

Research on User Behavior Influencing Factors in Social Commerce: A Postprint Based on the S-O-R Model

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Abstract

[Purpose/Significance] This study reveals the influencing factors of user behavior in the context of social commerce, an emerging derivative model of e-commerce, and explores sustainable development strategies and related marketing recommendations for social commerce platforms. [Method/Process] Based on the S-O-R (Stimulus-Organism-Response) model, emotional state is introduced as a mediating variable to construct a theoretical model of the influencing factors of user behavior in social commerce contexts. Data were collected from 277 valid samples through questionnaires, and structural equation modeling was employed for data analysis. [Results/Conclusion] Information quality and relationship strength significantly influence users' emotional states in social commerce contexts; emotional state significantly affects their purchase intention and content diffusion behavior. However, the graphic features of commercial information do not significantly affect emotional state, but they directly influence users' purchase intention.

Full Text

Preamble

A Study on Factors Influencing User Behavior in Social Commerce Contexts: Based on the S-O-R Model

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Abstract

[Purpose/Significance] This study aims to reveal the factors influencing user behavior in social commerce, a novel derivative model of e-commerce, and

to explore sustainable development strategies and marketing recommendations for social commerce platforms. **[Method/Process]** Based on the Stimulus-Organism-Response (S-O-R) model, this research introduces emotional state as a mediating variable to construct a theoretical model of factors affecting user behavior in social commerce contexts. Data were collected through questionnaires, yielding 277 valid samples, and analyzed using structural equation modeling. **[Result/Conclusion]** The findings indicate that information quality and tie strength significantly influence users' emotional states in social commerce contexts, which in turn significantly affect their purchase intention and content diffusion behavior. However, the graphic features of commercial information do not significantly impact emotional states, though they directly influence users' purchase intention.

Keywords: social commerce, S-O-R framework, emotion, user behavior

2.1 Theoretical Foundation: The S-O-R Model and Emotion

The S-O-R model originated in environmental psychology research, proposed by A. Mehrabian and J. A. Russell in 1974. This model explains that when an individual encounters a stimulus (S), their internal state (organism, O) changes accordingly, ultimately leading to the generation of a response (R) [10]. In 1982, R. J. Donovan and J. R. Rossiter first introduced the S-O-R model to retail contexts, arguing that retail environments stimulate consumers' pleasure, arousal, and dominance—emotional states following the PAD (pleasure-arousal-dominance) pattern—thereby influencing approach/avoidance behaviors [11]. The basic S-O-R model is illustrated in Figure 1 [Figure 1: see original paper].

In consumer behavior research, numerous studies have employed the S-O-R model as their foundational framework. For instance, V. Mummalaneni investigated how website characteristics of online malls influence consumers' online purchasing behavior based on the S-O-R model [12]; A. Floh and M. Madlberger found that virtual environmental factors affect users' impulse buying behavior by stimulating purchase desire [13]; and H. Zhang and Y. Lu et al. explored how technical factors (including perceived interactivity, perceived personalization, and perceived sociability) in social commerce contexts influence user engagement intention through the mediating effects of virtual customer experiences such as social support, social presence, and trend-chasing [8].

In this study, we focus on emotion (including pleasure and arousal) as the organism (O) component. This conceptualization of emotion is based on the PAD theory of emotion [14]. Pleasure refers to the degree of positive, happy, or satisfied feelings users experience when using a product [15], while arousal refers to the degree of stimulating, active, or excited feelings users experience [15]. Currently, numerous studies on user emotion in online consumption and

e-commerce contexts exist, such as K. N. Shen and M. Khalifa's research on how pleasure and arousal influence impulse buying in online shopping environments [16], and H. Y. Hsu and H. Tsou's study on the relationships among website quality, user emotion, and repurchase intention in online shopping sites [17].

Building upon the original S-O-R model, we introduce emotional state as a mediating variable to construct a theoretical model of factors influencing user behavior in social commerce contexts, as shown in Figure 2 [Figure 2: see original paper].

2.2.1 Influence of Stimulus (S) on Organism (O)

Stimulus comprises three components: graphic features of commercial information, information quality, and tie strength. In *Discourse in Late Modernity*, N. Fairclough defines "discourse" as the semiotic elements involved in social practice, including language, non-verbal communication, and visual images [18-19]. As the most fundamental attribute of commercial information, graphic features represent merchants' descriptions and depictions of product information—the first-hand information customers encounter. Information quality refers to the quality of product information published on social commerce platforms, encompassing multiple evaluation dimensions such as timeliness, relevance, completeness, accuracy, and usefulness of information provided by the website [20]. Information quality represents a deeper-level manifestation compared to graphic features. Sociability constitutes the most fundamental attribute distinguishing social e-commerce from traditional e-commerce. The emergence of social activities implies the formation of certain social relationships among participants. Social relationships are defined as collections of social interactions between two or more individuals [21], with tie strength primarily referring to the closeness of social relationships among people [21]. The progression from graphic features to information quality, and then to social relationships among users of the information, reflects the hierarchical relationship among fundamental elements in social commerce operations.

Emotional state (comprising pleasure and arousal) constitutes the organism component of the S-O-R model in this study. When A. Mehrabian and J. A. Russell studied environmental psychology, they categorized emotional states into three dimensions: pleasure, arousal, and dominance [10]. J. A. Russell subsequently abandoned the dominance dimension, arguing that pleasure and arousal alone sufficiently reflect emotional changes induced by stimuli in the model [22]—a perspective validated by numerous subsequent studies [11, 23-24].

F. Aisopos, G. Papadakis et al., in their sentiment analysis research using Twitter text, identified intrinsic characteristics of microblog and Twitter posts including non-standard vocabulary, emoticons, and external references. Non-standard vocabulary refers to informal lexical expressions used in microblog posts, where people prefer using slang and non-standard expressions to exchange information (e.g., "koo" instead of "cool") [25]. Additionally, length restrictions on microblog

posts require authors to shorten words while maintaining similar meanings (e.g., using “gr8” instead of “great”). Emoticons are considered “symbols of emotion” in computer-mediated communication, primarily serving as substitutes for displaying facial expressions [26] and are commonly used to predict sentiment in Twitter posts [27]. External references refer to corresponding links individuals post on Twitter to inform others about interesting online resources such as videos and images.

C. M. Chen and H. P. Wang studied changes in emotional states when students encountered different types of multimedia courseware with identical content, finding that multimedia video materials produced optimal learning effects and elicited the most positive emotional responses [28]. L. Xiang, X. Zheng et al. demonstrated that Mushroom Street users’ perceived usefulness and perceived pleasure are significantly influenced by visual appeal of images, which in turn strengthens users’ consumption behavior [7]. S. H. Lim, D. Kim, and S. Watts examined relationships among emoticons, pleasure, interactivity, perceived usefulness, and information richness, finding that emoticons in mobile and text messages significantly influence user pleasure [29]. Based on these findings, we propose:

H1a: Graphic features of commercial information positively influence user pleasure.

Research in online shopping and computer network communication has investigated relationships between graphic information features and arousal. M. Omata and K. Moriwaki et al. found that visual effects of animations significantly influence user arousal [30]. Y. Ha and S. J. Lennon argued that in online purchasing environments, product online promotion and display design significantly influence users’ pleasure and arousal [31]. D. Thompson, G. Mackenzie et al., using galvanic skin response and facial electromyography, experimentally demonstrated that the presence of emoticons induces higher arousal states in users [32]. Based on this evidence, we propose:

H1b: Graphic features of commercial information positively influence user arousal.

Research on information quality has been extensive, with scholars examining various dimensions including acceptability, adaptability, information quantity, completeness, ease of use, accuracy, interpretability, objectivity, relevance, timeliness, and understandability [33-34]. E. P. Pe-Than, H. Goh et al. found that perceived information relevance has a significant positive effect on pleasure [35]. Y. Hwang and D. J. Kim studied user behavior in e-commerce systems, finding that perceived website information value significantly influences users’ perceived pleasure [36]. C. Liu and K. F. Arnett’ s research results indicate that information quality, as a component of e-commerce website design, significantly influences users’ pleasure when using websites [37]. Based on these findings, we propose:

H2a: Information quality positively influences user pleasure.

Cha Xianjin, Zhang Jinchao et al. found that information quality positively and significantly influences users' emotional responses to academic information on Weibo [38]. Xie Lianlian, studying the impact of online travel website information quality on customer satisfaction, discovered that information accuracy, completeness, relevance, and timeliness have significant positive effects on customers' perceived emotional value [39]. M. Koufaris found that website quality factors influence users' emotional responses [40]. In PAD theory, arousal constitutes an important component of emotion. Based on this, we propose:

H2b: Information quality positively influences user arousal.

M. S. Granovetter posited that interpersonal relationships can be divided into two types: strong ties and weak ties, noting that tie strength ranges from weak to strong. If defined as weak ties, individuals merely know each other without deep understanding; if defined as strong ties, individuals are close friends who understand each other well [41]. R. Lin and S. Utz proposed that tie strength can measure the relationship between Facebook posts and user emotion: stronger ties lead to greater emotional contagion. Additionally, tie strength significantly influences pleasure—the stronger the relationship, the greater the pleasure users experience when reading positive posts, or the greater the sadness when reading negative posts [42]. Based on this, we propose:

H3a: Tie strength positively influences user pleasure.

B. Searle, J. E. Bright, and S. Bochner found that in job strain models, social support can enhance arousal, satisfaction, and perceived performance [43]. Yan Xing and Chang Yaping, through collecting corporate Weibo posts and comments, discovered that corporate Weibo interaction strategies influence consumers' brand emotion and brand cognition, ultimately affecting consumer-brand relationships, with consumers' brand emotion primarily comprising pleasure and arousal [44]. Based on this evidence, we propose:

H3b: Tie strength positively influences user arousal.

2.2.2 Influence of Organism (O) on Response (R)

The response component of our research model consists of users' purchase intention and content diffusion behavior. N. Hajli defined purchase intention as users' willingness to participate in online shopping behaviors within social networks [45]. Currently, domestic social commerce remains in its early development stage with a limited user base, and users' actual purchasing behaviors are less frequent than in traditional e-commerce. Given this context, we retained purchase intention rather than purchase behavior as the response element in our model. Existing research has confirmed that intention serves as an effective predictor of actual behavior [46]. Content diffusion represents another possible response in social commerce contexts beyond purchase intention, referring to the likelihood of message content being shared/disseminated across different communication channels [47]. In this study, it specifically refers to users' dif-

fusion behaviors regarding specific product information obtained from various channels, such as visible emotional reactions to other users, viewing information content, commenting, and forwarding.

L. Xiang, X. Zheng et al.'s empirical research indicates that users' perceived pleasure in social commerce significantly influences their impulse buying intention and impulse buying behavior [7]. R. Z. Wan Chik and A. M. Lokman studied users' online purchasing behavior of batik fabric, with results showing that user emotion significantly influences purchase behavior [48]. Based on these findings, we propose:

H4a: User pleasure positively influences purchase intention.

In research on online shopping and offline marketing, scholars have found that arousal, alongside pleasure, influences users' purchase intention and behavior. Y. Ha and S. J. Lennon, studying online apparel purchasing websites, found that users' pleasure and arousal positively influence their purchase intention [31]. Rajagopal researched consumers' leisure shopping behavior, discovering that sales promotion personnel can influence consumers' shopping decisions by stimulating their arousal [49]. Based on this evidence, we propose:

H4b: User arousal positively influences purchase intention.

S. Alhabash, J. Baek et al. conceptualized content diffusion as comprising three dimensions: emotional evaluation, diffusion reach, and information review. Emotional evaluation refers to explicit emotional reactions visible to other users (e.g., likes and dislikes); diffusion reach refers to sharing and viewing of content; and information review refers to online discussions and comments [50]. B. K. Jin's research indicates that user pleasure significantly influences users' willingness to participate in social commerce platforms [9]. H. C. Yang and Y. Wang, integrating the technology acceptance model, studied factors influencing users' online video dissemination behavior, finding that users' perceived pleasure can predict their intention to disseminate online videos [51]. Based on these findings, we propose:

H5a: User pleasure positively influences content diffusion behavior.

S. Alhabash and J. Baek et al. studied video information dissemination behavior of users on Twitter and Facebook, with results showing that users' information dissemination behavior is influenced by arousal level—higher arousal leads to more pronounced information dissemination behavior [50]. J. Berger and K. L. Milkman found that message content with more obvious arousal, regardless of whether the arousal is positive or negative, leads to stronger message diffusion [52]. Based on this evidence, we propose:

H5b: User arousal positively influences content diffusion behavior.

3.1 Scale Design

Considering scale reliability and validity, all scales employed in this study were adapted from existing relevant research and refined according to our research context. Measurement items for each variable were sourced as follows: graphic features of commercial information were adapted from studies by F. Aisopos, J. B. Walther, and J. Eisenstein [25-26, 53]; information quality items were derived from D. Park et al. [20] and R. Filieri and F. Mcleay [54]; tie strength items from M. Park et al. [55]; emotion (including pleasure and arousal dimensions) from V. Mummalaneni [12]; purchase intention from D. Gefen and D. W. Straub [56]; and content diffusion from S. Alhabash et al. [50]. All measurement items were tested using a 7-point Likert scale, where “7” indicates “strongly agree,” “4” indicates “neutral,” and “1” indicates “strongly disagree.”

A pretest was conducted to further ensure questionnaire validity. In the pretest phase, 30 social commerce platform users were invited to participate in a small-sample pilot survey, and modifications were made regarding questionnaire content, item sequence, and clarity before finalizing the formal questionnaire.

3.2 Data Collection

In the empirical study, we selected users of major domestic social commerce platforms and media (such as WeChat, Weibo, blogs, Meilishuo, and Mogujie) as data collection targets and sent them questionnaire invitation links. A total of 303 questionnaires were collected, including 277 valid questionnaires and 26 invalid ones (comprising 5 incomplete questionnaires and 21 questionnaires with uniform or near-uniform responses). Demographic characteristics of the valid sample are shown in Table 1.

4.1 Measurement Model

The primary criteria for evaluating the measurement model involve testing convergent validity and discriminant validity. Key indicators for convergent validity include factor loadings, composite reliability (CR), and average variance extracted (AVE) [57]. The threshold for both factor loadings and CR is 0.70; values above 0.70 indicate good reliability of measurement items and factors [58]. The acceptable value for AVE must exceed 0.50 [59]. As shown in Table 2, the majority of values satisfy these conditions, indicating good convergent validity of the measurement model.

Table 2 Convergent Validity Analysis

Commercial Information Graphic Features: - DC1: Commercial descriptions and review information on social commerce platforms use slang such as “菇凉” (girl), “棒棒哒” (awesome), “大赞” (big thumbs up), etc. - DC2: Commercial descriptions and review information on social commerce platforms use abbreviations such as “短T(恤)” (short T-shirt), “MM(妹妹)” (young sister), etc. - DC3: Commercial descriptions and review information on social commerce platforms

use emoticons such as - DC4: Commercial descriptions and review information on social commerce platforms are accompanied by multimedia forms such as sound, images, and videos - DC5: Commercial descriptions and review information on social commerce platforms embed product/shop links

Information Quality (IQ): - IQ1: Timely - IQ2: Relevant to my needs - IQ3: Completely meets my needs - IQ4: Valuable - IQ5: Useful

Tie Strength (ST): - ST1: I follow sellers/shops on social commerce platforms - ST2: I interact and communicate with friends on social commerce platforms (regarding shopping) - ST3: I provide mutual advice with friends on social commerce platforms

Pleasure (PS): - PS1: Unhappy-Happy - PS2: Bored-Relaxed - PS3: Dissatisfied-Satisfied - PS4: Annoying-Pleasant - PS5: Depressed-Peaceful - PS6: Disappointed-Hopeful

Arousal (AS): - AS1: Sluggish-Frenzied - AS2: Calm-Excited - AS3: Dull-Jittery - AS4: Unaroused-Aroused

Purchase Intention (PI): - PI1: I will purchase products on social commerce platforms - PI2: I will consider purchasing products on social commerce platforms in the future - PI3: I intend to purchase products on social commerce platforms

Content Diffusion (CV): - CV1: I will “favorite” product information on social commerce platforms - CV2: I will share product information from social commerce platforms to personal platforms such as Moments, Sina Weibo, blogs, etc. - CV3: After purchasing products on social commerce platforms, I will post original reviews - CV4: After purchasing products on social commerce platforms, I will share my shopping experience on personal platforms (“showing off orders”) - CV5: I will communicate and discuss with users who “show off orders” on social commerce platforms

The criterion for discriminant validity is that the square root of each factor’ s AVE must exceed the correlation coefficients between factors [59]. All values in Table 3 satisfy this condition, indicating good discriminant validity of the measurement model.

4.2 Structural Model

Figure 3 [Figure 3: see original paper] presents the PLS analysis results, depicting path coefficients and their significance levels. The results show that pleasure, arousal, purchase intention, and content diffusion explain 33.9%, 21.0%, 25.0%, and 28.1% of variance, respectively. Regarding significant relationships, except for the paths between graphic features of commercial information and pleasure, and graphic features of commercial information and arousal, all other paths are significant. Thus, hypotheses H2a, H2b, H3a, H3b, H4a, H4b, H5a, and H5b are supported, while hypotheses H1a and H1b are not supported.

Table 3 Discriminant Validity Analysis

[The table shows correlation matrix with square roots of AVE on the diagonal]

Figure 3 [Figure 3: see original paper] shows the path coefficients and significance levels: graphic features → pleasure (non-significant), graphic features → arousal (non-significant), information quality → pleasure (significant), information quality → arousal (significant), tie strength → pleasure (significant), tie strength → arousal (significant), pleasure → purchase intention (significant), arousal → purchase intention (significant), pleasure → content diffusion (significant), arousal → content diffusion (significant).

5 Discussion

This study investigates the S-O-R model and factors influencing user behavior in social commerce contexts. The empirical results support the S-O-R model and the directional relationships among its components. The findings demonstrate that in social commerce contexts, both product information quality and social interaction tie strength positively influence users' emotions, which significantly affect purchase intention and content diffusion behavior. However, graphic features of commercial information do not significantly impact emotional states.

First, the results indicate that the quality of commercial information published on social commerce platforms positively and significantly influences user pleasure. In social commerce contexts, higher quality information leads to stronger user pleasure. This conclusion aligns with C. Liu and K. P. Arnett [37] but differs from C. Hsu, M. Chen et al. [60]. Social commerce contexts lack face-to-face communication; when facing social websites or software, commercial information serves as users' "first-hand information" about a product for sale. Higher message quality (e.g., high relevance to personal needs, comprehensive information, high value) makes users feel more satisfied and perceive higher cost-effectiveness of receiving the information, thereby enhancing pleasure.

The quality of commercial information on social commerce platforms also positively and significantly influences user arousal—higher information quality leads to stronger user arousal, highlighting the important role of information quality in stimulating arousal. This conclusion aligns with D. Park et al. [20] but differs from C. Hsu, M. Chen et al. [60]. In social commerce contexts, as "first-hand information" about products for sale, higher quality information (e.g., timely publication, sufficient usefulness) surprises and excites users when they learn about it, triggering strong arousal states.

Second, tie strength in social interactions within social commerce contexts positively and significantly influences user pleasure. Stronger individual-to-individual relationships in social interactions (e.g., seller-buyer, buyer-buyer) generate greater pleasure. This conclusion aligns with R. Lin and S. Utz [42] and J. Brown and P. H. Reingen [61] but differs from A. De Bruyn and G. L. Lilien [62]. Sociability represents an important attribute of social commerce

contexts; users depend more on individuals with stronger self-relationships and show greater acceptance and trust toward closer friends, which brings personal pleasure.

Additionally, tie strength in social commerce contexts positively and significantly influences user arousal. Stronger relationships among individuals in social commerce contexts lead to more pronounced arousal states. This conclusion aligns with Yan Xing and Chang Yaping [44] and J. J. Brown and P. H. Reingen [61] but differs from A. De Bruyn and G. L. Lilien [62]. When a user is active on social commerce platforms, updates from individuals with strong ties are more likely to attract the user's attention, thereby generating more pronounced arousal states.

However, the results also show that graphic features of commercial information in social commerce contexts do not significantly influence user pleasure. That is, how graphic features of commercial information are presented does not significantly affect user pleasure. This conclusion aligns with S. M. Loureiro and C. H. Roschk [63] but differs from L. Xiang et al. [7] and S. Lim et al. [29]. Although this result contradicts our hypotheses, given that social commerce represents a new e-commerce context with insufficient active users and a small proportion of commercial information, the graphic features of information fail to leave a deep impression on users. Since users frequently employ slang and emoticons in daily communications on social commerce platforms, they exhibit low sensitivity to the graphic features of commercial information, which therefore does not significantly influence pleasure.

Furthermore, graphic features of commercial information do not significantly influence user arousal. Users' arousal states do not change significantly with the graphic features of commercial information they receive. This conclusion aligns with S. M. Loureiro and H. Roschk [63] but differs from Y. Ha and S. J. Lennon [31] and M. Omata et al. [30]. These results indicate that during data collection, surveyed users primarily used WeChat and Weibo, platforms where users focus more on information content than presentation format. Consequently, whether product information directly embeds shop links or not hardly stimulates users' excitement.

To better explain the relationship between graphic features of commercial information and user behavior, we removed the emotional state mediating variable and revalidated the model. The results show that graphic features of commercial information significantly influence purchase intention ($\beta=0.247$, $p<0.001$) but have no significant relationship with content diffusion behavior ($\beta=0.090$, $p>0.05$). This finding demonstrates that while graphic features of commercial information do not significantly affect emotional states, information with graphic features matching user preferences directly promotes purchase intention.

The discriminant validity analysis shows a correlation coefficient of 0.537 between user pleasure and arousal, which is slightly high. Literature review reveals that certain correlations exist between pleasure and arousal. D. E. Berlyne

believed that negative emotions correlate with high arousal [64], while D. Der-ryberry and M. K. Rothbart found that sad emotions, pleasure, and arousal are closely related [65].

Finally, the results confirm the positive and significant influence of user pleasure on purchase intention. Stronger user pleasure leads to more intense purchase intention. This conclusion aligns with Z. W. Lumpur and A. M. Isbn [48] and L. Xiang et al. [7]. When users are in a happy, pleasant mood, they are more likely to form purchase intentions or even directly generate purchase behaviors.

The results also confirm the positive and significant relationship between user arousal and purchase intention. Users with more pronounced arousal states exhibit stronger purchase intention. This conclusion aligns with Y. Ha and S. J. Lennon [31] and Rajagopal [49]. Higher emotional arousal in social commerce more easily stimulates users' internal desire for possession, facilitating purchase intention and even purchase behavior.

Enhanced user pleasure increases the likelihood of content diffusion behavior. This conclusion aligns with B. K. Jin [9] and H. C. Yang and Y. Wang [51]. When users participate in social commerce with a comfortable, pleasant mood, they are more willing to accept information obtained in this context and express and diffuse their received information through actions such as "liking" and forwarding.

Similarly, enhanced user arousal increases the likelihood of content diffusion behavior. Higher arousal levels lead to more significant content diffusion behavior regarding social commerce information. This conclusion aligns with S. Alhabash and J. Baek [50] and J. Berger and K. L. Milkman [52]. Deeper arousal states enable users to more intuitively sense their role and status in social commerce contexts, and due to conformity psychology, users become more likely to engage in content diffusion behavior, such as commenting on information, communicating with other individuals in social commerce, or directly posting original content about products or shops.

6.1 Research Implications

This study builds upon previous research on social commerce platforms. Its theoretical contributions include: (1) Applying the S-O-R model as a framework to investigate factors influencing user behavior in social commerce contexts. Most social commerce research has been built upon traditional models such as the technology acceptance model, with very few studies employing the S-O-R model. This research introduces the S-O-R model, testing its validity and effectiveness in social commerce research, expanding the model's application scope and influence while deepening research perspectives and enriching specific content in this domain. (2) Introducing emotion as a mediating variable between influencing factors and user behavior. While previous scholars have primarily studied social commerce platforms from the perspective of user perception, this

research incorporates PAD theory of emotion on the basis of perceived pleasure, providing a reference for subsequent user emotion research.

The conclusions offer valuable insights for the sustainable development of social commerce platforms and user research. First, multiple hypotheses in the model received empirical validation and strong support. During platform development, social commerce operators should consider information quality and tie strength to enhance users' purchase intention and content diffusion behavior through emotional influence. Second, this study fully considers the types and characteristics of new social commerce platforms (e.g., WeChat) and users' linguistic and behavioral characteristics in the Web 2.0 environment, incorporating non-standard language expressions and user behaviors such as forwarding, commenting, and liking—features that align with current social commerce platform development needs and hold significant practical and guiding importance. Finally, based on model validation results, the implications for merchants in social commerce contexts are to promptly release the latest product information, capture current trends and user needs, and deliver targeted product information of interest to users, maximizing the communication of high value and usefulness of product information. Merchants can increase user attention, strengthen purchase intention and content diffusion behavior, and leverage content diffusion to create positive word-of-mouth effects, enhance brand value, increase user stickiness, and improve user retention by improving information quality. Additionally, merchants can select appropriate users to recommend products to their friends, thereby driving their friends' purchase intentions through these users. Notably, in social commerce contexts, merchants must not only ensure commercial information quality and maintain strong user relationships but also pay attention to the presentation of graphic features in commercial information, such as using popular language, trendy symbols and emoticons, presenting information in multimedia formats, and appropriately embedding product/shop links.

6.2 Limitations and Future Research

Based on previous relevant research, this paper explores the emerging social commerce platform. However, due to limited time and resources, this research has certain limitations, specifically: (1) **Limited sample demographics.** This study's respondents were concentrated among student groups under 30 years old. Although social commerce represents a new business-social format, users from other age groups have also begun engaging with these platforms as networks proliferate and develop. The lack of research on other age layers limits the generalizability of our findings. Some previous online shopping studies have incorporated age factors, such as S. M. C. Loureiro and H. Roschk's research on user loyalty in online versus offline shopping, which found that positive emotions significantly influence loyalty among younger groups (under 30) but not among older groups (over 30) [63]. Therefore, future research could build upon this study to explore how age or other objective factors influence user behavior,

expecting more in-depth conclusions. (2) **Model expansion potential.** This study uses users' purchase intention and content diffusion behavior as S-O-R model response outcomes, primarily considering user behavioral characteristics but lacking introduction of user psychological characteristic factors such as trust, satisfaction, and loyalty. Future research could build upon this study by incorporating these factors to more comprehensively investigate how users' psychological factors influence their behavior or how emotions affect their psychology.

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Note: Figure translations are in progress. See original paper for figures.

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