



E-commerce Live Streaming and Chinese Youth's Purchase Intention: Examining the Influential Factors - A Quantitative Analysis

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Abstract

E-commerce live streaming is becoming a popular trend among young consumers in China to make purchases. The purpose of this study is to investigate the factors that influence Chinese youths' purchase intentions through e-commerce live streaming. A structured questionnaire is administered to 446 Chinese youth aged 18 to 35 in Xi'an using quantitative methods and simple random sampling. The survey includes demographic data, e-commerce livestreaming usage, and purchase intentions. The study examines independent variables including visibility, interactivity, emotional appeal, influencer endorsement, information presentation, subjective norm, and perceived behavioral control. Attitude is considered as a mediating variable, while purchase intention serves as a dependent variable. Descriptive statistics and regression analysis are used for data analysis to identify the factors that influence purchase intention. This study aims to contribute to a deeper understanding of the characteristics of e-commerce live streaming and its influence on Chinese youths' purchase intentions. The study found that social norm, attitude and perceived behavior control have significance positive effects on purchase intention. The findings provide valuable insights for e-commerce companies and live streaming platform providers to effectively target and understand this audience. In addition, the study's findings can help marketers and advertisers formulate strategies to reach and influence Chinese youth through e-commerce live streaming.

Received: 7/3/2023

Accepted: 8/8/2023

Published: 8/20/2023

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Keywords: Attitude; Purchase Intention; Live Streaming Ecommerce; Perceived Behavior Control.

1. Introduction

Live streaming e-commerce, a phenomenon where online sellers broadcast their products and engage with consumers in real-time, is gaining momentum globally. However, research on live streaming shopping, particularly in China, is still in its infancy. The "anchor," or the primary live streamer, is recognized as a central aspect of live streaming e-commerce, and their characteristics and attributes can significantly influence consumers' internal states and online purchasing behavior.

Previous studies have mainly relied on theoretical frameworks such as Stimulus-Organism-Response (SOR), Elaboration Likelihood Model (ELM), and Technology Acceptance Model (TAM) to investigate streaming e-commerce buying behavior [1, 2, 3] (Xu and colleagues 2020, 2021; Gao and colleagues 2021; Chen and colleagues 2022). Research on consumers' attitudes and intentions in live streaming shopping also draws on theories such as hedonic and utilitarian motivation theory [4, 5, 6] (Park, 2020; Cai, 2018; Wang, 2018), utility and satisfaction theory [7, 8] (Wohn, 2019; Ma, 2021), and post theory [9, 10] (Chen, 2019; Jia, 2021). In particular, the technology acceptance model and flow experience theory have been widely used to predict and explain satisfaction and continued behavior in the context of e-commerce purchase behavior [11, 12, 13, 14] (Lin and colleagues 2009; Ho & Yang, 2015; Cai, 2018; Su, 2019). In addition, use and gratification theory, which is usually applied to the study of media consumption, has been used to understand the motives for using live streaming media.

In addition, SOR theory, which assumes a mediating element (organism) between stimulus and response, has been used to explain user behavior in the context of product or service selection [15, 16] (Cheng, 2020; Chen, 2022). Meanwhile, trust and perceived risk have been identified as key factors influencing consumers' purchase intentions in live streaming e-commerce, as highlighted by [17] Lăzăroiu and colleagues (2020) and [18] Ozdemir and Sonmezay (2020). Trust is considered critical to mitigating perceived risk in uncertain situations by reducing consumers' perceptions of risk. However, there is a research gap in comprehensively studying consumer purchase intentions from a multidimensional perspective, particularly with respect to interpersonal interaction factors and live e-streaming quality, both of which have a significant impact on consumers' perceptions of product or service value. Despite the advantages of cross-border e-commerce platforms, such as convenience and lower prices, it remains difficult to attract committed customers, which has led to the failure of some cross-border e-commerce websites in China [19] (Mou and colleagues 2019). Factors such as consumer uncertainty, lack of experience and trust in sellers, language barriers, and cross-border transaction risks continue to hinder the full potential of international online commerce [20, 21] (Bin and colleagues 2003; Valarezo and colleagues 2018). Therefore, it is essential to gain insights into the challenges young consumers face when using live streaming e-commerce, their behavior on live streaming platforms, and the factors that influence their purchasing decisions. Thus, the main objective of this study is to investigate how the components of Theory of Planned Behavior (TPB) influence consumers' attitudes and purchase intentions in the context of live streaming e-commerce. In addition, this study aims to evaluate the relationship between live streaming e-commerce characteristics and young consumers' purchase intentions. Furthermore, it aims to investigate whether attitude

serves as a mediating factor in influencing purchase intentions related to live streaming e-commerce.

2. Related Literatures

2.1. Attitude, Social Norm and Perceived Behavior Control on Purchase Intention

Attitudes are psychological constructs that reflect a person's evaluation of a concept, idea, or problem and consist of cognitive, affective, and behavioral components [22, 23, 24, 25, 26, 27] (Hair and colleagues 2018; Hair and colleagues 2017; Hair and colleagues 2019; Kline, 2016; Ringle and colleagues 2018; Uttley, 2019). In the context of e-commerce livestreaming, attitudes play a critical role in shaping customers' perceptions of products or brands, which in turn affects their purchase intentions. Stimulus-organism response (S-O-R) theory suggests that livestreaming stimuli such as product knowledge, social influence, and emotional appeal can influence young people's attitudes, which in turn affect their purchase intentions. The Theory of Planned Behavior (TPB) also highlights the influence of attitudes toward purchase, shaped by perceptions of effects and social norms, on purchase intentions. Factors such as product quality, trustworthiness, social influence, and emotional appeal can influence attitudes toward purchase in e-commerce livestreaming. Studies have shown that positive attitudes are associated with increased purchase intentions, while negative attitudes can lead to lower purchase intentions [28] (Feng & Peng, 2020). It is critical for e-commerce companies and marketers to understand and anticipate consumer attitudes when deploying livestreaming strategies, as positive attitudes can improve product or brand evaluation, leading to a higher likelihood of purchase. Other factors, such as the hedonic value of the product, can also influence the effectiveness of livestreaming e-commerce strategies. Overall, understanding the role of attitudes in shaping young people's purchase intentions in live streaming e-commerce can help in developing effective marketing strategies [29] (Al-Debei and colleagues 2015).

According to Ajzen's theory of planned behavior, subjective norm influences behavior. Studies show that subjective norm is positively correlated with purchase intention in live streaming e-commerce, suggesting that young people are more likely to purchase if they believe their friends and family approve [30, 31] (Li and colleagues 2021; Chen & Wang, 2019). Word-of-mouth communication from friends and family may also increase subjective norms and influence adolescents' purchase intentions in live-streaming e-commerce [32] (Liang and colleagues 2020). Perceived Behavioral Control (PBC), proposed by Ajzen's Theory of Planned Behavior (TPB), is the impression of how easy or difficult a behavior is. PBC is positively related to young people's purchase intention in live streaming e-commerce [33, 34] (Li and colleagues 2021; Chen & Wang, 2019). User-friendly interfaces and ease of use of live streaming e-commerce platforms influence PBC and purchase intention [35] (Liang and colleagues 2020). Customers who have positive online shopping experiences are more likely to have positive purchase intentions, while complicated interfaces may lead to low purchase intentions among young people [36] (Lee & Lin, 2005). Young people prefer user-friendly live streaming e-commerce platforms [37] (Liang and colleagues 2020).

2.2. Mediating Effect of Attitude on the Relationship between Visibility and Purchase Intention

Live streaming e-commerce is based on the concept of "visibility," which refers to the level of attention paid to a product or service. In this context, consumer behavior is significantly influenced by viewability as it affects

consumers' attitude and purchase intention [38] (Guo and colleagues 2021). Attitude mediates the relationship between visibility and purchase intention, as a positive attitude toward a product or service increases the likelihood of a purchase [39] (Chen and colleagues 2018). Good visibility in live-streaming e-commerce, supported by studies such as [40, 41, 42] Dong and colleagues (2016), Yim and colleagues (2017), and Sun and colleagues (2019), can improve consumers' understanding of product information and enhance the shopping experience. Live streaming can also help companies reach a larger audience, increase brand awareness, and differentiate themselves from their competitors [42] (Keinanen, 2017). Companies should focus on increasing their brand visibility and creating a positive mindset among consumers by incorporating live streaming content, influencers, and social media to increase purchase intent. Further research is needed to better understand the underlying mechanisms and develop effective strategies for live streaming e-commerce.

2.3. Mediating Effect of Attitude on Interactivity and Purchase Intention

Recent studies have shown that interactivity, such as chat rooms, Q&A sessions, and surveys, plays a critical role in influencing consumer behavior in live streaming e-commerce [43] (Wang and colleagues 2021). Interactivity increases consumer engagement and participation, which in turn affects their attitude toward the live-streamed product or service [43] (Wang and colleagues 2021). This positive attitude leads to a higher purchase intention or likelihood of purchase. Live e-commerce provides real-time social interaction, which motivates consumers to participate and stay up-to-date on trends [44] (Cai & Wohn, 2018). Online interactivity, including chat, forums, and social media, is important for building customer relationships and understanding their needs [45] (Liu & Shrum, 2002). Engaging and interactive experiences lead to customer satisfaction [46, 47, 48] (Appelbaum, 2001; Chang and colleagues 2019; Li & Han, 2020). Interactivity positively affects consumer attitudes and leads to higher purchase intentions [49] (Gulfranz and colleagues 2022). Attitude mediates the relationship between interactivity and purchase intention, suggesting that companies should focus on increasing interactivity and cultivating positive consumer attitudes to promote purchase intention [50] (Sun and colleagues 2019). Further research is needed to understand the mechanisms underlying this relationship and to develop effective techniques for live streaming e-commerce.

2.4. Mediating Effect of Attitude on Emotional Appeal (PEA) and Purchase Intention

Emotional appeal is critical to influencing consumer behavior and purchase intent. It creates a positive attitude toward a product, leading to purchase. Positive emotions evoke pleasure and joy, while negative emotions require more complex processes. Emotional appeals can satisfy physiological, social, and mental needs and can be used to effectively convey brand information [51, 52] (Genete, 2020; Kamran & Siddiqui, 2019). A recent study found a positive relationship between emotional appeal and purchase intention, highlighting the importance of positive attitudes and emotional appeal in increasing sales through LSC [53] (Wang and colleagues 2017). Limitations include the lack of consideration of other mediating variables and the long-term impact of emotional appeal on consumer behavior. Companies should focus on creating positive attitudes to increase perceived emotional appeal and purchase likelihood (LSC).

2.5. Mediating effect of attitude on influencer endorsements (IE) and Purchase Intention (PI)

Influencer marketing has gained popularity as it allows brands to engage their target audience through recommendations from individuals with a large social media following [54] (Poeyry and colleagues 2019). Influencers can influence purchase decisions by increasing brand awareness and purchase intent. Consumer sentiment toward influencers and their endorsements has not been adequately researched. Influencer endorsements are particularly influential in network communities where reference groups can exert informative and normative influence on consumer behavior [55] (Chen & Lin, 2018). Attitudes toward the influencer play an important role in the relationship between perceived endorsement and purchase intention [56] (Hwa, 2017). Social media influencers act as legitimizing actors in their field [57] (Giles, 2017). Social identification with the endorser mediates this influence [58, 59] (Jin & Phua, 2014; De and colleagues 2017). Consumers' purchase decisions depend on product knowledge, experiences, and attitudes, and influencers can help reduce information overload and support decision making [60] (Verhellen and colleagues 2013). This is consistent with the principle of minimizing costs for efficient decision making.

2.6. Mediating Effect of Attitude on Information Display (ID) and Purchase Intention (PI)

Attitude is a person's overall evaluation of a product or service and plays a critical role in influencing purchase intention in the context of live-streaming e-commerce [61, 62] (Guo and colleagues 2021; Chaang-Iuan and colleagues 2022). Positive information about a product can promote positive attitudes, leading to higher purchase intention, while unfavorable information can lead to negative attitudes and lower purchase intention. A positive attitude leads to more thorough information processing and a higher likelihood of purchase [63] (Wulandari and colleagues 2015). To influence consumer behavior, e-commerce platforms and marketers should provide clear, accurate, and thorough information to positively influence consumers' attitudes and purchase intentions [64, 65] (Qing & Jin, 2022; Vijayan and colleagues 2022). Considering the mediating role of attitude is critical to effective influencer marketing strategies.

3. Hypothesis Model

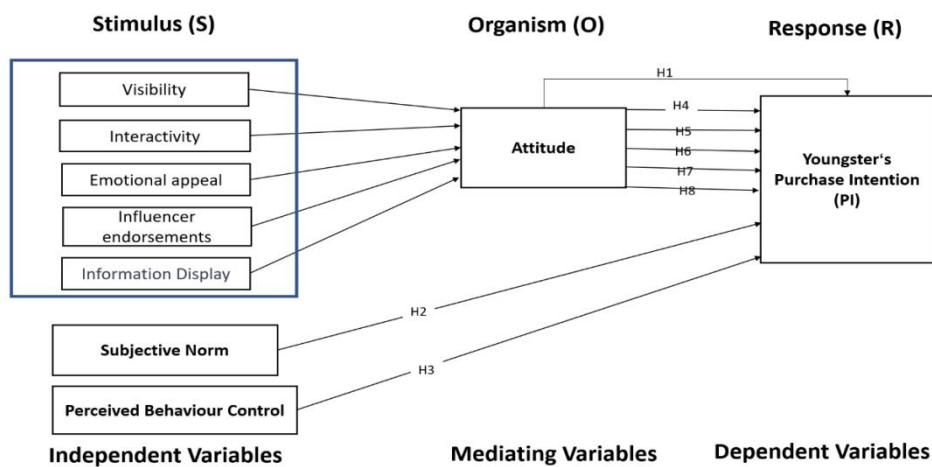


Figure 1: Hypothesis Model.

The proposed hypothesis model is shown in Figure 1. It is postulated that the stimulus factors of live streaming will have an impact on young people's purchase intentions through the mediating variables of attitudes. In other words, the stimulus factors of live streaming are expected to influence young people's attitudes toward purchasing, which in turn will influence their purchase intentions.

The S-O-R theory, which stands for stimulus-organism response, is used in this study to examine the relationship between the independent variables, i.e., live streaming stimulus (including visibility, interactivity, emotional appeal, endorsement by an influencer, information presentation, subjective norm, and perceived behavioral control), the mediating variable, i.e., attitude, and the dependent variable, i.e., purchase intention. S-O-R theory explains how individuals' responses to stimuli are shaped by their attitudes, whether they are external stimuli such as live streaming or internal stimuli such as thoughts and feelings.

In this study, the independent variables are the factors of the live streaming stimulus that are hypothesized to influence purchase intention. Attitude is considered as a mediating variable that is assumed to be influenced by the factors of the live streaming stimulus and plays a role in determining purchase intention. S-O-R theory hypothesizes that individuals' attitudes toward a stimulus, such as live streaming, influence their responses, and researchers are interested in understanding how these stimulus factors influence attitude and how attitude, in turn, influences purchase intention.

Overall, S-O-R theory provides a framework for understanding how individuals' attitudes and beliefs influence their responses to stimuli and can be used to predict and explain behavior in a variety of contexts. According to the conceptual framework shown in Figure 1, the stimulus factors of live streaming can be assumed to trigger adolescents' attitudes toward purchase, which then influence their purchase intention.

Theory of Planned Behavior (TPB) also supports the relationship between the stimulus factors of live streaming and adolescents' purchase intention. According to the TPB, an individual's behavior is influenced by the intention to perform that behavior, which in turn is influenced by attitudes toward the behavior, subjective norms, and perceived behavioral control. In the context of the conceptual framework, the stimulus factors of live streaming influence young people's attitudes toward purchasing, which in turn influence their intention to purchase. In addition, the TPB suggests that the stimulus factors of live streaming may also influence young people's perceived behavioral control, which in turn influences their purchase intention.

Hypothesis 1 (H1): Attitude (A) has a significant and positive influence on purchase intention (PI).

Hypothesis 2 (H2): Subjective norm (SN) significantly and positively influences purchase intention (PI).

Hypothesis 3 (H3): Perceived behavioral control (PBC) significantly and positively influences purchase intention (PI).

Hypothesis 4 (H4): Attitude (A) has a significant positive mediating effect on visibility and purchase intention (PI).

4. Methodology

Before conducting the actual study, the population and sample size were determined based on data from the Xi'an Municipal Public Security Bureau, which refers to people aged 18 to 35 years with a population size of 2 720 007. GPower sampling analysis was used, which is suitable for regression analysis with statistical hypothesis testing [66, 67, 68, 69, 70, 71, 72]. The effect size (f) was set at 0.25, the significance level (α -error probability) at 0.05, and the power (1- β -error probability) at 0.95. The degrees of freedom associated with the numerator of the F statistic were set at 10, with 8 levels of the independent variable under study. The sample size calculation resulted in a total requirement of 400 samples (Table 1). To account for possible response and ensure an adequate sample size, 500 questionnaires were distributed to achieve a target response rate of 400. Researchers collected, sorted, and scored questionnaire responses in preparation for data analysis.

5. Findings & Results

This section discusses both descriptive and inferential analysis. Descriptive statistics were used to summarize the demographic characteristics of the participants, while regression analysis was used to test the hypotheses.

5.1. Descriptive Analysis

In this study, a total of 500 questionnaires were distributed, and 446 questionnaires were returned, representing a response rate of approximately 89.2%. Table 4.3 shows that of the participants in the data collection for the current research study, 239 were men and 207 were women.

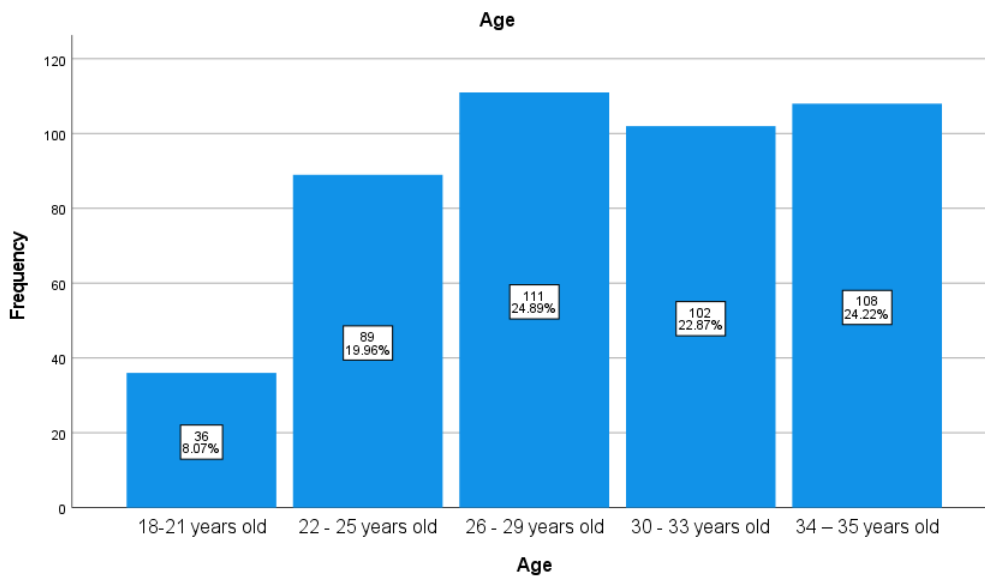


Figure 4.1: Distribution of Respondents based on Age.

As shown in Figure 1, the age group of 26-29 years old is the most represented, accounting for 24.9% of the total sample with 111 participants. The second most common age group is 34-35 years (24.2% of the total

sample) with 108 participants. The third most common age group is 30-33 years (22.9% of the total sample) with 102 participants. The least represented age group is 18-21 years, representing only 8.1% of the total sample with 36 participants.

5.2. Inferential Analysis

Table 1 shows the multiple regression analysis to predict youth's attitude, social norm, and perceived behavior control towards purchase intention. The results revealed that these variables had a significant and positive predictive effect on purchase intention, as evidenced by $F(3, 442) = 232.922, p < .0005$, and $R^2 = 0.613$. Additionally, attitude, social norm, and perceived behavior control made a statistically significant contribution to the prediction, with $p < 0.05$.

Table 1: ANOVA Table.

Coefficients^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.786	.616		2.899	.004	.575	2.996
	A	.474	.044	.454	10.682	.000	.387	.562
	SN	.155	.056	.145	2.772	.006	.045	.264
	PBC	.279	.052	.267	5.339	.000	.176	.382

a. Dependent Variable: PI

Based on Table 1, Attitude (A) has a significant and positive influence on purchase intention (PI) with high statistical significance ($p=0.000$). Young consumers with a positive attitude are more likely to express purchase intention, supported by robust evidence ($p < 0.001$). Thus, Hypothesis 1 is confirmed.

Youth's social norm significantly and positively impacts purchase intention ($p=0.006$), indicating peer influence. Statistical significance ($p < 0.01$) confirms a strong relationship, supporting hypothesis 2.

Perceived behavioral control positively impacts purchase intention ($p=0.000$), indicating adolescents' control over purchase behavior. Statistical significance ($p < 0.001$) confirms a strong relationship, supporting hypothesis 3.

Firstly, the results show that attitude (A) has a significant positive influence on purchase intention (PI). This means that when young individuals have a positive attitude towards the product or service being studied, they are more likely to express the intention to purchase it. In other words, their positive perception of the product/service increases their likelihood of wanting to buy it.

The significance level ($p=0.000$) indicates that the observed relationship between attitude (A) and purchase intention (PI) is highly unlikely to have occurred by chance. The probability of obtaining these results by random chance alone is less than 0.001. This very low probability suggests that the relationship is not a random

occurrence but rather a genuine and strong connection between attitude and purchase intention.

Given the high level of statistical significance and the strong evidence supporting the relationship between attitude (A) and purchase intention (PI), the study concludes that hypothesis 1, which likely stated that attitude has a positive influence on purchase intention, is accepted. This means that the findings of the study align with the initial hypothesis, providing support for the idea that a positive attitude leads to an increased intention to purchase.

The findings reveal a statistically significant positive impact of subjective norm on purchase intention among youth ($p = 0.006$). This implies that when young individuals perceive that their peers or social network members endorse the purchase of the product or service being examined, they are more likely to express the intention to buy it. The statistical significance level of $p = 0.006$ indicates that the likelihood of obtaining these results by chance alone is less than 0.01. This strong statistical significance highlights a robust relationship between youth's subjective norms and their purchase intention. Consequently, hypothesis 2, which likely posited a positive influence of subjective norm on purchase intention, is supported and accepted.

The results indicate a significant positive relationship between perceived behavior control and purchase intention. This means that when adolescents believe they have control over their actions regarding the purchase of the product or service being studied, they are more likely to express an intention to buy it. In other words, their perception of having control over their purchasing decisions influences their likelihood of intending to make a purchase.

The statistical significance level of $p = 0.000$ emphasizes the strength of this relationship. It signifies that the probability of observing this outcome purely by chance is less than 0.001. In simpler terms, the observed connection between perceived behavior control and purchase intention is highly unlikely to be a random occurrence. This level of statistical significance provides strong evidence supporting the robustness of the relationship.

As a result of these findings, hypothesis 3, which likely stated a positive association between perceived behavior control and purchase intention, is validated and accepted. The study's results align with the initial hypothesis, confirming the presence of a significant link between perceived behavior control and purchase intention among adolescents.

6. Research Findings & Discussion

The H1 test results suggest that attitude has a significant influence on adolescents' purchase intention, which is confirmed by previous research [73, 74, 75]. However, [76] found no significant relationship between attitude and online purchasing. Reference [77] argue that while attitude is not critical in online purchasing, a positive attitude reduces uncertainty and psychological apprehension. Reference [78] study confirms that positive attitudes toward LSC lead to higher engagement and purchase intention. Understanding the impact of attitudes on purchase intention is critical for e-commerce businesses and marketers and is supported by the Theory of Planned Behavior

and S-O-R Theory.

The results of the H2 test suggest that subjective norm significantly influences adolescents' purchase intention, which is consistent with previous research [79, 80, 81]. A positive online shopping experience increases preference for online purchases and the likelihood of future purchases. Adherence to customer norms during the online shopping process increases the likelihood of purchase. E-commerce websites should prioritize meeting customer expectations to ensure a smooth experience. Favorable subjective norms can be ensured by putting customers' interests first, delivering on promises and commitments, and influencing customers' decision to store online during live streaming events.

The results of this study are consistent with recent research by [81, 80], which demonstrate the significant influence of perceived behavioral control (PBC) on purchase intention related to online shopping and the purchase of environmentally friendly products. Previous research by [81] also identified PBC as a primary driver of customer first impression. The study highlights the importance of user-friendly interfaces, positive shopping experiences, and an emotional atmosphere on purchase intention, PBC, as proposed by [81] theory of planned behavior, plays an important role in shaping purchase intention by influencing a person's perception of his or her ability to perform the behavior, and should be considered by companies when improving their e-commerce platforms.

7. Conclusion

As a conclusion, the study found that attitude, subjective norm, and perceived behavioral control had direct positive effects on purchase intention, while attitude also had a mediating effect on influencer endorsement. The effects of visibility, interactivity, emotional appeal, and information presentation on purchase intention were mediated by attitude. However, attitude were not mediate relationship of information display and purchase intention. The results of the study suggest that subjective norm, which reflects the influence of social pressure on individuals' behavior, plays a crucial role in shaping customers' intentions to store online. In addition, the study highlights the importance of providing customers with a positive and enjoyable online shopping experience. When customers have a satisfying online shopping experience, they are more likely to develop a preference for online shopping and show a higher propensity to use it in the future. In addition, the study highlights the importance of aligning a website with customer norms throughout the online shopping process. When a LSC meets customers' expectations, it increases the likelihood that they will make a purchase on that website. Therefore, LSC should prioritize meeting customers' expectations and providing them with a seamless and satisfying online shopping experience to increase the likelihood that they will convert to buyers on their platform.

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