



Research Article

IMPACT OF LIVE STREAMING ON IMPULSE BUYING BEHAVIOR IN BANGLADESH

Bangladeř'te Canlı Yayınların Dürtüsel Satın Alma Davranışı Üzerindeki Etkisi

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**ABSTRACT**

This study investigates impulsive purchasing in the rapidly growing live streaming commerce sector of Bangladesh. Motivated by the rising popularity of this trend, the study employs a comprehensive literature review to identify factors influencing consumer behavior, such as streaming proficiency, engagement, word-of-mouth, time limitations, product utility, and pricing. The S-O-R paradigm identifies perceived trust and perceived utility as cognitive and emotional states. The empirical study, employing 285 valid questionnaires, utilizes Partial Least Squares Structural Equation Modeling (PLS-SEM) for data analysis. The results show how important streamer knowledge, involvement, positive endorsements, product usefulness, and pricing are for building consumer trust and perceived value. Price promotions and customer engagement are key factors that affect people who make impulsive purchases. The study shows that there is a positive link between perceived trust, perceived value, and impulsive buying behavior. Suggestions include using streaming expertise, improving interaction, and changing pricing strategies to fit the budget of the target group. The research demonstrates that Facebook is the preferred platform for live broadcasting in Bangladesh. Limitations include demographic bias and a fixed viewpoint on consumer behavior, underscoring the need for diverse sampling, methodological improvements, and longitudinal studies in future research.

**ÖZ**

Bu çalışma, Bangladeř'te hızla büyüyen canlı yayın ticareti sektöründe dürtüsel satın alma davranışını arařtırmaktadır. Bu trendin artan popülaritesinden hareketle, çalışma tüketici davranışını etkileyen faktörleri belirlemek için kapsamlı bir literatür taraması yapmaktadır. Bu faktörler arasında yayıncı yeterliliđi, etkileşim, ağızdan ağıza iletişim, zaman kısıtlamaları, ürün faydası ve fiyatlandırma yer almaktadır. S-O-R paradigması, algılanan güven ve algılanan faydayı bilişsel ve duygusal durumlar olarak tanımlamaktadır. 285 geçerli anketin kullanıldığı ampirik çalışma, veri analizinde Kısmi En Küçük Kareler Yapısal Eşitlik Modellemesi'ni (PLS-SEM) uygulamaktadır. Sonuçlar, yayıncı bilgisi, katılım, olumlu tavsiyeler, ürün faydası ve fiyatlandırmanın tüketici güveni ve algılanan değeri oluşturmada ne kadar önemli olduğunu göstermektedir. Fiyat promosyonları ve müşteri etkileşimi, dürtüsel satın alma davranışını etkileyen kilit faktörlerdir. Çalışma, algılanan güven, algılanan değer ve dürtüsel satın alma davranışı arasında pozitif bir ilişki olduğunu ortaya koymaktadır. Öneriler arasında yayıncılık uzmanlığının artırılması, etkileşimin güçlendirilmesi ve hedef grubun bütçesine uygun fiyatlandırma stratejilerinin düzenlenmesi yer almaktadır. Araştırma, Bangladeř'te canlı yayınlar için en çok tercih edilen platformun Facebook olduğunu göstermektedir. Sınırlılıklar arasında demografik yanlılık ve tüketici davranışına ilişkin sabit bir bakış açısı yer almakta olup, gelecekteki arařtırmalarda daha çeşitli örneklem, metodolojik iyileştirmeler ve uzun dönemli çalışmaların gerekliliđi vurgulanmaktadır.

## **1 | INTRODUCTION**

Bangladesh's quick move to digital has changed how people shop and made a wider range of online shopping options available. As more people get access to the internet and smartphones, e-commerce has become a big part of everyday life for people in Bangladesh (Islam et al., 2022). Live streaming commerce has garnered considerable popularity among emerging digital innovations by allowing consumers to view, engage with, and purchase products in real time, regardless of geographical constraints (Chen & Lin, 2023). This research investigates the relationship between live streaming and consumer behavior, focusing particularly on its influence on impulsive purchasing tendencies among Bangladeshi consumers.

Bangladesh is the 32nd largest e-commerce market in the world as of 2023, with expected revenues of USD 10.47 billion. This shows that the sector is growing quickly (Statista, 2023). The study seeks to clarify the influence of live streaming on impulsive buying and to pinpoint the psychological and contextual factors that drive this behavior. Live streaming commerce provides a dynamic and immersive shopping experience that creates a sense of urgency and exclusivity among viewers (Wongkitrungrueng & Assarut, 2020).

The COVID-19 pandemic sped up the use of live commerce because businesses and people used more digital channels to stay connected during lockdowns (Sheth, 2020). Live e-commerce broadcasts have changed from being hosted by professionals to being made by users. This has connected domestic markets with foreign consumers and changed the way online shopping works (Cai et al., 2023). Consequently, live shopping has emerged as a prominent global consumer trend that is shaping the future of e-commerce (McKinsey & Company, 2022).

Studies indicate that the appeal and trustworthiness of live streamers greatly influence consumer buying habits, warranting additional investigation into the psychological mechanisms at play (Xu et al., 2020). This study utilizes the Stimulus–Organism–Response (S-O-R) framework to analyze the influence of stimuli in live streaming environments (including promotions, social interaction, and streamer attractiveness) on customers' emotional and cognitive states, leading to impulsive purchasing decisions (Mehrabian & Russell, 1974).

According to earlier studies, more than 34% of online purchases are made on the spur of the moment, often because of things like time-sensitive sales, lower prices, and the appeal of the product (Verhagen & van Dolen, 2011). Some consumers engage in deliberate, strategic purchasing, whereas others are swayed by impulsive emotions triggered by persuasive marketing tactics, including advertising, direct marketing, and, increasingly, live streaming (Chen & Lin, 2023).

This research examines the situational and psychological factors that affect consumer cognition and emotion in live streaming commerce. It highlights elements such as streaming proficiency, audience engagement, and electronic word of mouth (E-WOM) as indicators of customer perceptions concerning value and reliability (Hu & Chaudhry, 2020). Promotions with a limited time frame make people feel like there isn't enough of something, which make them think the product is more valuable and makes them feel like they need to make a decision right away (Aggarwal & Vaidyanathan, 2003).

This study employs the S-O-R paradigm to elucidate customer behavior influenced by live streaming, offering significant insights for e-commerce platforms and marketers to develop strategies that foster engagement and sustainable growth. Furthermore, it offers a theoretical advancement by extending the S-O-R model into the emerging domain of live streaming commerce and delineates practical ramifications for streamers and vendors seeking to improve customer engagement and conversion rates (Cai et al., 2023).

## **2 | LITERATURE REVIEW**

Live streaming technologies have had a big impact on how customers act and how stores work in the digital marketplace. Live streaming was first made for fun, but now it's an important tool in modern business because it lets brands connect with customers right away and get them involved in real time (Chen & Lin, 2023). This technological advancement allows businesses to share real, up-to-date information with people all over the world. This marks a new era in online sales and marketing communication (Cai et al., 2023). As more and more people buy things online, businesses are using live streaming as part of their e-commerce

strategies to build trust, engagement, and interaction (Hu & Chaudhry, 2020). Live streaming, on the other hand, combines real-time interaction, interactive participation, and authentic content presentation. This creates an environment where customers can see and experience products at the same time and make decisions about what to buy (Wongkitrungrueng & Assarut, 2020). This interactive feature creates emotional involvement, a sense of urgency, and entertainment value, all of which have a big effect on how people make decisions online (Xu et al., 2020). So, live streaming commerce is both a new technology and a change in how people think about, want, and buy things.

This study examines the psychological mechanisms, interactive elements, and contextual factors influencing impulsive purchasing behavior during live streaming events. This study seeks to integrate existing data to clarify the influence of live streaming on impulsive purchasing behaviors and the implications for businesses functioning in this rapidly changing digital environment (Islam et al., 2022).

Historically, the predominant focus of research on impulse purchase behavior has been on physical retail environments and traditional online retailers (Badgaiyan & Verma, 2015; Mohan et al., 2013). In brick-and-mortar stores, the way the store looks and feels, including the layout, lighting, music, and the way the staff acts, has been shown to have a big effect on how people feel and how likely they are to buy things on a whim (Mohan et al., 2013). A study by Badgaiyan and Verma (2015) found that positive employee behavior and emotional cues in malls made customers more likely to buy things on the spot.

The emergence of e-commerce has altered these relationships. As digital technology progresses and business models transform, live streaming commerce has emerged as a hybrid online retail format that integrates visual storytelling, interpersonal communication, and instantaneous purchasing functionalities (Cai et al., 2023). Wongkitrungrueng et al. (2020) contend that this format allows sellers to vividly display their products through video demonstrations, emotive expressions, and compelling narratives, offering consumers an immersive purchasing experience comparable to face-to-face interactions. The anchor's charm, dependability, and communication style greatly increase engagement, which makes viewers make quick buying decisions based on emotion and a sense of exclusivity (Xu et al., 2020).

In this context, live streaming serves as both a catalyst and a persuasive medium that provokes emotional and cognitive responses from consumers, often leading to impulsive purchasing behaviors. The study elucidates consumer psychology by situating impulsive buying within the interactive and dynamic context of live streaming commerce, underscoring its growing importance in Bangladesh's evolving digital economy (Islam et al., 2022).

**2.1 Live-streaming commerce** Cai and Wohn (2019) characterize live streaming commerce as e-commerce characterized by swift social engagement. Live streaming commerce is a way to do e-commerce on a platform. To create a virtual world with real-time interaction, entertainment, social activities, and commerce, you need live streaming technologies and infrastructure. Live streaming areas give viewers a place to watch and talk to live streamers, and they give streamers a place to broadcast (Xu et al., 2020). There are a lot of people who watch live streams on streaming sites. Live streams are popular among content creators (De Veirman et al., 2017). When you live stream to sell products, you usually show them from different angles and try to get people to buy them (Hu et al., 2017). User interaction in live streaming commerce encourages people to join in on conversations and make purchases (Kang et al., 2020). Live streaming commerce lets people interact with live streams and see real-time information about products (Wongkitrungrueng et al., 2020). Li et al. (2021) say that these interactions can make the connection between consumers stronger. Live streaming commerce is when people who stream live video promote products on computers, phones, and other network terminals. The streamer then gives links to buy things to make the process faster. Live streaming commerce lets you buy things and talk to live streamers in real time (Hu & Chaudhry, 2020). Live streaming commerce is a one-of-a-kind shopping experience that gives potential customers reasons to buy (Xu et al., 2020). This study characterizes live streaming commerce as a live streamer promoting or selling products on a platform.

**2.2 Impulse Buying with Live E-Commerce** Live e-commerce emerged from information technology and changing business strategies. This emerging e-commerce method puts vendors closer to consumers and creates an immersive experience through anchors' extensive descriptions and video visuals (Wongkitrungrueng et al., 2020). E-commerce live streaming with real-world scenes and staff interactions can reduce buyer fear and improve the buying experience and seller trust (Chen & Lin, 2018). Creating a

trustworthy living environment and establishing consumer trust can facilitate transactions (De Jong et al., 2004). To conclude, e-commerce live streaming greatly improves online purchasing exposure, engagement, and authenticity (Fornell & Larcker, 1981). There is more research on consumers' live e-commerce usage. Zhang et al. (2016) found that perceived utility, enjoyment, and immersive experiences indirectly increase customers' live e-commerce platform use. Li et al. (2018) found that platform and celebrity trust influence long-term consumer behavior. In particular, they both affect users' platform return rates. Zhang et al. (2016) found that live e-commerce with interactive aspects and innovative technologies can increase consumers' trust and platform loyalty. There has been a lot of research on customer behavior in live e-commerce, but less on impulsive buying. A constrained study focus and incomplete effect mechanism description are limitations. Most study has studied how anchor or live-streaming characteristics affect impulsive buying. Live-shopping behaviour research show that anchor qualities influence consumer purchases. Ang et al. (2018) found that customers trust brands with a good reputation for product quality, which increases their propensity to buy. In addition, Xu et al. (2022) found that consumers trust and make impulsive purchases when an anchor appears professional. Chen and Lin (2018) found that entertainment boosts impulse purchases and affects customers' mind-stream experience, perceived value, and use attitude. Webcasting is also entertaining. Zhang et al. (2016) found that live-streamers make more impulsive purchases.

**2.2 Research Gap** Live e-commerce customer behavior has been studied due to the growing growth and use of live purchase platforms (Cai et al., 2023). Despite increased academic attention, the current study corpus has some flaws that need more study. The majority of studies have studied customers' willingness to participate in live commerce (Su, 2019) and trust in live streamers and platforms (Cao et al., 2021). This study examines impulsive buying in live streaming, a topic rarely studied in digital consumer research.

Current literature neglects consumers' irrational or impulsive buying behavior in live-streaming contexts, compared to retail or online settings. Live e-commerce is new and digital commerce is expanding in different countries and markets, which explains this variance (Islam et al., 2022). Therefore, present research is restricted in quantity and scope, providing fragmented insights into this growing topic. Modern research often overlooks psychological, cultural, and contextual variables that may affect consumer responses, focusing instead on streamer characteristics and environmental factors (Xu et al., 2020; Chen & Lin, 2023).

However, few studies have examined impulse purchase behavior in live commerce platforms using theoretical frameworks including emotional arousal, cognitive assessment, and perceived social connection. Most frameworks emphasize anchors' charm and the streaming environment's immersive quality, ignoring the interaction between these characteristics and consumers' internal emotions and external variables that cause impulsive behavior (Wongkitrungrueng & Assarut, 2020). These constraints highlight the need for context-sensitive study of live streaming-affected customer behavior.

Live streaming's impact on impulse purchase in Bangladesh has not been extensively studied. Live streaming has been linked to consumer decision-making worldwide, but Bangladesh's cultural, economic, and social factors have not been studied (Islam et al., 2022). There is no empirical study on the Bangladeshi e-commerce ecosystem, making it difficult to understand how contextual factors like local purchasing conventions, digital literacy, and trust perceptions affect impulsive buying in live-streaming contexts.

Addressing this research gap is crucial to understanding live commerce locally and contextually since customer behaviour varies widely between geographical and cultural contexts (Cai et al., 2023). This study investigates Bangladeshi live-streaming event impulsive buying elements. This work improves theoretical understanding of stimulus-organism-response dynamics in a changing digital economy and helps Bangladeshi e-commerce companies and marketers improve live streaming methods. Thus, our study advances theoretical and managerial understanding of live-streaming client purchasing behavior (Hu & Chaudhry, 2020).

### 3 | THEORETICAL BASIS AND RESEARCH HYPOTHESIS

**3.1 Theoretical Basis** The Stimulus-Organism-Response (S-O-R) theory is a fundamental framework in cognitive psychology that elucidates human behavior by incorporating internal psychological processes into the traditional stimulus-response model (Mehrabian & Russell, 1974). It emphasizes the mediating role of

individual cognitive and emotional states in shaping behavioral outcomes, contending that external stimuli do not directly determine behavior but function through internal mediating processes (Donovan & Rossiter, 1994). The S-O-R paradigm, originally developed to investigate human perception and environmental psychology, has been extensively employed in consumer behavior research, particularly for the analysis of emotional and impulsive purchasing decisions (Xu et al., 2020).

In this context, stimuli refer to external environmental factors that influence an individual's internal state. The organism represents the consumer's internal state, including emotional and cognitive responses, that facilitates the relationship between stimuli and behavior (Cai et al., 2023). In the end, the reaction shows how the person acted, like whether they wanted to buy something or acted on impulse. The S-O-R model serves as a comprehensive framework for examining the impact of marketing stimuli and contextual factors on consumer decision-making through psychological mediation (Chen & Lin, 2023).

The S-O-R model has demonstrated considerable applicability in both experimental and real-world retail environments, where it has been extensively employed to examine impulse buying behavior. Several studies have created experimental settings that mimic in-store and online shopping experiences, employing the S-O-R theory to clarify how visual appeal, pricing cues, and social interactions provoke impulse purchases (Verhagen & van Dolen, 2011; Badgaiyan & Verma, 2015). These applications confirm the model's effectiveness in clarifying the emotional and cognitive processes that affect consumer responses to various marketing stimuli.

In live streaming e-commerce, situational factors—such as streamer credibility, time-sensitive promotions, and interactive communication—serve as stimuli that affect viewers' emotions and cognition (Wongkitrungrueng & Assarut, 2020). Live streaming commerce uniquely integrates social interaction, entertainment, and transactional components, creating a dynamic environment that stimulates psychological engagement and social connectivity among consumers (Xu et al., 2020). Streamers or influencers with a lot of perceived credibility and skill are important for building trust and changing how people see a brand, which makes them more likely to buy something (Hu & Chaudhry, 2020).

In this context, product utility refers to how well a product meets the needs of customers, while pricing characteristics are often important reasons for people to buy things online. Many people are drawn to live streaming platforms because they think they will get lower prices or special deals (Aggarwal & Vaidyanathan, 2003). Price-related cues affect how customers feel and think, which makes them think the value is higher and makes them more likely to buy something on impulse.

The organism component of the S-O-R model, which stands for internal emotional and cognitive responses, is the most important part that connects external stimuli to behavioral reactions (Cai et al., 2023). Affective responses, encompassing excitement and delight, alongside cognitive evaluations, such as perceived trust and utility, significantly impact the consumer's overall psychological state. In live streaming commerce, perceived value and perceived trust are essential organismic variables that determine whether a spectator converts intention into action. The S-O-R paradigm provides a robust theoretical framework for analyzing the influence of live streaming stimuli on impulsive consumer behavior through internal psychological mechanisms.

**3.2 Research Hypothesis** Based on the S-O-R approach, streamer expertise, engagement, ewom, time limit, product usefulness and product price will affect the impulsive buying behavior through perceived trust and perceived value. All hypotheses from our model were developed and presented as follows.

E-commerce influencers, through their professionalism, popularity, and interactivity, serve as crucial bridges between businesses and consumers in live commerce, enhancing brand image, promoting products, and influencing consumer purchase decisions through heightened perceived value and urgency (Zhang et al., 2022). Streamer expertise positively impacts consumers' trust in the influencer in the context of influencer marketing (Iqbal et al., 2023). Therefore, this study postulates the following hypotheses:

**Hypothesis 1 (H1)- Streamer Expertise has a significant positive impact on consumers' perceived trust.**

Hidayanto et al. (2017) says that the social presence of live streaming platforms, viewers, and streamers positively influences consumer trust in live streaming commerce, fostering a flow state and enhancing

engagement through reduced uncertainty and increased sociability in the online shopping experience. The study done by Ali & Bhasin(2019) asserts that real-time online comments during live commerce, serving as a source of information and shared shopping experience, significantly positively impact consumers' perceived trust, indicating the influential role of interactive engagement in shaping trust in the online shopping context. This study made the following hypothesis:

**Hypothesis 2 (H2) - Engagement has a significant positive impact on consumers' perceived trust**

There is a significant positive impact of ease of navigation, personalization, information quality, and rewards on electronic word-of-mouth (e-wom), with perceived trust playing a significant mediating role in enhancing the relationship between these factors and e-wom (Zalloum et al., 2019). Hidayanto et al.(2017) suggests that eWOM (electronic Word-of-Mouth) plays a significant role in influencing both vendor trust and product trust in the context of online group buying, emphasizing the impact of customer recommendations on building trust in the e-commerce business. Kamtarin (2012) suggests that online Word-of-Mouth (eWOM) significantly influences online purchase intention by affecting perceived trust, emphasizing the role of eWOM in reducing uncertainties, building trust, and facilitating transactions in e-commerce. Therefore, this study postulates the following hypotheses:

**Hypothesis 3 (H3) - E word of mouth has a significant positive impact on consumers' perceived trust.**

The study done by Peng & Liang (2013) proposes that time pressure, particularly in the context of price promotions, influences consumers' perceived value dimensions (price, functional, emotional, and social), subsequently impacting purchase intention, with the moderating effect of time pressure on perceived value varying based on consumer decision-making under limited time constraints. Zhang et al. (2022) suggests that a shorter promotion time limit increases consumers' perception of opportunity cost, enhances cognitive responses to perceived value, and positively influences consumers' overall perceived value.

**Hypothesis 4 (H4) - Time limit has a significant impact on consumers' perceived value.**

Study suggests that the addition of dissimilar e-channels enhances perceived value by decreasing the negative impact of perceived sacrifices, highlighting the role of product usefulness in shaping perceived value in an omnichannel context (Lombart et al.,2021). Jamal & Sharifuddin (2015) discusses perceived value (PV) and product usefulness (PU), defining PV as the overall assessment of a product's utility based on perceived benefits and costs, while acknowledging that consumers seek various types of value. Additionally, the study employs cue utilization theory to link PU to the extent a consumer believes a product improves their shopping experience, emphasizing the relevance of labeling cues, such as halal, in influencing PV and PU.

**Hypothesis 5 (H5) - Product usefulness has a significant positive impact on consumers' perceived value**

Wang et al.(2023) suggests that perceived price is positively related to both behavioral intention and perceived value, emphasizing the role of price as a quality signal and an essential indicator influencing consumers' assessments of product quality in the context of marathon events.The study done by Ding (2023) suggests that in e-commerce live broadcasting, price discounts, particularly with quantity limits, enhance consumers' perceived value, stimulating higher purchase intentions by emphasizing loss-reducing promotions and creating a sense of competition and urgency. Piri & Lotfizadeh (2015) suggests that perceived relative price influences perceived product value, indicating that consumers consider the relationship between price and perceived value in their purchasing decisions.

**Hypothesis 6 (H6) - Price has a significant impact on consumers' perceived value**

Consumer trust in live streaming commerce reduces uncertainty, stimulates impulsive buying behavior, and is positively linked to enhanced perceived trust, following the uncertainty reduction theory (Hidayanto et al., 2017). Zhang et al. (2022) proposes that perceived trust, influenced by the richness of information and interactivity in live commerce, plays a mediating role in consumers' impulse purchase decisions in the hunger marketing model. Customer-perceived value, encompassing acquisition, transaction, in-use, and redemption value, influences trust and long-term commitment to an online retailer, supported by the theory of reasoned action and emphasizing the role of social learning in shaping consumer behavior (Kamtarin, 2012).

**Hypothesis 7 (H7) - Perceived trust have a significant impact on impulse buying decision**

The study done by Salam at el. (2016) emphasizes the importance of understanding the factors influencing online impulse buying in social commerce, including perceived value, and provides a causal-chain framework to categorize and analyze these factors, offering valuable insights for researchers, practitioners, and businesses in developing strategies to enhance competitiveness and increase profits in the context of S-commerce. Jamal and Sharifuddin (2015) proposes hypotheses suggesting a significant positive relationship between perceived value (PV) and impulse buying (IB) and between PV and impulse purchase (IP) in the context of halal-labeled products, highlighting the role of PV as a determinant of behavioral intentions among British Muslim consumers. Perceived value, defined as the subjective assessment of a product's utility based on what consumers receive and give, influences consumers' behavioral intentions, particularly in the context of marathon events, where positive perceived value is associated with increased likelihood of participation (Wang at el., 2023). Piri & Lotfizadeh (2015) suggests that perceived value positively influences purchase intention, emphasizing that consumers' favorable evaluations of a product's benefits relative to its cost contribute to a higher likelihood of making a purchase. That perceived value, influenced by factors like product performance and economic preferences, plays a crucial role in stimulating impulse buying, with strategies like promotional purchase restrictions enhancing perceived value and triggering excitement that satisfies impulse purchase intentions (Zhang at el., 2022).

**Hypothesis 8 (H8) - Perceived value have a significant impact on impulse buying decision**

This research model is shown in figure 1

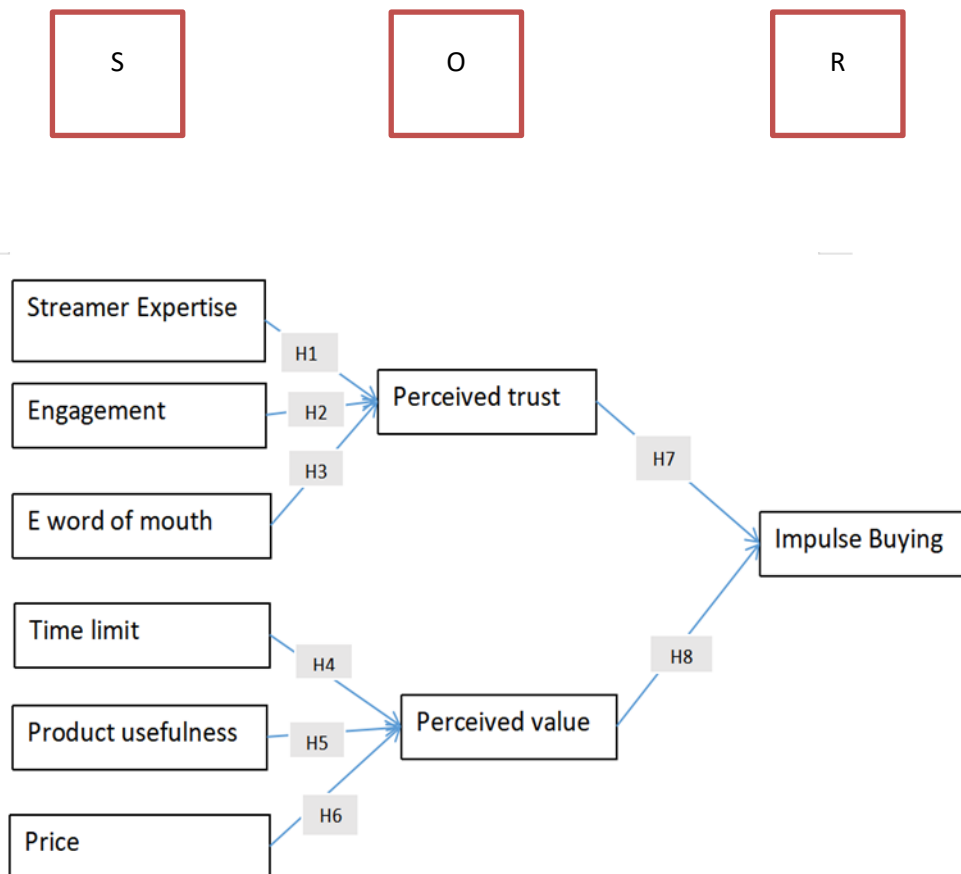


Figure 1 :Research model.

## **4 | METHODOLOGY OF THE STUDY**

### **4.1 Types of Research Designs**

In order to reach firm findings regarding the links between the variables, the study used a conclusive research design. In order to evaluate the current conditions, the study used a cross-sectional technique, gathering data at a specific moment in time. A representative sample was given a standardized questionnaire to complete in order to guarantee a thorough grasp of the beliefs, attitudes, and actions of the target population. To evaluate and derive conclusions from the gathered data, statistical analysis was performed using descriptive statistics and inferential tests. This design made it possible to precisely investigate the research objectives and gave rise to a strong basis for drawing conclusions from the study's findings.

### **4.2 Types of Information**

**Primary Data:** This study examined how live streaming affected consumers' impulsive purchasing habits using a quantitative methodology and surveys. Obtaining numerical data for analysis and statistical judgments was the main goal. The purpose of the survey instrument was to gather pertinent data on customer behavior during live streaming sessions, with a focus on impulsive purchasing behaviors. This method made it possible to evaluate live streaming's impact on customer purchase decisions quantitatively.

### **4.3 Sources of Data**

**Primary Source:** The primary information in this study refers to the survey responses obtained directly from participants with prior experience in live streaming commerce. These responses form the basis for the analysis and conclusions drawn in the study. These responses were gathered through the distribution of the questionnaire online (Google Forms) and offline (university students and local residents).

**Secondary Source:** The body of research on live streaming commerce established the study's concepts and gave background knowledge. Every measuring item was selected with slight alterations to meet the live streaming commerce scenario from earlier literature. Perceived Value assessments were taken from Kamtarin (2012), Zhang et al. (2022), Peng & Liang (2013), and Ali & Bhasin (2019). Zhang et al. (2022), Arora et al. (2023), Ming et al. (2021), Huang & Suo (2021), Yang et al. (2022) are the sources of perceived trust, while Kamtarin (2012), Iqbal & Ramish (2023), and Zhang et al. (2022) are the sources of impulse buying. Appendix A has further questionnaire items.

### **4.4 Data Collection Method**

The study examines the impact of live streaming on the purchasing behavior of individuals who have participated in online shopping through live streaming. The study encompassed both online and offline channels, with offline initiatives targeting specific audiences and online approaches employing Google Forms for enhanced accessibility. A structured questionnaire was used to gather information about how participants use live streaming and how it affects their buying decisions. Participants were informed of the study's purpose, participation was voluntary, and confidentiality was maintained. The data were collected between October 25 and November 10, 2023. However, the survey method has some problems, like people not remembering things correctly and biases in self-reporting.

### **4.5 Scaling Technique and Questionnaire Design**

The study utilized a five-point Likert scale to evaluate respondents' agreement with assertions. The questionnaire consisted of three components: the study's objective and ethical declaration, which included voluntary participation, data collection devoid of source identification, rigorous data protection protocols, and prior communication of the study's intent. The demographic data of respondents included gender, age, education, occupation, and monthly income. The last part measured every variable that was used in the model. The questionnaire was developed using established literature and validated scales to ensure reliability and validity.

#### 4.6 Sampling Design:

The sampling frame for this study consisted of persons who had previous experience in live streaming commerce.

**Sampling Method:** A non-probability sampling method was utilized, indicating that participants were chosen based on their availability and willingness to participate rather than through random selection.

**Sample Size:** This study obtained a total of 285 valid survey responses, representing the number of individuals included in the study.

**Sample Description:** The study gathered demographic data on variables including gender, age, greatest level of education, occupation, income, and online buying behavior. These elements contribute to the context of the survey replies and enable a more intricate analysis.

No	Characteristics	Category	Frequency	Percentage
1	Gender	Male	108	62.1%
		Female	177	37.9%
2	Age	Under 18	0	61.1% 38.9%
		18-24	174	
		25-30	111	
		31 -40	0	
		Above 40	0	
3	Highest Education (completed)	SSC/HSC	90	31.6%
		Undergraduate	81	28.4%
		Graduate	60	21.1%
		Post graduate	54	18.9%
		PH.D.	0	
		Other	0	
4	Occupation	Unemployed	26	9.1%
		Student	225	78.9%
		Jobholder	30	10.6%
		Businessman	4	1.4%
5	Income	0-10000	228	80%
		10001-20000	24	8.4%
		20001-30000	9	3.2%
		30001-40000	4	1.4%
		40001-50000	4	1.4%
		More than 50000	16	5.6%

**Table 1: Demographic description**

#### 4.7 Method Used for Data Analysis

**Data Analysis Method:** The selected approach for data analysis was Partial Least Squares (PLS). Partial Least Squares (PLS) is a statistical method that is appropriate for evaluating the psychometric characteristics of constructs, investigating connections between variables, and particularly good for making predictions and developing theories within the framework of the study's research model. Furthermore, the method possesses a distinct benefit in handling nonparametric data, without imposing limiting assumptions about the distribution of the data. In addition, the statistical tool Smart PLS employed in this approach can be utilized to construct a model for latent variables and offers the benefits of having complete data and a straightforward operation. Hence, we employed Partial Least Squares Structural Equation Modeling (PLS-SEM) for the purpose of data analysis.

**5 | QUANTITATIVE DATA ANALYSIS**

**5.1 Assessment of the Measurement Model**

The study utilized the partial least squares (PLS) methodology for data analysis, enabling the identification of relationships between conceptually significant factors and their corresponding measures. We used SmartPLS 4 to test the measurement model and check for reliability, convergent validity, and discriminant validity. The study utilized a two-phase methodology, evaluating construct validity and reliability through confirmatory factor analysis (CFA) and empirically testing the research hypothesis via structural equation modeling. The results showed that all of the constructs had Cronbach's alphas greater than 0.7, which means that the constructs were reliable. The standardized factor loadings for numerous measurement items surpassed 0.70. To check for discriminant validity, we compared the square root of each construct's Average Variance Extracted (AVE) with the correlations between the constructs. This showed that there was enough convergent validity. The study identified common method variance (CMV) as a potential risk, utilizing the Harman single factor test to evaluate method bias.

Construct	Items	Loadings	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Streamer Expertise	SE1	0.789	0.801	0.832	0.863	0.563
	SE2	0.836				
	SE3	0.763				
	SE4	0.800				
	SE5	0.510				
Engagement	E1	0.824	0.797	0.811	0.861	0.559
	E2	0.833				
	E3	0.586				
	E4	0.793				
	E5	0.669				
Word of Mouth	WOM1	0.768	0.799	0.804	0.861	0.555
	WOM2	0.837				
	WOM3	0.681				
	WOM4	0.765				
	WOM5	0.657				
Time Limit	TL1	0.625	0.753	0.764	0.834	0.503
	TL2	0.751				
	TL3	0.776				
	TL4	0.742				

	TL5	0.639				
Product Usefulness	PU1	0.739	0.736	0.747	0.824	0.584
	PU2	0.721				
	PU3	0.743				
	PU4	0.644				
	PU5	0.624				
Price	P1	0.673	0.717	0.744	0.814	0.573
	P2	0.789				
	P3	0.714				
	P4	0.736				
	P5	0.588				
Perceived Trust	PT1	0.673	0.742	0.746	0.827	0.590
	PT2	0.769				
	PT3	0.653				
	PT4	0.699				
	PT5	0.700				
Perceived Value	PV1	0.735	0.772	0.774	0.846	0.524
	PV2	0.750				
	PV3	0.662				
	PV4	0.766				
	PV5	0.702				

**Table 2 : Construct on reliability and validity**

	Engagement	Impulse Buying	Perceived Trust	Perceived Value	Price	Product usefulness	Streamer Expertise	Time Limit
Engagement								
Impulse Buying	0.739							
Perceived Trust	0.529	0.567						
Perceived Value	0.678	0.699	0.591					

Price	0.689	0.652	0.529	0.82				
Product usefulness	0.601	0.583	0.807	0.62	0.592			
Streamer Expertise	0.427	0.213	0.434	0.441	0.274	0.481		
Time Limit	0.558	0.51	0.704	0.464	0.48	0.646	0.345	
WOM	0.526	0.555	0.336	0.498	0.715	0.506	0.21	0.402

**Table 3: Discriminant validity**

**5.2 Analysis of the Structural Model**

Bootstrapping in Smart PLS was used to test the hypotheses proposed in this study, and 5000 sampling times were used to ensure the stability of the data results as well as the level of significance between the calculated variables. The original sample size of this study was 285, and the indicators, such as path coefficients and significance results, are shown in Table 4. The results of the structural path analysis are presented in Table 5 and Figure 2.

The structural model suggests Streamer Expertise is positively related to Perceived Trust. (Path Coefficient: 0.213, P < 0.05). This relationship is statistically significant. (H1 is supported) Engagement is positively related to Perceived Trust (Path Coefficient: 0.302, T statistics: 4.541), here this positive path coefficient suggests that higher levels of Engagement are associated with increased Perceived Trust. The T statistics being significant (P < 0.05) indicates that this relationship is statistically significant (H2 is supported).

Positive Word of Mouth is associated with increased Perceived Trust, and this relationship is statistically significant as Path Coefficient: 0.115, (P < 0.05). (H3 is supported)

Time Limit is associated with increased Perceived Value, but the relationship is not statistically significant (Path Coefficient: 0.068, P-value: 0.221, This p-value is greater than the conventional significance level of 0.05). (H4 is not supported)

Product Usefulness is positively related to Perceived Value (Path Coefficient: 0.229). The T statistics being significant (P < 0.05) indicates that this relationship is statistically significant (H5 is supported). Price is positively related to Perceived Value (Path Coefficient: 0.497), this positive path coefficient suggests that higher Price is associated with higher Perceived Value. This relationship is statistically significant as the T statistics being significant (P < 0.05). (H6 is supported). There is a positive relationship between Perceived Trust and Impulse Buying (Path Coefficient: 0.273, P < 0.05). Higher levels of Perceived Trust are associated with higher levels of Impulse Buying, and this relationship is statistically significant. (H7 is supported)

Perceived Value is positively related to Impulse Buying (Path Coefficient: 0.423). The T statistics being significant (P < 0.05) indicates that this relationship is statistically significant (H8 is supported).

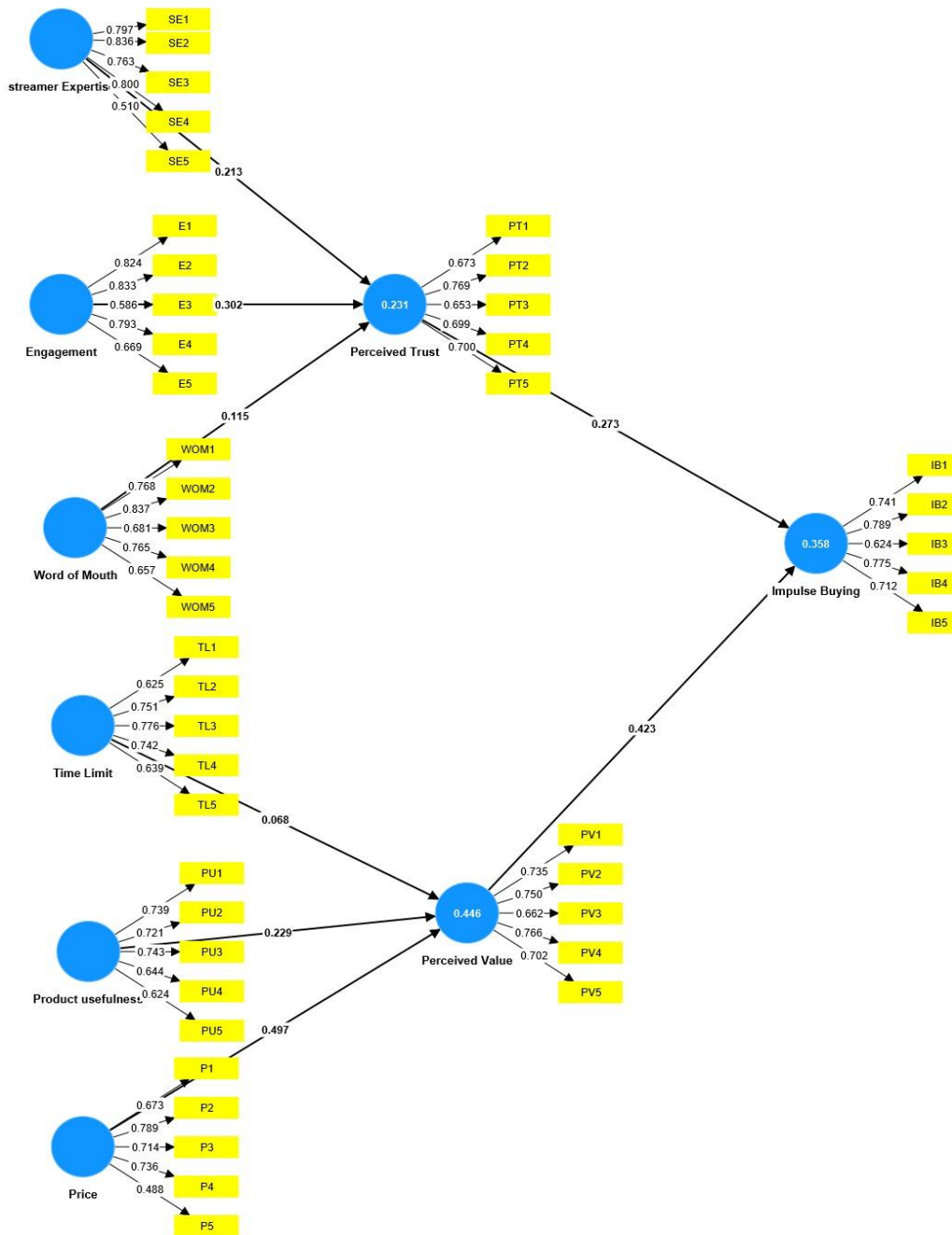
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
Streamer Expertise -> Perceived Trust	0.213	0.217	0.074	2.87	0.004
Engagement -> Perceived Trust	0.302	0.304	0.067	4.541	0

Word of Mouth -> Perceived Trust	0.115	0.13	0.055	2.113	0.035
Time Limit -> Perceived Value	0.068	0.074	0.056	1.223	0.221
Product usefulness -> Perceived Value	0.229	0.232	0.075	3.048	0.002
Price -> Perceived Value	0.497	0.497	0.061	8.178	0
Perceived Trust -> Impulse Buying	0.273	0.279	0.068	4.024	0
Perceived Value -> Impulse Buying	0.423	0.424	0.066	6.413	0

**Table 4: Path coefficients**

NO	Research Hypothesis	Supported (Yes/No)
1	Streamer Expertise has a significant positive impact on consumers' perceived trust	Yes
2	Engagement has a significant positive impact on consumers' perceived trust	Yes
3	E word of mouth has a significant positive impact on consumers' perceived trust	Yes
4	Time limit has a significant impact on consumers' perceived value	No
5	Product usefulness has a significant positive impact on consumers' perceived value	Yes
6	Price has a significant impact on consumers' perceived value	Yes
7	Perceived trust have a significant impact on impulse buying decision	Yes
8	Perceived value have a significant impact on impulse buying decision	Yes

**Table 5 : Hypothesis test**



**Figure 2 : The results of the hypothesis test**

Furthermore, this study evaluated the explanatory power of the proposed model based on the R2 value. The R2 value represents the proportion by which the exogenous variables account for the variability in the endogenous variables, serving as an indicator of the model's overall predictive capability. (Falk & Miller, 1992) suggested that the minimum acceptable value for the coefficient of determination (R2) for exogenous variables should be greater than 0.10 in order to be considered statistically significant. The regression analysis in this research demonstrated the models' efficacy in elucidating the variability in three crucial variables: Impulse Buying (35.8%), Perceived Trust (23.1%), and Perceived Value (44.6%). The R-square values represented the amount of variance explained by the independent variables. The Perceived Value in this model possessed a significant and effective ability to provide clear explanations. These findings provided vital insights into the interactions between these variables.

## **6 | CONCLUSION**

This study examines impulsive purchasing behavior in live streaming commerce, specifically within the Bangladeshi market context. It looks at the factors that affect how people act as consumers, such as their knowledge of the product, their preference for it, the time they have available, how useful they think it is, and how they think it costs. Based on the S-O-R (Stimulus–Organism–Response) theoretical framework, the study defines perceived trust and perceived utility as intermediary cognitive and emotional states that facilitate the relationship between external stimuli and consumer responses. The research model undergoes empirical validation via Partial Least Squares Structural Equation Modeling (PLS-SEM), ensuring strong statistical support for the proposed hypotheses.

The results indicate that women aged 18 to 30 demonstrate a greater propensity for impulsive purchasing during live streaming sessions with reputable streamers and tailored endorsements. In the context of streaming, expertise and authenticity create a sense of trust, which in turn strengthens emotional connection and the desire to buy. Moreover, price appeal and perceived product utility are significant factors influencing perceived value, whereas time constraints have a relatively minor effect on impulsive behaviors.

The study highlights the significant relationship between perceived trust and perceived value, stressing that content that is trustworthy, interactive, and informative can lead to impulsive buying. Sharing positive word-of-mouth makes this relationship even stronger, making consumers feel and think more in line with the brand. So, marketers who want to reach this group should come up with personalized plans that include using credible influencers, clear communication, and hands-on experiences to encourage people to buy things on the spot and keep them coming back for more in the competitive world of live streaming commerce.

### **6.1 Findings and discussion**

The study looks at how people in Bangladesh's e-commerce sector act, with a focus on live streaming. The study found that streamers' knowledge, interaction with viewers, and endorsements are all important for building trust with customers. The perceived value of a product and its price positively influence this behavior. The duration of live streaming events had a negligible effect on perceived value, suggesting that consumers might favor different criteria.

Price promotion, time limits, participation, and word of mouth all have a positive effect on impulsive buying decisions. Price promotion is more powerful than other factors because it makes customers more likely to buy more. Customer reviews and recommendations boost trust and reliability, which leads to better buying behavior. Engaging with customers, streamers, and consumers can enhance emotional well-being, thereby influencing purchasing behaviors.

The research highlights the importance of perceived trust and value in influencing impulsive buying behaviors, while acknowledging possible constraints due to demographic bias in the sample, which primarily comprises economically disadvantaged young girls. Future research may examine a broader demographic spectrum to deepen the understanding of the impact of live streaming on diverse consumer groups. Facebook is the most popular place to watch live streams, which shows how important it is for businesses to carefully plan their marketing.

### **6.2 Implications and Recommendations**

This research investigates impulse buying behavior in live e-commerce, an innovative concept in Bangladesh. It emphasizes the importance of analyzing consumers' impulsive purchasing behaviors in this context and formulates a theoretically grounded relationship between perception and impulsive buying through the S-O-R framework. The research model investigates the determinants influencing perceived value and trust, indicating that perceived trust is positively impacted by word-of-mouth, engagement, and knowledge.

The study emphasizes the importance of live streamers in live streaming commerce, as they leverage their expertise to deliver concise presentations, engage with viewers in real-time, and entice buyers through positive endorsements. Consumers care more about how well the product works and how much it costs than about how long it takes to get it. To make their target audience feel more trust, marketers could use the knowledge of streamers, encourage participation, and encourage positive word-of-mouth. Also, it's

important to stress how useful the product is and use competitive pricing strategies to make it seem more valuable.

Bangladesh's most popular social media site is Facebook. Half of the people aged 18 to 30 who use it watch live streams or use live-stream suggestions before making a purchase. If your organization wants to reach young people and young adults, Facebook should be your main platform because it doesn't cost much.

Some ideas for future marketing strategies include building relationships with influencers, making content that people want to read and coming up with pricing strategies that are appealing to students who don't have a lot of money. To stay relevant and get more customers involved, you need to constantly evaluate and respond to the changes that happen on live streaming platforms.

### **6.3 Limitations and Scope for Further Study**

The study provides valuable insights into client behavior within Bangladesh's live streaming sector; however, it has limitations. When looking at the results and using them, you need to keep these limits in mind:

**Demographic bias:** The study focused on female students aged 18 to 30 from low-income backgrounds. Demographic bias means that different demographic groups have different habits and interests, which makes it hard to apply the results to everyone.

**Time limits:** The study talks about how customers act. Live streaming customer behavior may develop and expand beyond this temporal limitation. Longitudinal studies might elucidate shifts in consumer behavior.

The study focused on Facebook because it is the most popular platform for live broadcasting. This helps us understand how people use Facebook, but it might not be true for other sites. Future research may incorporate platform-specific information for enhanced comprehension.

Errors in memory and the desire to please others may change the study's self-reported results. Participants may provide more socially acceptable responses, thereby impacting the accuracy of the results.

Limited the study did not take into account cultural factors that could affect Bangladeshi customers' buying decisions. The area's cultural diversity may help us understand why people buy things.

They didn't really think about the economy or other outside factors. We need to take these outside factors into account when we think about the problems because they can change how people act and what they buy on impulse.

This article has a lot of problems, even though there are new findings and suggestions. The differing opinions of those who took the online survey may have had an impact on the results of this study. We will add offline filling channels to this study to get a better idea of how customers naturally respond to in-person e-commerce live broadcasts and get more complete results.

The limitations of this study underscore the necessity for further research. To examine the cultural and external factors influencing consumer behavior in Bangladesh's emerging e-commerce sector, subsequent research must employ a more heterogeneous sampling methodology, tackle common method variance, and conduct comparisons across platforms, product categories, and generational cohorts. Considering the widespread presence of online shopping platforms in numerous countries, subsequent research may investigate impulsive purchasing across various cultures and demographics. This cross-sectional study gathered and examined samples concurrently. Future longitudinal studies may yield more compelling and advantageous results.

**APPENDIX**

**Appendix A - Questionnaire item**

<b>Construct</b>	<b>Variable</b>	<b>Measurement Items</b>	<b>Literature</b>
Streamer Expertise	Perceived expertise	I perceive the streamer as knowledgeable in the subject matter.	Iqbal & Ramish (2023) Lee & Chen (2021)
	Demonstration/prove	The streamer demonstrates expertise in the products or topics.	
	Trust on streamer recommendation	I trust the streamer's recommendations due to their expertise.	
	Streamer skill	I feel the streamer is skilled in the field	
	Streamer expertise	I feel the steamer is expert to communicate	
Engagement	Interact with streamer	I actively interact with the content during the live stream.	Ming, Jianqiu at el. (2021) Huang & Suo(2021) Yang, Cong Cao at el.(2022)
	Participation in discussion	I participate in discussions and comments during the stream.	
	Share feedback	I will share my shopping experience and feelings with other consumers.	
	Easier to communicate	I can communicate with other consumers smoothly.	
	Engagement with content	I am engaged with the streamer's content and activities.	
E-word of Mouth	Review & comment	I often read and consider online reviews and comments about products.	Hidayanto, Ovirza at el.(2017) Zalloum, Alghadeer at el.(2019) Kamtarin (2012)
	Recommendations from friends or family	I value and consider recommendations from friends and family when making purchases.	
	Trust on others opinion	I trust recommendations and opinions from other online users.	
	Influence	I am influenced by electronic word of mouth when making decisions.	
Time Limit	Time pressure	I feel that streamers usually give a short promotional period.	Zhang, Wang at el.(2022) Peng & Liang (2013) Huang & Suo (2021)
	Promotion time limit	Limited-time promotions or offers often catch my attention.	
	Urgency	The closer I get to the end of a limited-time sale, the time pressure pushes me to buy as quickly as possible.	
	Indecision	I feel like I have less time to decide if I want to buy something that's on sale live	
	Special offer	I am more likely to buy when there's a time limit on a special offer.	
Product Usefulness	Necessity	The product in live streaming commerce is necessary.	Raeda, Altaherb at el.(2023) Lee & Chen (2021)
	Usefulness to me	I find the products or services featured in the stream useful to me.	
	Need satisfaction	I believe the showcased products can satisfy my needs or wants.	
	Perceived benefit	I perceive the products as practical and beneficial for me.	
Price	Product price	The price of products during the live stream affects my purchase decisions.	Piri, Lotfizadeh (2015) Lee & Chen (2021) Wang, Hsiao at el. (2023) Huang & Suo (2021)
	Promotion	I am easily attracted by promotions.	
	Price promotion	When it comes to price promotions, I cannot help buying	
	Reasonable pricing	I consider whether the prices are reasonable before buying.	

<b>Construct</b>	<b>Variable</b>	<b>Measurement Items</b>	<b>Literature</b>
	Impact of price	Price plays a significant role in my impulse buying choices.	
Perceived Trust	Trust on platform	I trust the live streaming platform to provide safe and secure transactions.	Zhang at el.(2022) Zalloum at el.(2019) Kamtarin (2012) Iqbal & Ramish (2023) Ming at el. (2021)
	Confidence on the system	I have confidence in the reliability and trustworthiness of the platform.	
	Trust on streamer	I trust the streamer and believe their recommendations are honest and reliable.	
	Trust on merchant	If there is a problem with the product, I believe the merchant will try his best to provide me with a solution.	
	Information & quality	I think e-commerce platforms can provide enough commodity information and quality services.	
Perceived Value	Perceived value	I perceive the products or services offered as a good value for the price.	Ali & Bhasin (2019) Zhang, Wang at el.(2022) Peng & Liang (2013) Kamtarin (2012) Piri, Lotfizadeh (2015) Wang, Hsiao at el. (2023)
	Need	I think the products recommended in the e-commerce live commerce just meet my needs	
	Worth my money	I believe I get my money's worth when I buy items showcased in the stream.	
	Good feeling	When I participate in a sale, I feel good about getting a good deal	
	Source of valuable products	I see the live stream as a source of valuable and worthwhile products.	
Impulse Buying	Impulse buying behavior	I often make unplanned purchases during or after watching live streams.	Zhang, Wang at el.(2022) Arora ,Bhatt at el.(2023) Ming, Jianqiu at el. (2021) Huang & Suo (2021) Yang, Cong Cao at el.(2022)
	Impulsive	I frequently buy products on a whim, without prior intention.	
	Mood	I am completely influenced by the mood of the moment when I make the purchase	
	Strong desire	In the process of shopping, I have a strong desire to buy some goods that I would not have intended to buy	
	Live stream effect	I am inclined to make impulsive purchases as a result of live streaming	

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