ads on TikTok | |
| Self-Control | | |
| SC1 | I carefully consider my needs before making a purchase | Modified from Chen et al. (2022) |
| SC2 | Setting spending goals is important to me | |
| SC3 | I can resist the temptation to reach my budget goal | |
| SC4 | I often delay making a purchase until I have carefully considered the consequences of my purchase decision | |
| Impulsive Buying Behavior | | |
| IB1 | I felt a sudden urge to buy something after seeing an ad on TikTok | Modified from Setyani et al. (2019) |
| IB2 | I wanted to buy the items in the ad on TikTok, even though I had no plans to buy them | |
| IB3 | I wanted to buy the items in the ad on TikTok, even though I didn't really need them | |
| IB4 | I saw many items in the ad on TikTok that I wanted to buy, even though they weren't on my shopping list | New variable |