

The Impact of Ease of Navigation on Impulse Buying Behaviour in Live-Streaming Commerce: The Mediating Role of Attitude

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Abstract. This study examines the relationship between ease of navigation and impulse buying behaviour in live-streaming commerce, with particular attention to the mediating role of attitude towards live-streaming commerce. Drawing on the Stimulus-Organism-Response framework, ease of navigation is treated as a platform-related stimulus, consumer attitude as an internal evaluative state, and impulse buying behaviour as the behavioural response. Data were collected from 596 university students in Nantong, China, all of whom had prior experience with live-streaming commerce, and the proposed relationships were tested using structural equation modelling. The findings indicate that ease of navigation positively influences both consumer attitude and impulse buying behaviour. Attitude towards live-streaming commerce shows a strong positive effect on impulse buying behaviour and partially mediates the relationship between ease of navigation and impulse buying. These results suggest that platform usability shapes purchasing behaviour not only directly but also indirectly through consumers' evaluative responses. The study contributes to research on digital commerce informatics by identifying ease of navigation as an important platform-level factor that influences consumer behaviour in live-streaming environments, and by showing that consumer attitude serves as a key transmission mechanism in this process. The findings offer practical guidance for platform designers seeking to improve navigation systems and enhance user experience in live-streaming commerce settings.

Keywords: Live-Streaming Commerce; Ease of Navigation; Attitude Towards Live-Streaming Commerce; Impulse Buying Behaviour; Stimulus-Organism-Response Framework

1. Introduction

Live-streaming commerce has expanded quickly as a prominent format within digital retail, particularly in China, where interactive technologies allow consumers and sellers to engage with each other in real time (Wongkitrungrueng and Assarut, 2020; Zhang et al., 2020). The integration of real-time video, interactive communication, and instant purchasing functions has created a shopping environment that differs considerably from traditional e-commerce platforms (Lee et al., 2025). In such settings, purchase decisions are often made within a short time frame and with limited prior deliberation, which may increase the likelihood of impulse buying behaviour (Sun et al., 2019).

Impulse buying behaviour is generally understood as a spontaneous purchasing response arising from immediate stimuli (Rook, 1987). Within live-streaming environments, this tendency can be further reinforced by the dynamic presentation of products, the ongoing flow of information, and the social interactions between streamers and viewers (Sun et al., 2019; Zhang et al., 2020). Although earlier research has frequently focused on streamer-related influences such as credibility, attractiveness, and communication style (Zhang et al., 2023; Luo et al., 2024), more recent work suggests that platform-related features also contribute to shaping consumer responses (Huang and Benyoucef, 2017; Chen et al., 2016).

Among these features, ease of navigation represents an important aspect of the user experience. When individuals are able to browse content efficiently, identify products with minimal effort, and complete transactions without unnecessary obstacles, they may become more involved in the shopping process (Huang and Benyoucef, 2017; Chen et al., 2016). In the broader context of online commerce, ease of use and interface design have been shown to influence both consumer attitudes and purchasing behaviour (Xue et al., 2024; Yang et al., 2022). However, within live-streaming commerce specifically, the influence of ease of navigation on impulse buying behaviour remains under-explored, and the psychological mechanisms linking these two constructs are not yet well understood.

It is plausible that ease of navigation affects behaviour partly through the way consumers evaluate their overall experience (Davis, 1989; Venkatesh et al., 2012). That is, a smoother navigation experience may first shape consumers' attitudes towards the platform, which may then translate into behavioural outcomes. This indirect pathway suggests a mediating role of consumer attitude, which warrants empirical investigation.

To examine this process, the present study adopts the Stimulus-Organism-Response framework (Mehrabian and Russell, 1974; Jacoby, 2002) and considers attitude towards live-streaming commerce as a mediating mechanism linking ease of navigation to impulse buying behaviour. This framework has been widely applied in recent live-streaming commerce research to explain how environmental stimuli influence consumer behaviour through internal psychological states (Huo et al., 2023; Pham et al., 2025; Cui et al., 2022). By concentrating on a relatively focused model, the study seeks to offer a clearer account of how platform-related experiences may translate into behavioural outcomes.

The remainder of this paper is organised as follows. Section 2 reviews the relevant literature on ease of navigation, attitude towards live-streaming commerce, and impulse buying behaviour, and presents the theoretical framework and hypotheses. Section 3 describes the research methodology, including the research design, measurement items, and data collection procedure. Section 4 reports the results and discusses the findings. Section 5 concludes the study with a summary of contributions, limitations, and directions for future research.

2. Review of Literature

2.1 Ease of Navigation (EN)

Ease of navigation refers to the extent to which users can move through a platform efficiently and without confusion or unnecessary effort. It is closely related to the concept of perceived ease of use in

the Technology Acceptance Model, which suggests that systems requiring less effort are more likely to be accepted and used by individuals (Davis, 1989). In digital commerce environments, ease of navigation reflects the clarity of interface design, the accessibility of information, and the simplicity of completing transactions.

Prior research has shown that usability-related factors play an important role in shaping consumer behaviour in online contexts. When users can easily locate products and access relevant information, they are more likely to remain engaged with the platform and proceed to purchase (Chen et al., 2016; Huang and Benyoucef, 2017). In particular, smoother navigation reduces cognitive load, allowing users to focus more on task-related activities rather than on the mechanics of interaction (Venkatesh et al., 2012). Similarly, Xue et al. (2024) found that ease of use, as a technical cue, positively influences impulse buying behaviour in social commerce by enhancing consumers' perceived value. Kang and Namkung (2024) also reported that ease of use significantly affects perceived utilitarian value in e-commerce settings, suggesting that navigation-related features have both functional and experiential consequences. This aligns with broader e-commerce literature demonstrating that perceived ease of use, whether in platform navigation or interacting with digital tools like chatbots, is essential for minimizing cognitive effort and substantially improving the overall customer experience (Megdadi et al., 2025).

In the context of live-streaming commerce, ease of navigation becomes particularly important due to the dynamic and time-sensitive nature of the environment. Consumers are exposed to a continuous flow of information and often need to make decisions quickly. Under such conditions, a platform that supports efficient navigation can minimise interruptions and enhance the overall shopping experience, thereby increasing the likelihood of behavioural engagement (Sun et al., 2019; Wongkitrungrueng and Assarut, 2020). Yang et al. (2022) further showed that interface design, which includes navigation-related elements, significantly influences consumers' visual appeal and engagement in live e-commerce, ultimately contributing to impulse buying behaviour.

2.2 Attitude towards Live-Streaming Commerce (ALS)

Attitude towards live-streaming commerce reflects an individual's overall evaluation of the shopping experience and is typically conceptualised as a combination of cognitive judgements and affective responses. Within the Theory of Planned Behaviour, attitude is regarded as a key determinant of behavioural intention, as it captures individuals' favourable or unfavourable evaluations of engaging in a particular activity (Ajzen, 1991). In digital commerce contexts, such evaluations are often formed through interactions with the platform and the perceived quality of the experience.

Existing research suggests that consumers' attitudes are shaped by both functional and experiential factors. For instance, perceptions of usefulness and ease of interaction have been found to positively influence users' evaluations of online platforms (Davis, 1989; Venkatesh et al., 2012). Platform attributes such as privacy protection significantly improve perceived usefulness and decrease perceived risk, leading to stronger adoption intentions (Trinh & Tran, 2025). In addition, platform design elements and information presentation can affect how consumers perceive the overall shopping experience, thereby influencing their attitudes (Huang and Benyoucef, 2017; Chen et al., 2016). High information quality directly impacts consumer behavior and serves as a vital mediator for final online purchase decisions (Diana et al., 2025). Pham et al. (2025) found that perceived ease of use positively influences consumer trust and flow experience in live-streaming commerce, both of which contribute to more favourable attitudinal evaluations.

In the context of live-streaming commerce, attitude becomes particularly important due to the interactive and immersive nature of the environment. Real-time communication, dynamic product presentation, and social engagement may enhance both the cognitive and affective components of the experience, leading to more favourable evaluations (Wongkitrungrueng and Assarut, 2020; Sun et al., 2019). A positive attitude indicates that consumers perceive the experience as enjoyable, useful, and

worthwhile, which may subsequently influence their behavioural responses within the platform.

2.3 Impulse Buying Behaviour (IBB)

Impulse buying behaviour refers to spontaneous and immediate purchasing decisions that occur without prior planning and are typically driven by situational stimuli and emotional responses (Rook, 1987). In recent years, this behaviour has received increasing attention in the context of live-streaming commerce, where real-time interaction and continuous information exposure create conditions that are conducive to unplanned purchases (Zhang et al., 2020; Wongkitrungrueng and Assarut, 2020). Lee et al. (2025) conducted a systematic literature review of impulse buying in live-streaming commerce and proposed an integrative framework based on the Stimulus-Organism-Response model, noting that existing research remains fragmented in terms of antecedents, theoretical perspectives, and outcomes.

Empirical studies suggest that impulse buying in live-streaming environments is shaped by a combination of cognitive and affective mechanisms. Consumers may experience heightened emotional arousal, time pressure, and perceived scarcity, all of which can trigger impulsive purchasing decisions (Feng et al., 2024; Liu et al., 2025). In addition, the dynamic and immersive nature of live-streaming platforms can enhance users' sense of involvement, thereby reducing deliberate evaluation and increasing reliance on immediate reactions (Li et al., 2024). This atmosphere of spontaneity permeates the entire ecosystem; psychological triggers such as the fear of missing out also compel entrepreneurs to engage in impulsive content creation during live streams to maintain market relevance (Aditi et al., 2025). Zhang et al. (2023) demonstrated that social presence positively influences affective intensity, which in turn drives the urge to buy impulsively in live-streaming commerce. Luo et al. (2024) further reported that customer engagement mediates the relationship between platform-related factors and impulse buying tendency among millennial consumers in China.

Furthermore, recent research grounded in the Stimulus-Organism-Response framework indicates that impulse buying behaviour is often the outcome of internal psychological states such as perceived enjoyment, flow experience, and consumer vulnerability (Li et al., 2025; Zhang et al., 2024). Alongside these factors, dual emotional mechanisms such as the fear of missing out and the fear of exclusion also act as critical internal organismic states that drive continuous engagement and consumption in social commerce environments (Phuong et al., 2026). Huo et al. (2023) found that social presence and sales promotion stimulate impulse buying behaviour through flow experience, with situational variables such as time and money availability serving as moderating factors. Wang et al. (2026) similarly showed that live-stream interactivity and streamer attractiveness enhance impulse buying intention primarily by strengthening immersive experience.

Taken together, these findings suggest that impulse buying behaviour in live-streaming commerce is not merely a result of individual tendencies, but rather a response shaped by environmental stimuli and psychological processes.

2.4 Theoretical Framework

The Stimulus-Organism-Response (S-O-R) framework, originally proposed by Mehrabian and Russell (1974), provides a theoretical basis for understanding how environmental stimuli influence human behaviour through internal psychological states. In this framework, the stimulus (S) refers to external environmental factors that affect individuals' perceptions; the organism (O) represents the internal cognitive and affective processes that mediate individuals' responses; and the response (R) denotes the resulting behavioural outcomes. Jacoby (2002) further refined the framework for application in consumer behaviour research, suggesting that it offers a useful lens for examining how situational factors shape purchasing decisions.

The S-O-R framework has been widely adopted in digital commerce and live-streaming commerce research. Cui et al. (2022) applied the framework to examine how cognitive and perceptive stimuli

influence the urge to buy impulsively through flow experience in live-streaming settings. Pham et al. (2025) used the framework to investigate how social interactions and brand equity stimulate impulse buying through flow and trust among Vietnamese youth. Huo et al. (2023) similarly employed the S-O-R paradigm to study how social presence and sales promotion influence impulse buying through flow experience. Beyond platform-specific features, this paradigm has also proven highly effective in explaining how social stimuli, such as influencer exposure, drive consumer purchase intentions through complex psychological responses like the desire to mimic and materialism (Sinh & Kiet, 2025). These studies consistently show that internal psychological states, such as flow, trust, and attitude, serve as important mediating mechanisms linking environmental stimuli to purchasing behaviour.

In the present study, the S-O-R framework is applied as follows: ease of navigation is conceptualised as the environmental stimulus (S) that represents a platform-related characteristic; attitude towards live-streaming commerce serves as the organism (O), reflecting consumers' internal evaluative responses; and impulse buying behaviour represents the behavioural response (R). This framework provides a coherent theoretical basis for examining the proposed relationships and for understanding the mediating role of consumer attitude.

2.5 Hypotheses Development

Building on the literature reviewed above, this study develops a set of hypotheses to examine how ease of navigation shapes consumer behaviour in live-streaming commerce through attitudinal processes.

Ease of navigation and attitude towards live-streaming commerce. In the context of live-streaming commerce, ease of navigation represents an important platform-related stimulus that may affect how consumers interact with the environment. When users are able to browse content efficiently, locate products with minimal effort, and complete transactions smoothly, they are more likely to experience a seamless and engaging shopping process. Such conditions reduce cognitive load and allow consumers to focus on product-related information and real-time interactions, which may enhance their overall evaluation of the experience (Davis, 1989; Huang and Benyoucef, 2017). These evaluations are reflected in attitude towards live-streaming commerce, which represents an accumulated assessment formed during the interaction process. Based on this reasoning, the following hypothesis is proposed:

H1: Ease of navigation positively influences attitude towards live-streaming commerce.

Ease of navigation and impulse buying behaviour. Ease of navigation may also directly influence behavioural outcomes. In fast-paced and information-rich environments such as live-streaming commerce, consumers often make decisions under time pressure and with limited deliberation. A platform that facilitates efficient navigation may shorten the decision-making process and increase the likelihood of spontaneous purchasing behaviour (Zhang et al., 2020; Feng et al., 2024). Xue et al. (2024) found that ease of use directly contributes to impulse buying in social commerce contexts. Therefore, the following hypothesis is proposed:

H2: Ease of navigation positively influences impulse buying behaviour.

Attitude and impulse buying behaviour. According to the Theory of Planned Behaviour, attitude reflects an individual's overall evaluation of a behaviour and serves as an important predictor of subsequent actions (Ajzen, 1991). In live-streaming commerce, a more favourable attitude towards the shopping experience may increase consumers' willingness to engage and respond positively to stimuli, thereby enhancing the likelihood of impulse buying behaviour (Zhang et al., 2024; Li et al., 2024). Accordingly, the following hypothesis is proposed:

H3: Attitude towards live-streaming commerce positively influences impulse buying behaviour.

The mediating role of attitude. It is unlikely that ease of navigation affects impulse buying behaviour only in a direct manner. Instead, part of its influence may operate through the attitudinal pathway described above. In other words, a well-designed and easy-to-navigate platform may first shape consumers' evaluations of the experience, which then translate into behavioural responses. This

suggests a mediating role of attitude towards live-streaming commerce in the relationship between ease of navigation and impulse buying behaviour, in line with the Stimulus-Organism-Response framework (Mehrabian and Russell, 1974). Therefore, the following hypothesis is proposed:

H4: Attitude towards live-streaming commerce mediates the relationship between ease of navigation and impulse buying behaviour.

Taken together, the conceptual framework, as presented in Figure 1, provides an integrated representation of the proposed relationships among the study variables. In line with the Stimulus-Organism-Response perspective, ease of navigation is conceptualised as an environmental stimulus, attitude towards live-streaming commerce as the internal evaluative state, and impulse buying behaviour as the resulting response.

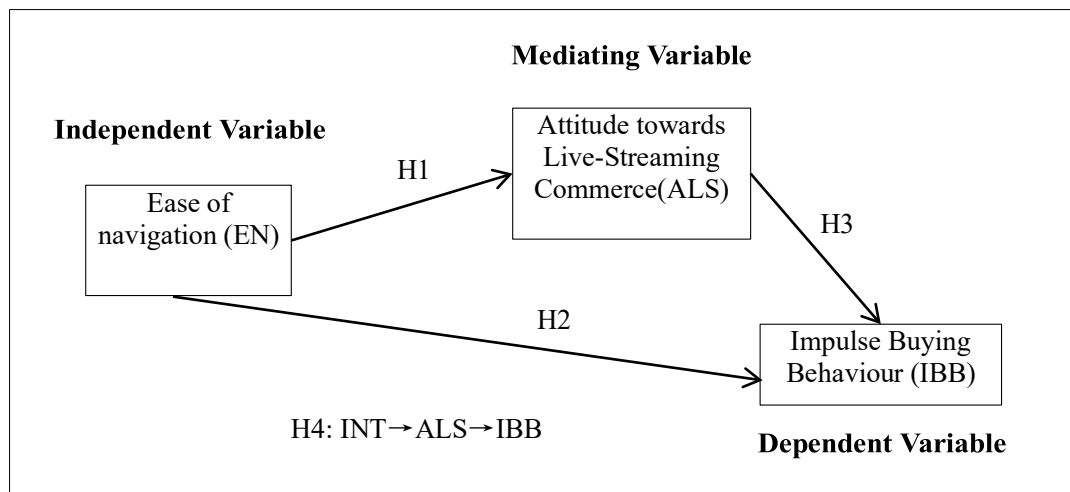


Fig.1: Conceptual Framework of the study

3. Research Methodology

3.1 Research Design

This study adopts a quantitative research design with a cross-sectional approach, whereby data were collected at a single point in time through a structured questionnaire. The research aims to examine the relationships among ease of navigation (EN), attitude towards live-streaming commerce (ALS), and impulse buying behaviour (IBB), as well as to test the mediating role of ALS in the EN–IBB relationship. A survey-based method was considered appropriate given the explanatory nature of the research objectives and the need to collect data from a relatively large sample of live-streaming commerce users.

Prior to the main survey, a pilot test was conducted with 40 respondents who met the same selection criteria as the target population. The pilot test served to evaluate the clarity and comprehensibility of the questionnaire items, to identify potential ambiguities in wording, and to provide preliminary evidence of internal consistency. Based on the pilot results, minor adjustments were made to the phrasing of two items to improve readability, while the overall structure and measurement scales remained unchanged. Cronbach's alpha values from the pilot test exceeded 0.80 for all three constructs, suggesting adequate reliability for proceeding with the main data collection.

3.2 Research Methods

The questionnaire consisted of 11 measurement items in total, including 3 items assessing ease of navigation (EN), 4 items measuring attitude towards live-streaming commerce (ALS), and 4 items evaluating impulse buying behaviour (IBB). All measurement items were adapted from established

studies in the existing literature and were refined to ensure clarity and contextual relevance to live-streaming commerce. A five-point Likert scale was employed, ranging from 1 (strongly disagree) to 5 (strongly agree). The specific items and their sources are presented in Table 1.

Table 1. Measurement Items and Their Sources

No.	Item	Source
EN	It is easy to browse products during live streams.	Sun, Y.,et al.(2019)
	The platform interface is user-friendly.	Davis, F. D. (1989)
	I can easily find the information I need.	Xu, X. et al.(2020)
ALS	I have a positive attitude toward live-streaming shopping.	Zhao, Y.et al. (2021)
	I think purchasing through live streams is a good idea.	Ma, L.. (2022)
	I like the experience of shopping via live streams.	Kang, et al.(2021)
	Live-streaming commerce is appealing to me.	Park & Lin (2020)
IBB	I often make impulse purchases during live streams.	Sun et al. (2020)
	I make unplanned purchases during live streams.	Zhao et al. (2021)
	When I see products in live streams, I tend to buy them immediately.	Kang et al. (2021)
	I find it difficult to control my purchasing impulses during live streams.	Hu & Chaudhry (2020)

3.3 Sampling and Data Collection

The target population comprised students currently enrolled in higher education institutions in Nantong City, Jiangsu Province, China. University students were selected as the target group because they represent an active segment of live-streaming commerce consumers in China, with high levels of digital engagement and frequent exposure to live-streaming platforms (Pham et al., 2025). A stratified sampling technique was adopted to ensure adequate representation across different institutions and academic levels.

The minimum required sample size was determined using Yamane's formula (Yamane, 1973). Based on this calculation, a sample size of approximately 399 respondents was considered sufficient to achieve statistical representativeness. Taking into account typical response rates in survey-based research, which generally range between 35% and 60% (Baruch and Holtom, 2008), a larger number of questionnaires were distributed to ensure an adequate number of valid responses.

A total of 680 questionnaires were distributed, and 623 were returned, yielding a response rate of 91.6%. After screening for incomplete responses and cases with obvious patterns of inattentive responding, 596 valid questionnaires were retained for the final analysis. This number exceeds the minimum required sample size of 399, indicating that the sample is adequate for structural equation modelling, which generally requires a minimum of 200 cases (Hair et al., 2019).

The demographic profile of the respondents is presented in Table 2. The sample consists of 258 male respondents (43.3%) and 338 female respondents (56.7%). The majority of respondents were aged between 21 and 23 (52.3%), followed by those aged 18 to 20 (31.4%) and 24 to 25 (16.3%). Most respondents were undergraduate students (83.6%), while 16.4% were postgraduate students. Regarding live-streaming shopping experience, the largest group had been engaged for one to two years (35.7%), followed by six to twelve months (26.2%), more than two years (23.2%), and less than six months (14.9%). In terms of shopping frequency, 39.9% of respondents made purchases through live streams two to three times per month, 28.0% shopped weekly, 21.3% shopped once a month, and 10.7% shopped

less than once a month.

Table 2. Demographic Profile of Respondents (N = 596)

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	258	43.3
	Female	338	56.7
Age	18–20	187	31.4
	21–23	312	52.3
	24–25	97	16.3
Education Level	Undergraduate	498	83.6
	Postgraduate	98	16.4
Live-Streaming Shopping Experience	Less than 6 months	89	14.9
	6–12 months	156	26.2
	1–2 years	213	35.7
	More than 2 years	138	23.2
Shopping Frequency	Weekly	167	28.0
	2–3 times per month	238	39.9
	Once a month	127	21.3
	Less than once a month	64	10.7

3.4 Data Analysis Procedure

Data analysis was conducted using SPSS (version 26.0) and AMOS (version 24.0). SPSS was primarily used for data screening and preliminary analysis, including descriptive statistics, reliability testing, and exploratory factor analysis. These procedures were undertaken to examine the internal consistency of the measurement scales and to provide an initial assessment of the underlying factor structure.

AMOS was subsequently employed to perform confirmatory factor analysis and structural equation modelling. Confirmatory factor analysis was used to evaluate the measurement model and to assess the construct validity of the three key variables. Structural equation modelling was then applied to test the hypothesised relationships among ease of navigation, attitude towards live-streaming commerce, and impulse buying behaviour, and to examine the proposed mediation model.

The mediating effect of attitude towards live-streaming commerce was further assessed using the bootstrapping method with 1,000 resamples and bias-corrected confidence intervals, which is widely regarded as a robust approach for testing indirect effects (Preacher and Hayes, 2008). The combined use of SPSS and AMOS enabled both exploratory and confirmatory analyses, thereby enhancing the robustness of the findings. The analytical procedures followed widely accepted guidelines for structural equation modelling (Hair et al., 2019).

4. Results and Discussion

4.1 Measurement Model

The measurement model was assessed to establish the reliability and validity of the constructs, following established guidelines in structural equation modelling (Hair et al., 2019). Internal consistency reliability was evaluated using Cronbach's alpha and composite reliability. Convergent validity was examined through standardised factor loadings and average variance extracted, while discriminant validity was assessed using the Fornell and Larcker (1981) criterion.

As presented in Table 3, the Cronbach's alpha values for ease of navigation, attitude towards live-streaming commerce, and impulse buying behaviour were 0.88, 0.88, and 0.92, respectively. All values exceed the recommended threshold of 0.70, indicating satisfactory reliability (Nunnally and Bernstein, 1994). The composite reliability values ranged from 0.88 to 0.92, which are above the suggested minimum level of 0.60 (Hair et al., 2019), further supporting the internal consistency of the

measurement scales.

Regarding convergent validity, all standardised factor loadings were above 0.70, ranging from 0.75 to 0.90, suggesting that the observed indicators are strongly associated with their respective latent constructs. The average variance extracted values for ease of navigation, attitude towards live-streaming commerce, and impulse buying behaviour were 0.71, 0.66, and 0.74, respectively, all exceeding the recommended threshold of 0.50 (Fornell and Larcker, 1981). This indicates that more than half of the variance in the indicators is captured by the underlying constructs rather than by measurement error.

Table 3. Reliability and Validity Results

Variable	Item	Validity						Reliability		
		Convergent Validity			Discriminant Validity			α	Description	
		Loading Factor	Item R ²	CR	AVE	Convergent Validity (AVE>0.5)	$\sqrt{AVE}$	Discriminant Validity ($\sqrt{AVE} > \text{correlations}$)		
EN	EN1	0.810	0.656	0.880	0.709	Yes	0.842	Yes	0.878	Yes
	EN2	0.883	0.780							
	EN3	0.832	0.692							
ALS	ALS4	0.839	0.703	0.883	0.655	Yes	0.809	Yes	0.882	Yes
	ALS3	0.842	0.709							
	ALS2	0.804	0.646							
	ALS1	0.748	0.560							
IBB	IBB4	0.828	0.686	0.920	0.743	Yes	0.862	Yes	0.920	Yes
	IBB3	0.895	0.800							
	IBB2	0.866	0.749							
	IBB1	0.858	0.736							

Discriminant validity was assessed using the Fornell and Larcker (1981) criterion, which requires that the square root of average variance extracted for each construct be greater than its correlations with other constructs. As reported in Table 4, the square roots of average variance extracted for ease of navigation, attitude towards live-streaming commerce, and impulse buying behaviour were 0.84, 0.81, and 0.86, respectively. In each case, these values exceed the corresponding inter-construct correlations, confirming that the constructs are empirically distinct.

Table 4. Discriminant Validity (Fornell-Larcker Criterion)

Code	EN	ALS	IBB
EN	0.842		
ALS	0.521	0.809	
IBB	0.448	0.625	0.862

4.2 Structural Model Fit

The overall fit of the structural model was evaluated using multiple goodness-of-fit indices. Following widely accepted guidelines (Hair et al., 2019; Hu and Bentler, 1999), several indices were examined to assess whether the proposed model adequately represents the observed data.

The results indicate that the model fits the data well. The chi-square to degrees of freedom ratio was 1.58, which is below the recommended threshold of 3.00, suggesting an acceptable level of model fit. The comparative fit index was 0.995, exceeding the recommended criterion of 0.95, indicating an excellent fit. The root mean square error of approximation was 0.031, which is well below the commonly accepted upper limit of 0.08, further confirming a close fit between the model and the observed data. In addition, the goodness-of-fit index was 0.98 and the Tucker-Lewis index was 0.99, both exceeding the recommended thresholds. Taken together, all fit indices meet or exceed the recommended thresholds, indicating that the proposed structural model provides a good representation of the empirical data.

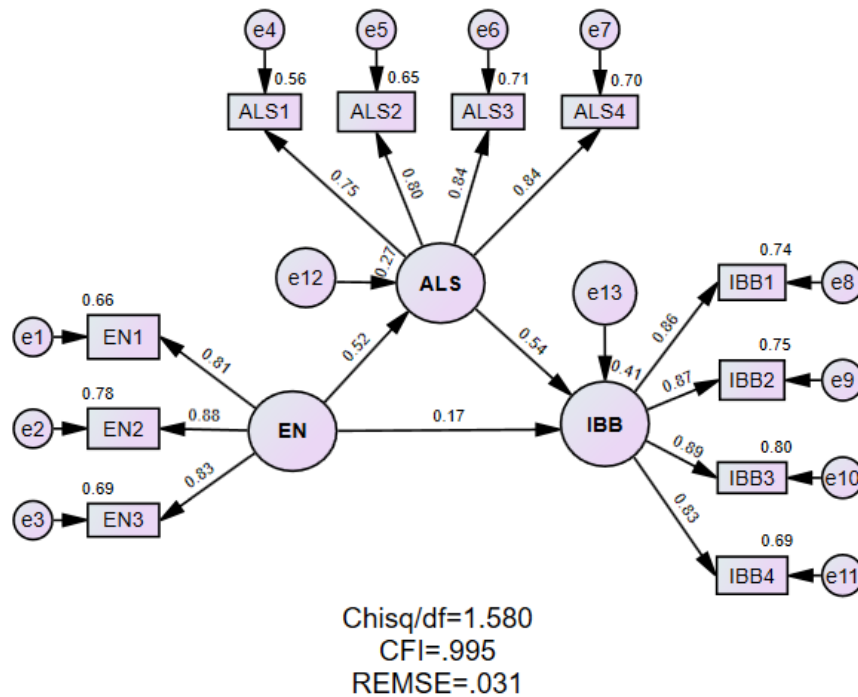


Fig.2: Structural Equation Modeling for this study

4.3 Hypothesis Testing

The proposed hypotheses were examined using standardised path coefficients, standard errors, critical ratios, and p-values obtained from the structural equation modelling analysis. The results are presented in Table 4.

Table 4. Hypothesis Testing Path Coefficients

H.	Hypothesized Path	Std. Estimate (β)	S.E.	C.R.	P-value	Sig.	Supported
H1	EN→ALS	0.521	0.034	11.004	<0.001	***	Yes
H2	EN→IBB	0.168	0.045	3.696	<0.001	***	Yes
H3	ALS→IBB	0.537	0.069	10.633	<0.001	***	Yes

Note: S.E. = Standard Error; C.R. = Critical Ratio; *** $p < 0.001$

The findings indicate that ease of navigation has a positive and statistically significant effect on

attitude towards live-streaming commerce ($\beta = 0.52, p < .001$), thereby supporting H1. This suggests that when users are able to navigate the platform with ease, they are more likely to develop favourable evaluations of the live-streaming commerce experience.

Ease of navigation was also found to exert a positive and significant influence on impulse buying behaviour ($\beta = 0.17, p < .001$), providing support for H2. Although the magnitude of this effect is relatively modest compared to the other paths, the result indicates that platform usability can directly contribute to spontaneous purchasing behaviour.

Furthermore, attitude towards live-streaming commerce has a strong and statistically significant effect on impulse buying behaviour ($\beta = 0.54, p < .001$), thus supporting H3. This finding highlights the important role of consumers' evaluative responses in shaping their purchasing decisions within live-streaming environments.

4.4 Mediating Effect Analysis

The mediating role of attitude towards live-streaming commerce in the relationship between ease of navigation and impulse buying behaviour was examined using the bootstrapping approach with 1,000 resamples. This method is widely recommended for testing indirect effects due to its robustness and fewer distributional assumptions (Preacher and Hayes, 2008). The results are reported in Table 5.

Table 5. Mediating Effect Test of ALS between EN and IBB

Path relationship	Point Estimate	Product of coefficient		Bootstrapping					
				Bias-corrected			Percentile		
		SE	Z	Lower	Upper	P-value	Lower	Upper	P-value
Indirect Effects									
F1→F2→F3	0.278	0.033	8.424	0.218	0.349	0.002	0.218	0.349	0.002
Direct Effects									
F1→F3	0.166	0.041	4.049	0.073	0.239	0.003	0.073	0.239	0.003
Total Effects									
	0.444	0.045	9.867	0.362	0.542	0.002	0.362	0.542	0.002

The results indicate that the indirect effect of ease of navigation on impulse buying behaviour through attitude towards live-streaming commerce is statistically significant ($\beta = 0.28, p = .002$). The 95% bias-corrected confidence interval [0.22, 0.35] and percentile confidence interval [0.22, 0.35] both exclude zero, providing evidence of a mediating effect. At the same time, the direct effect of ease of navigation on impulse buying behaviour remains significant ($\beta = 0.17, p = .003$), indicating that ease of navigation continues to exert a direct influence on impulse buying behaviour even after accounting for the mediating variable. The total effect of ease of navigation on impulse buying behaviour is 0.44 ($p = .002$), suggesting that both direct and indirect pathways contribute to the overall relationship.

Taken together, these findings indicate that attitude towards live-streaming commerce partially mediates the relationship between ease of navigation and impulse buying behaviour. Therefore, H4 is supported.

4.5 Discussion

The findings of this study provide several insights into how platform-related characteristics shape consumer behaviour in live-streaming commerce. By adopting the Stimulus-Organism-Response framework, the results offer an integrated understanding of the relationships among ease of navigation, consumer attitude, and impulse buying behaviour.

The effect of ease of navigation on consumer attitude (H1). The finding that ease of navigation has a significant positive effect on attitude towards live-streaming commerce ($\beta = 0.52$) suggests that platform usability is an important factor in shaping how consumers evaluate their shopping experience.

When users can browse content efficiently and locate products without unnecessary effort, they are more likely to develop favourable evaluations of the overall experience. This result is consistent with prior research suggesting that usability and system quality are important determinants of user evaluations in digital environments (Huang and Benyoucef, 2017; Venkatesh et al., 2012). From the perspective of the Technology Acceptance Model, this finding further supports the idea that perceived ease of use positively influences user attitudes (Davis, 1989). In the live-streaming context, where consumers face a continuous and time-sensitive flow of information, a well-organised navigation system appears to reduce cognitive burden and allow users to focus on product-related information and real-time interactions, thereby enhancing their perceptions of convenience and enjoyment.

The direct effect of ease of navigation on impulse buying behaviour (H2). Ease of navigation was found to have a positive but relatively modest direct effect on impulse buying behaviour ($\beta = 0.17$). This implies that platform-related characteristics can contribute to spontaneous purchasing decisions even in the absence of deeper cognitive processing. In fast-paced environments such as live-streaming commerce, where consumers often make decisions under time pressure and with limited deliberation, a platform that facilitates efficient navigation may shorten the distance between product discovery and purchase completion. This finding is in line with existing studies suggesting that reduced effort and increased accessibility may shorten the decision-making process and encourage impulsive responses in online shopping environments (Zhang et al., 2020). Notably, the relatively modest magnitude of this direct effect, compared with the indirect effect through attitude, suggests that ease of navigation influences impulse buying behaviour primarily through attitudinal processes rather than through a purely automatic mechanism. This aligns with the Stimulus-Organism-Response perspective, which holds that external stimuli more often influence behaviour through internal psychological states than through direct pathways (Mehrabian and Russell, 1974).

The effect of attitude on impulse buying behaviour (H3). Attitude towards live-streaming commerce emerged as a strong predictor of impulse buying behaviour ($\beta = 0.54$), representing the strongest path in the structural model. This result supports the notion that consumers' evaluative responses play a central role in shaping their behavioural outcomes, as suggested by the Theory of Planned Behaviour (Ajzen, 1991). When consumers perceive the live-streaming experience as enjoyable and worthwhile, they appear to become more receptive to purchasing stimuli, which increases the likelihood of unplanned purchases. This finding is consistent with recent research showing that positive psychological states, including favourable attitudes and perceived enjoyment, serve as important mediating mechanisms between environmental stimuli and impulsive purchasing decisions in live-streaming contexts (Li et al., 2025; Zhang et al., 2024). The strength of this path further suggests that platform designers and marketers should consider consumer attitude as a key leverage point for influencing purchasing behaviour.

The mediating role of attitude (H4). The results confirm that attitude towards live-streaming commerce partially mediates the relationship between ease of navigation and impulse buying behaviour. The indirect effect ($\beta = 0.28$) accounts for a substantial portion of the total effect ($\beta = 0.44$), indicating that the influence of platform usability on purchasing behaviour operates largely through consumers' internal evaluations. In other words, a well-designed navigation system first enhances consumers' attitudes towards the shopping experience, which in turn increases their tendency to engage in impulse buying. This finding provides empirical support for the applicability of the Stimulus-Organism-Response framework in the context of live-streaming commerce, where ease of navigation serves as the environmental stimulus, consumer attitude represents the internal organismic state, and impulse buying behaviour constitutes the behavioural response (Mehrabian and Russell, 1974; Jacoby, 2002). This result is also consistent with emerging research on live-streaming commerce that has identified internal psychological states as important transmission channels linking platform characteristics to consumer purchasing behaviour (Pham et al., 2025; Li et al., 2024).

Theoretical implications. This study contributes to the existing literature in several ways. First, it extends prior research by focusing on platform-related characteristics rather than streamer-related factors as determinants of consumer behaviour in live-streaming commerce. While much of the existing literature has concentrated on the role of streamers, including their attractiveness, credibility, and communication style, this study shifts attention to the structural aspects of the platform environment, specifically ease of navigation. Second, the study provides a clearer understanding of the psychological mechanism underlying impulse buying by identifying consumer attitude as a key mediating variable. By showing that ease of navigation influences impulse buying behaviour primarily through attitudinal processes, the findings offer a more nuanced account of how platform design translates into behavioural outcomes. Third, the study contributes to the application of the Stimulus-Organism-Response framework in digital commerce research by providing empirical evidence that platform usability functions as an environmental stimulus that shapes consumer behaviour through internal evaluative processes.

Practical implications. The findings offer several practical suggestions for platform designers and marketers in the live-streaming commerce industry. First, investing in navigation design, including clear product categorisation, intuitive search functions, and streamlined checkout processes, may improve consumer experience and increase the likelihood of impulse purchases. Second, given the strong mediating role of consumer attitude, efforts to improve platform usability should be accompanied by strategies that enhance consumers' overall evaluation of the shopping experience, such as interactive features, personalised recommendations, and responsive interface design. Third, the relatively modest direct effect of ease of navigation on impulse buying suggests that navigation improvements alone may not be sufficient to drive purchasing behaviour; instead, such improvements should be integrated within a broader strategy aimed at fostering positive consumer attitudes towards the live-streaming experience.

5. Conclusion

This study examined the impact of ease of navigation on impulse buying behaviour in live-streaming commerce, with particular emphasis on the mediating role of attitude towards live-streaming commerce. Drawing upon the Stimulus-Organism-Response framework, data were collected from 596 university students in Nantong, China, and analysed using structural equation modelling.

The results show that ease of navigation positively influences both consumer attitude and impulse buying behaviour. Among the hypothesised paths, the effect of attitude on impulse buying behaviour is the strongest, while the direct effect of ease of navigation on impulse buying is relatively modest. Importantly, the findings confirm that attitude towards live-streaming commerce partially mediates the relationship between ease of navigation and impulse buying behaviour, suggesting that platform usability influences purchasing behaviour primarily through consumers' evaluative responses. These results support the applicability of the Stimulus-Organism-Response framework in the live-streaming commerce context.

The study contributes to the literature by highlighting the role of platform-related characteristics, specifically ease of navigation, as a factor shaping consumer behaviour in live-streaming environments. It also identifies consumer attitude as an important transmission mechanism linking platform design to behavioural outcomes. From a practical perspective, the findings suggest that platform operators should invest in navigation design to improve user experience, while also recognising that fostering positive consumer attitudes is necessary for translating improved usability into purchasing behaviour.

Despite its contributions, this study is subject to several limitations that should be acknowledged.

First, the data were collected using a cross-sectional design, which limits the ability to infer causal relationships among the variables. Future research could adopt longitudinal or experimental approaches to better capture the dynamic nature of consumer behaviour in live-streaming commerce and to establish causal ordering among the constructs.

Second, the sample was restricted to university students in Nantong, China. Although this group represents an active segment of live-streaming commerce users, the findings may not be generalisable to other demographic groups, regions, or cultural contexts. Future studies could include more diverse populations, including working professionals and consumers from different geographical areas, to assess the robustness of the findings.

Third, this study focused on a single platform-related factor, namely ease of navigation. While this allowed for a more focused analysis, other relevant factors, such as interactivity, visual design quality, information richness, and social presence, may also play significant roles in shaping consumer behaviour. Future research could incorporate a broader set of platform characteristics to develop a more comprehensive framework. In particular, examining how multiple platform features interact with one another to influence consumer attitudes and purchasing behaviour would provide a more complete picture of the live-streaming commerce environment.

Fourth, the study relied on self-reported data, which may be subject to common method bias. Although established measurement scales were used and preliminary statistical checks did not suggest significant common method variance, future research could combine survey data with behavioural data, such as actual purchase records or clickstream data, to improve the robustness of the findings.

Finally, as live-streaming commerce continues to evolve, future research could explore how emerging platform features, such as artificial intelligence-driven product recommendations and augmented reality try-on functions, affect consumer navigation experiences and subsequent purchasing behaviour within digital service systems.

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