The Influence of Psychological Factors on Customer Motivation to Adopt Mobile Live-Streaming in Marketing Operations

Received: March 14, 2024 / Received in revised form: November 23, 2025 / Accepted: December 3, 2025

*Liu Liang**
Liaoning Vocational University of Technology
Peng Wei
Assumption University of Thailand

Abstract

The present study meticulously examines the profound impact of psychological factors—specifically the Big Five personality traits—on online customers' motivation to adopt mobile live-streaming marketing platforms. Drawing upon the established Technology Acceptance Model (TAM) and the critical dimension of Trust Theory, a robust theoretical framework was developed to investigate how Extraversion, Agreeableness, Openness, Conscientiousness, and Neuroticism differentially influence customers' perceived needs, including Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Trust (TR), and the ultimate motivation to adopt. Hypotheses were rigorously tested using SmartPLS software on a sample of highly engaged digital natives. The empirical evidence illuminates a compelling nexus: the exploratory disposition inherent in Openness and the methodical rigor of Conscientiousness are the primary psychological antecedents shaping Perceived Usefulness. Concurrently, the social vitality of Extraversion, the harmonious inclination of Agreeableness, and the receptive nature of Openness serve as the foundational pillars for the cultivation of Trust in this synchronous social commerce environment. Crucially, the findings reveal that while most variables exert significant direct effects, Perceived Ease of Use (PEOU) is rendered non-significant, a finding attributed to the sample's high digital proficiency, which necessitates a theoretical refinement of TAM in the context of advanced mobile interfaces. This study offers a nuanced, ranked model of psychological influence, significantly enhancing the theoretical understanding of synchronous social commerce adoption. Finally, practical strategies are discussed to enhance the operational performance of mobile live marketing platforms and facilitate greater customer acceptance of mobile technology.

Keywords: Mobile Live-Streaming Marketing, Big Five Personality Traits, Technology Acceptance Model, Trust Theory, Customer Acceptance and Motivation, Synchronous Social Commerce

Liu Liang (Ph.D. in Information Technology, Assumption University of Thailand, 2021; E-mail: au2007@hotmail.com). Currently holding the position of Lecturer at Liaoning Vocational University of Technology, China. and Peng Wei (Undergraduate Student, Assumption University of Thailand, expected graduation 2026)

***Corresponding author's Email:** au2007@hotmail.com

Introduction

Compared to traditional e-commerce, mobile live-streaming marketing operations possess unique characteristics such as wireless internet access, portability of mobile terminals, ubiquitous services, *most critically and real-time social presence* (L. Liu et al., 2020; Z. Liu et al., 2020). These features have *catalyzed the rapid ascent of mobile live-streaming marketing, transforming it from a niche channel into a dominant paradigm of digital commerce*. As of 2021, CNNIC's data revealed that China's internet user-base had grown to a staggering 1.032 billion with 99.7% using mobile terminals, leading to the widespread adoption of network videos, short videos, online offices, and shopping platforms in China (CNNIC, 2021). This *seismic shift in consumer behavior poses a critical imperative* for service providers: to *precisely identify the psychological and technological factors that govern customer acceptance* if they are to survive and succeed in this highly competitive, high-velocity market.

Understanding customers' motivation to adopt a new technology is *not merely a strategic advantage but the epistemological core* for the successful formulation of effective measures in mobile live-streaming marketing operations(Abbasi et al., 2021; Chen et al., 2021; Williams et al., 2010). Previous research has predominantly focused on techniques and the influence of technical environments on user behavior such as the information systems success model, diffusion of innovation theory, and the theory of planned behavior (Belkhamza & Azizi Wafa, 2012). However, these studies have overlooked the impact of users' *enduring personality traits* on mobile platform adoption despite evidence from psychology research that highlight its importance (Prastiawan et al., 2021; Yousaf et al., 2021). This study hence *endeavors to bridge this critical gap*. We investigate how *the five cardinal dimensions of personality—Extraversion, Agreeableness, Openness, Conscientiousness, and Neuroticism*—influence customer motivation in adopting mobile live-streaming marketing by integrating the foundational *Technology Acceptance Model (TAM)* with the essential construct of Trust as a mediating factor. *By synthesizing these psychological and technological perspectives, this research aims to provide a more holistic and human-centric understanding of adoption behavior in the dynamic realm of synchronous social commerce.*

Related Literatures Reviews

Big Five Personality Traits

Personality, *the enduring constellation of an individual's inner nature and characteristic behavior* (Walczuch & Lundgren, 2004), , is a *powerful determinant of consumer choice*.

Given the lack of universal consensus on its definition and composition, this study employs the robust and widely validated Five Factor Model (FFM), or the Big Five Personality Traits (BFP), to understand the behavioral characteristics of customers in the mobile live-streaming marketing environment (McCrae & Costa, 2011). Specifically, the advantage of utilizing the BFP as independent variables lies in its broad recognition and the extensive body of research that has identified and demonstrated their existence and their corresponding effects on behaviors. This model provides a comprehensive network for understanding individual differences that profoundly influence decision-making processes (Abbasi-Asl & Hashemi, 2019; Quintelier, 2014).

The BFP has been shown to possess a strong relationship with consumer behavior: individuals

with high Openness may exhibit a greater willingness to try new technologies, while those with a high sense of Conscientiousness may be more cautious and thoughtful in their decisions (El Othman et al., 2020; Özbek et al., 2014). Furthermore, the stability of the BFP model demonstrates its suitability for studying long-term consumer behavior and adoption motivation, especially in the context of mobile live marketing operations (Hermes et al., 2022). The inclusion of these five traits provides a more refined understanding of how individual personality differences affect the psychological factors that drive customer adoption in this specific context (Abbasi-Asl & Hashemi, 2019; El Othman et al., 2020; Hermes et al., 2022; McCrae & Costa, 2011). Thus, the BFP model offers not only a powerful theoretical framework but also a *new vision* for examining how individual differences modulate consumer behavior performance.

The five personality traits are as follows:

1. **Extroversion:** Extroverts typically exhibit heightened attentiveness towards external stimuli, displaying sociability, vitality, optimism, amiability, and self-assurance. Consequently, customers possessing these traits are more socially inclined and adaptable in transitioning from traditional e-commerce to a mobile live marketing environment, often exhibiting a greater propensity for trust in service providers due to their inherent social orientation (Zhou & Lu, 2011).

2. **Agreeableness:** This trait signifies an individual's capacity to appreciate and respect the values and beliefs of others, displaying a preference for harmony and conflict avoidance (Templer, 2012). This study posits that such customers are more inclined to place trust in service providers and exhibit a higher likelihood of perceiving mobile live marketing as user-friendly and practical, driven by a desire for smooth, non-confrontational transactions.

3. **Openness:** The trait of Openness is characterized by individuals who possess an exploratory and receptive attitude, actively engaging their imaginations and demonstrating independent thinking that transcends traditional norms (Ab. Malik et al., 2018). Customers with these attributes naturally gravitate towards novel mobile live marketing services, exhibiting heightened expectations for user-friendliness and practicality. Moreover, their cognitive tolerance for ambiguity makes them more inclined to place trust in the novel mechanisms of the service provider.

4. **Conscientiousness:** This individual is characterized by personal reliance, meticulous attention to detail, and a sense of accountability. Individuals with high levels of conscientiousness typically exhibit organizational skills, strategic planning abilities, and consistency in their actions. For providers of mobile live marketing services, such customers are likely to demonstrate a strong inclination towards experiencing the process, establishing trust relationships relatively easily, and meticulously evaluating the practicality and user-friendliness of specific mobile services (Tseng et al., 2021).

5. Neuroticism: This trait is often characterized by emotional instability, leading to a propensity for experiencing pessimism and low self-esteem. Neurotic customers face inherent disadvantages in the transaction process due to a heightened sense of Perceived Vulnerability and chronic Risk Aversion (Jeon et al., 2021). As a result, it becomes exceptionally challenging for them to exhibit a high level of trust towards mobile live marketing service providers, and they often demonstrate limited awareness regarding

the perceived usefulness and ease of use associated with these platforms.

Instrumentalism of Technology and the Technology Acceptance Model (TAM)

Instrumentalism in technology emphasizes individuals' influence and application of technology, encompassing the theories of "technology neutrality" and "technology value load" (Feenberg, 2002; Miller, 2021). According to the theory of technology neutrality, technology serves as a medium and tool for humans to transform the world, with its usage being determined solely by humans (Fabra & Montero, 2023). A tool itself is devoid of life or consciousness, thus wholly neutral—it can be wisely or unwisely employed to achieve outcomes that may be wise or unwise, beautiful or ugly, helpful or harmful (Fabra & Montero, 2023; Miller, 2021; Putranti, 2022). Prominent proponents of technological neutrality include Aristotle, Jaspers, and Messain. On the other hand, the theory of technology value load posits that technology inherently carries a value orientation towards good and evil (Miller, 2021). As people develop technology to fulfill their needs and desires, they project their values onto it—both positives and negatives (L. Dong, 2015). Undoubtedly, the ongoing debate between these two theories centers on whether technology can embody human values; nevertheless, irrespective of this argument, both perspectives perceive technology as a channel to fulfill human necessities.

In the context of this discourse, the researcher focused on two theories proposed between 1975 and 1985, namely, the theory of rational action and the theory of planned action. These theories effectively demonstrate that an individual's behavior is significantly influenced by their intentions to act (Ajzen, 1985; Hill et al., 1977). In other words, individual behavioral attitudes and subjective norms are two factors that can predict a person's behavioral intention (Pai & Huang, 2011). The former reflects an individual's positive or negative affect towards acting, while the latter arises from their perception and control over the social environment. Perceived control, a critical factor in the theory of planned behavior, is augmented when the intention to control changes in behavior is greater (Pratkanis et al., 2014)

Building upon these behavioral theories, Davis developed the Technology Acceptance Model (TAM) to demonstrate the correlation between intermediate variables, perceived technology value, and technology use behavior (Davis, 1989). TAM posits that users' attitudes and behaviors towards new technologies are heavily influenced by Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) (Davis, 1989; Davis et al., 1989).

In this study, TAM was considered as a mediating variable. The selection of TAM as a mediator is due to the following reasons. First, TAM is already a well-developed theoretical framework; it is widely used to understand and predict individual acceptance and adoption of technology (Davis, 1989). Among them is the impact of perceived practicality and convenience on people's attitudes and behaviors towards technology as well as the relevance of customer adoption motivation in mobile live marketing operations (Camilleri & Falzon, 2021; Teo & Noyes, 2011). Second, TAM has been widely validated and applied in a variety of technology contexts. This then provides solid foundation in understanding the factors driving technology adoption (Adams et al.,

1992; Teo & Noyes, 2011). Therefore, TAM does not only provide a methodical approach to examine the psychological factors that shape customer acceptance enthusiasm, but also provides a clear and organized system to examine the associations between perceived value, perceived ease of use, behavioral intention, and attitude (Camilleri & Falzon, 2021; Teo & Noyes, 2011). In summary, relying on TAM as an intermediary framework for research topics can systematically and comprehensively understand the impact of psychological factors on customer adoption motivation in the specific context of mobile live marketing operations (Camilleri & Falzon, 2021).

The main factors influencing customer adoption in mobile live-streaming market operations as Shin et al. (2009) demonstrated are perceived usefulness and convenience, which was also discovered through the research of Ahuja and Khazanchi's (2016).

PU aims to improve the performance of mobile live-streaming market system usage and product information systems' efficiency (Adams et al., 1992; Camilleri & Falzon, 2021) while PEOU is the perception of the convenience of using a mobile live-streaming market system (Adams et al., 1992; Camilleri & Falzon, 2021; Davis, 1993). The ubiquitous nature of mobile commerce, real-time service, and personalized features can effectively create a comfortable trading environment for customers, thereby improving their purchasing efficiency and adding value to their experience (Prastiawan et al., 2021). Consequently, this study employs technology's perceived practicality and convenience to gauge the ease of use and usefulness in both work and life contexts as well as the enhancement of mobile live-streaming marketing performance.

Trust Theory

Trust refers to an individual's voluntary willingness to place themselves in a vulnerable position based on their positive expectations for the future (Mayer et al., 1995; Zhang, 2007). Trust has been identified as a critical factor in customer purchasing processes especially in online e-commerce platforms because it encompasses the customer's confidence in the business provider's competence, integrity, benevolence, and predictability (Gefen et al., 2003; Mayer et al., 1995). In other words, trust can be presented as a customer's willingness to rely on the seller's competence, honesty, and integrity in their exchange relationship (Morgan & Hunt, 1994). In the volatile, real-time environment of mobile live-streaming, trust is essential to reduce the high perceived risk and uncertainty inherent in transactions that lack traditional face-to-face interaction (Gefen et al., 2003). Therefore, trust plays an important role in mobile live-streaming marketing by reducing customers' perceived uncertainty and risks, thereby promoting their acceptance and use of the service (Aprilivianto et al., 2019; Armilawati , 2020; Mohammad, 2021; Rafique et al., 2014).

Several research also have proven that perceived ease of use, perceived usefulness, and trust present a high possibility of significantly influencing users' behavioral motivation (Akhter Shareef et al., 2009; Hagger, 2019; Hill et al., 1977; Putraa, 2020) while they also have important implications for e-commerce sellers and platform designers specifically in building and maintaining customer trust in online transactions.

Customer Acceptance Motivation

The success of mobile live-streaming marketing services is fundamentally contingent upon customer acceptance and motivation to engage. Key predictors of consumers' intention to use these platforms include perceived utility, ease of use, and social impact (Cai et al., 2018). Crucially, the high degree of interactivity is a distinguishing factor that significantly increases customer engagement and acceptance (Cai et al., 2018).

Furthermore, customer acceptance is heavily influenced by perceived enjoyment, perceived informativeness, and perceived credibility (X. Dong et al., 2023; Hubert et al., 2017; Wang & Wu, 2019). Trust, in turn, is facilitated by the host's reputation and the quality of the platform's content, which builds positive customer attitudes and behavioral intentions toward the mobile live-streaming marketing services. Engagement, characterized by the synchronous social presence, plays a vital role in strengthening customer acceptance of mobile live-streaming marketing services (Da Silva et al., 2021; Lv et al., 2022) .

In conclusion, widespread customer acceptance and motivation towards mobile live-streaming marketing services depend heavily on several factors, which include perceived usefulness, ease of use, social influence, interactivity, enjoyment, perceived informativeness, perceived credibility, customer engagement, and trust. By understanding these factors, businesses can develop effective marketing strategies that build positive customer attitudes and facilitate favorable behavioral intentions toward mobile live-streaming marketing services.

Theoretical Framework and Research Hypotheses

Based on the theories discussed above, a theoretical framework is presented in Figure 1.

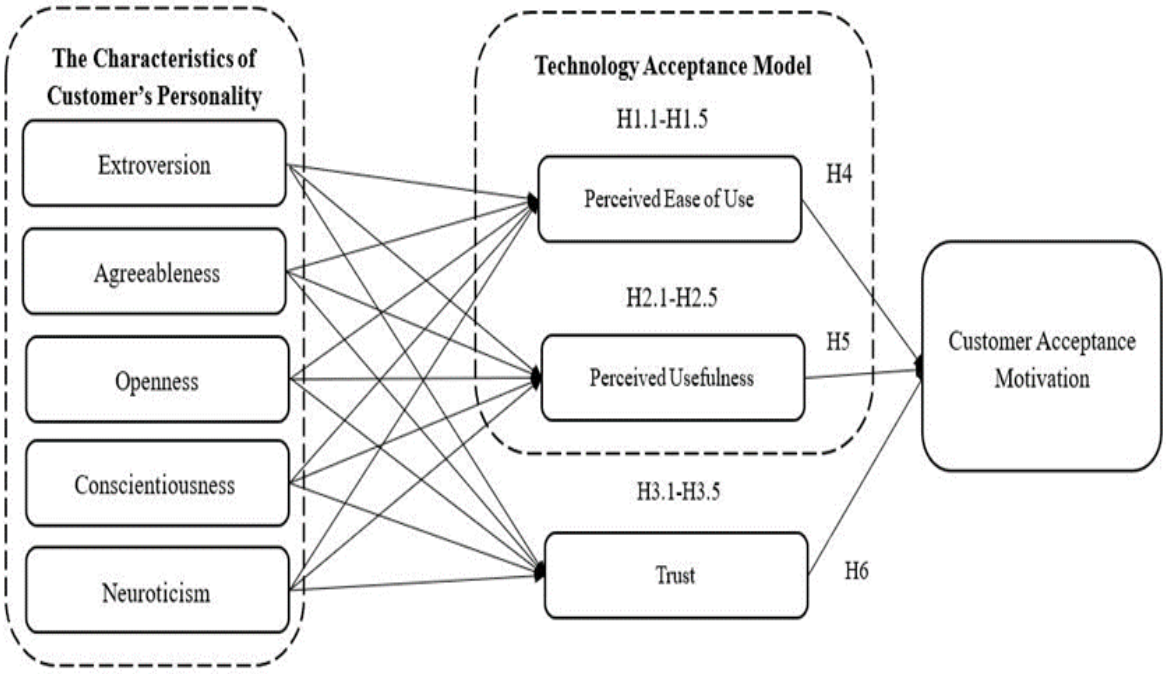

Figure 1 Theoretical Model

After a thorough review of related literatures and the formation of the theoretical framework, the following hypotheses were formulated:

H1.1-H1.5: The customer's personality (including extroversion, agreeableness, openness, conscientiousness, and neuroticism) significantly affects the customer's perception of the ease of use of mobile live-streaming marketing services.

H2.1-H2.5: The customer's personality (including extroversion, agreeableness, openness, conscientiousness, and neuroticism) significantly affects the customer's perception of the usefulness of mobile live-streaming marketing services.

H3.1-H3.5: The customer's personality (including extroversion, agreeableness, openness, conscientiousness, and neuroticism) significantly affects the customer's perception of trust in mobile live-streaming marketing services.

H4: Perceived ease of use significantly affects customer acceptance and motivation for mobile live-streaming marketing services.

H5: Perceived usefulness significantly affects customer acceptance and motivation for mobile live-streaming marketing services.

H6: Trust significantly affects customer acceptance and motivation of mobile live-streaming marketing services.

Data Preparation and Analyses

Methodology

Empirical testing of the hypotheses against data collected through a self-administered questionnaire was conducted. Chinese questionnaire versions were reviewed through a focus group composed of five experts who provided modifications to the items. They helped in clarifying each of the constructs' intended meaning in the theoretical model at the same time to improve the readability of the questionnaire. A pilot test was conducted with 20 suitable respondents to ensure no further modifications were required. The subjects were Chinese individuals with purchasing experience in online mobile live-streaming marketing platforms. The questionnaire was completed through the most professional online survey platform (wj.qq.com) and subsequently, 395 acceptable responses were collected. And the sample was intentionally skewed towards individuals with high digital literacy and frequent engagement with mobile platforms, reflecting the primary user base of synchronous social commerce.

The 395 participants' characteristics are depicted in Table 1, with descriptive statistics for their distributions.

Table 1 Descriptive statistics for participants' characteristics

Characteristic	Descriptive Statistics	Characteristic	Descriptive Statistics
Gender	*216 Males (54.7%)* *179 Females (45.3%)*	Age (Years)	*Mean = 32, Median = 33, Mode = 33 (22.8%), Standard Deviation = 10*
Education (Years)	*Mean = 15, Median = 16, Mode = 16 (59.7%), Standard Deviation = 2*	Occupation	*Mode = Full-time student (27.6%)*
Monthly Income	*Mean=12,000 Yuan, Standard Deviation =3,500*	Internet Usage (Hours/ Day)	*Mean = 5.5, Median = 5, Mode = 3 (18.7%), Standard Deviation = 3*
Daily Mobile Live-Streaming Engagement	*Mean = 2.5 hours, Standard Deviation = 0.8*	Device used to access the internet	*Mode = Smart Phone (66.8%)*
Average Monthly Online Expenditure (Yuan)	*Mean=1,850 Yuan, Standard Deviation =450*	Online shopping platforms used to purchase goods and services	*Mode = TikTok (38%)*

Table 1 shows that the primary participants are individuals who are young and middle-aged, who possess a high level of education, hold positions of responsibility, and have significant experience with online purchasing. The number of participants who spend an inordinate amount of time online through smartphones is increasing. Moreover, almost half of the respondents declared their monthly expenditure to be less than 3,000 Yuan. The online platform that the respondents most often use to shop is TikTok.

Smart PLS Analysis Results

Smart PLS 4.0, a tool designed for structural equation modeling based on the partial least squares (PLS) method, was utilized for data analysis (Hair et al., 2011). PLS focuses on maximizing the covariance between the latent predictor variable and the latent dependent variable, with an emphasis on identifying factors that have a significant impact on the dependent variable. It is also more suitable than the covariance-based approach for both exploratory and confirmatory research. In this study, five latent variables—extroversion, agreeableness, openness, conscientious-ness, and neuroticism—were examined as antecedents to customer acceptance and motivation to adopt mobile live-streaming platform, employing both exploratory and confirmatory approaches. The research primarily aims to understand each path coefficient and variance explained, rather than focusing on the overall model fit. Therefore, PLS is deemed a more appropriate method for this research compared to covariance-based tools.

Measurement Model Validation

The variable measurements related to reliability and validity from the theoretical model were evaluated. Table 2 displays the average variance explained (AVE), composite reliability (CR), and Cronbach's Alpha (α) of each variable in this study. AVE that is greater than 0.70 for each variable as well as the composite reliability (CR) and Cronbach's Alpha (α) that are greater than 0.80, signified strong reliability and convergent validity, respectively.

Table 2 Model Variables: Validity, Reliability, and Descriptive Statistics

Variables	Indicators	Indicator Loading	AVE	CR	α
Extroversion	EXT1	0.879	0.800	0.918	0.917
	EXT2	0.879			
	EXT3	0.909			
	EXT4	0.911			
Agreeableness	AGR1	0.897	0.767	0.857	0.848
	AGR2	0.865			
	AGR3	0.865			
Openness	OPE1	0.886	0.785	0.911	0.909
	OPE2	0.875			
	OPE3	0.868			
	OPE4	0.914			
Conscientiousness	CON1	0.887	0.802	0.920	0.918
	CON2	0.897			
	CON3	0.910			
	CON4	0.888			
Neuroticism	NEU1	0.951	0.891	0.889	0.878
	NEU2	0.936			
Perceived Ease of Use	EOU1	0.916	0.821	0.900	0.891
	EOU2	0.904			
	EOU3	0.897			
Perceived Usefulness	U1	0.848	0.786	0.934	0.910
	U2	0.900			
	U3	0.907			
	U4	0.890			
Trust	T1	0.903	0.789	0.911	0.911
	T2	0.885			
	T3	0.879			
	T4	0.887			
Customer Acceptance Motivation	CAM1	0.899	0.773	0.862	0.853
	CAM2	0.876			
	CAM3	0.863			

The correlation coefficients between each variable and the square root of AVE are presented in Table 3. Additionally, the correlations between each construct and its measure, represented by the square root of AVE, are displayed. The diagonal elements in parentheses indicate the correlations between constructs, while the off-diagonal elements represent other correlations. For the discrimination to be considered valid, the diagonal elements must surpass the entries of their corresponding rows and columns.

Table 3 Correlations of the Variables and the Square Root of AVE

Variables	Agreeableness	Customer Acceptance Motivation	Conscientiousness	Perceived Ease of Use	Extroversion	Neuroticism	Openness	Trust	Perceived Usefulness
Agreeableness	**0.876**								
Customer Acceptance Motivation	0.470	**0.879**							
Conscientiousness	0.442	0.503	**0.895**						
Perceived Ease of Use	0.044	0.049	-0.042	**0.906**					
Extroversion	0.457	0.500	0.563	-0.029	**0.894**				
Neuroticism	0.071	0.152	0.055	0.247	0.127	**0.944**			
Openness	0.499	0.523	0.591	-0.043	0.627	0.049	**0.886**		
Trust	0.360	0.518	0.591	0.019	0.498	0.033	0.532	**0.888**	
Perceived Usefulness	0.365	0.386	0.266	-0.017	0.347	-0.072	0.400	0.412	**0.886**

As depicted in Table 3, it is evident that each variable exhibits a stronger correlation with its respective measure than with any other variables, indicating robust discriminant validity.

Furthermore, “Internet Usage (Hours/Day)” was included as a marker variable to check common method bias at the data-collection stage (Williams et al., 2010). The measurement items of the marker variable were positioned between the ultimate dependent variable of customer acceptance and motivation and the independent variables to examine the potential standard method variance artifact. Upon data collection, minimal correlations were observed between the marker variable and other variables. Removal of the variable did not impact the significance of the original correlations among the study variables, suggesting that the data were not influenced by standard method variance.

Structural Model Testing

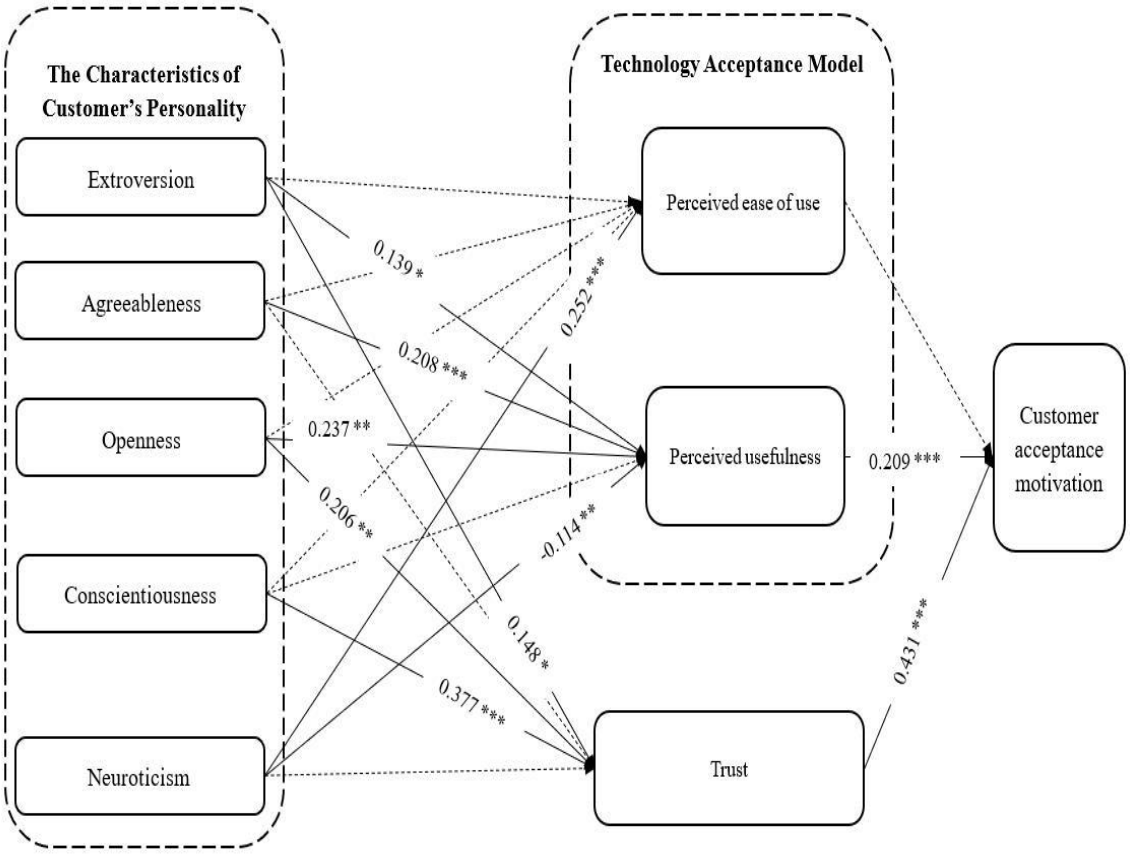

Figure 2 Data Analysis Results

Note: When t value > 1.96, the effect is statistically significant at a level of 0.05, which is shown by *. When t value > 2.58, the effect is statistically significant at a level of 0.01, shown by **. When t value > 3.29, the effect is statistically significant at a level of 0.001, shown by ***. " " means t value ≤ 1.96 without statistical significance.

The structural model test's outcomes are summarized in Figure 2. Five of the eighteen paths examined were found to be significant at $p < 0.001$, three at $p < 0.01$, and two at $p < 0.05$. All hypotheses, except for H1.1, H1.2, H1.3, H1.4, H2.4, H3.2, H3.5, and H4, are accepted. Specifically, the path coefficient of trust to customer acceptance and motivation has the highest value ($\beta = 0.431$). The path coefficients of agreeableness to perceived usefulness ($\beta = 0.208$), neuroticism to perceived ease of use ($\beta = 0.252$), conscientiousness to trust ($\beta = 0.377$), perceived usefulness to customer acceptance motivation ($\beta = 0.209$), and trust to customer acceptance and motivation ($\beta = 0.431$) are considerably high and significant at $p < 0.001$. The path coefficients of openness to perceived usefulness ($\beta = 0.237$), openness to trust ($\beta = 0.206$), and neuroticism to perceived usefulness ($\beta = -0.114$) are significant at $p < 0.01$, which revealed that perceived usefulness is

negative and directly influenced by neuroticism. However, the path from extroversion to perceived usefulness (β = 0.139) and the path from extroversion to trust (β = 0.148) are significant at $p < 0.05$.

The variance in perceived usefulness is explained by extroversion, agreeableness, openness, and neuroticism in the model, amounting to 22%. Forty-one percent of the variance in extroversion, openness, and conscientiousness is accounted for by trust. Perceived usefulness and trust, accounting for 31%, appear to be the primary precursors of customer acceptance and motivation as evidenced by the variance in such motivation. The effect of extroversion, agreeableness, openness, conscientiousness, and neuroticism on customer acceptance motivation is partially mediated by perceived usefulness and trust (β = 0.044, t value = 0.915). The Big Five Personality Traits were also analyzed with their relationship with customer acceptance and motivation, and it appears that perceived usefulness and trust moderate the conscientiousness and neuroticism traits.

Discussion

The findings of this study offer a profound, nuanced understanding of the psychological drivers of mobile live-streaming adoption, particularly in the context of a digitally proficient user base.

The Paradox of Ease: Re-evaluating TAM in Synchronous Social Commerce

The most compelling and theoretically significant finding is the non-significance of Perceived Ease of Use (PEOU) as a predictor of customer acceptance motivation. This result stands in stark contrast to the foundational tenets of the Technology Acceptance Model(Davis, 1993). However, this is not a failure of the model, but a paradigm shift in the digital acceptance landscape, one that is deeply rooted in the demographic profile of our sample.

Our sample, characterized by high educational attainment, significant daily mobile engagement, and high average expenditure, represents the archetype of the Digital Native with Cognitive Fluency. For this cohort, the fundamental usability of a mobile live-streaming platform is not a perceived challenge to be overcome, but a pre-requisite—an assumed baseline utility. The complex, interactive interface of live-streaming is navigated with such innate proficiency that the cognitive effort associated with "ease of use" is effectively zero. Consequently, PEOU ceases to be a discriminating factor in their decision to adopt. Their motivation is instead driven by the higher-order constructs of Perceived Usefulness (the value derived) and Trust (the risk mitigated). This finding necessitates a theoretical refinement of TAM, suggesting that for high-fluency user groups in advanced social commerce contexts, the PEOU construct may become vestigial, yielding its predictive power to more complex psychological and social variables.

The Differential Influence of Personality on Perceived Usefulness

The finding that Openness and Conscientiousness are the sole significant personality predictors of Perceived Usefulness provides a clear psychological mechanism for value perception.

The Openness trait, characterized by intellectual curiosity and a preference for novelty, drives the initial search for utility. Individuals high in Openness are naturally drawn to the dynamic, ever-changing content and product offerings of live-streaming, perceiving the platform as a rich source of

new information and experiences. Their motivation is the epistemic reward of discovery.

Conversely, Conscientiousness, defined by methodical rigor and goal-orientation, drives the evaluation of utility. These users do not merely seek novelty; they seek effective novelty. They perceive the platform as useful only insofar as it efficiently helps them achieve their purchasing goals, whether through detailed product demonstrations or streamlined transaction processes.

Ranking of Influence on PU: Openness (stronger) > Conscientiousness (weaker). This ranking suggests that the exploratory impulse (Openness) is a slightly more potent force in shaping the initial perception of value in a novel, content-rich environment than the evaluative rigor (Conscientiousness).

The Multi-Faceted Role of Personality in Cultivating Trust

The results provide a highly nuanced, ranked model of how personality traits construct Trust in the volatile, high-social-presence environment of mobile live-streaming.

1. Extraversion (Strongest Predictor): The social vitality of the Extravert translates directly into a willingness to engage and form Relational Trust with the live-stream host. The synchronous, interactive nature of the platform perfectly aligns with the Extravert's need for social stimulation, leading to a rapid and robust establishment of trust based on perceived social presence and immediacy.

2. Openness (Second Predictor): The influence of Openness on Trust is rooted in a Cognitive Tolerance for Ambiguity. High-Openness individuals are more willing to accept the novel, non-traditional mechanisms of the platform (e.g., flash sales, real-time bidding) and the inherent risks of a digital transaction. Their trust is in the system's potential, not just the host's persona.

3. Agreeableness (Third Predictor): The Agreeable individual's preference for harmony and non-confrontation facilitates Transactional Trust. They are less likely to scrutinize minor flaws and more inclined to accept the host's claims, ensuring a smooth, positive exchange.

The Critical Role of Neuroticism: The significant negative correlation between Neuroticism and Trust is a crucial finding. High Neuroticism translates into a heightened state of Perceived Vulnerability and chronic Risk Aversion. The real-time, ephemeral nature of live-streaming—where purchase decisions are often made under pressure and information is transient—exacerbates the Neurotic individual's anxiety. For this cohort, the platform is perceived as a source of potential loss and regret, making the establishment of trust an almost insurmountable psychological barrier. This finding underscores the need for platforms to implement robust, transparent, and highly visible risk-mitigation features to address this psychological vulnerability.

Unique Contribution: Mobile Live-Streaming vs. Other Contexts

Mobile live-streaming, as a form of Synchronous Social Commerce (SSC), differs fundamentally from traditional e-commerce or technology adoption contexts in three critical ways: Synchronicity, Social Presence, and Ephemeral Content.

- Synchronicity and Social Presence: The real-time interaction between host and viewer amplifies the role of affective and social psychological traits (Extraversion, Agreeableness). Unlike static e-

commerce, where cognitive evaluation dominates, SSC involves a powerful element of affective contagion and social influence, making personality a far more potent predictor of trust and motivation.

- Ephemeral Content: The time-limited nature of live-stream offers and the transient information flow (We deliberately avoid the word "propaganda" and instead use the academically precise term Strategic Information Dissemination to denote the systematic, non-neutral communication aimed at shaping consumer behavior) heighten the sense of urgency and risk. This context uniquely amplifies the negative effect of Neuroticism, as the pressure to act quickly conflicts with the need for careful deliberation.

Theoretical Contributions

This study makes three significant theoretical contributions to the fields of Information Systems and Consumer Psychology:

1. Refinement of TAM for Digital Natives: By demonstrating the non-significance of PEOU in a high-fluency user context, this research proposes a Contextualized TAM (C-TAM), suggesting that PEOU should be considered a boundary condition or a pre-requisite for adoption, rather than a primary predictor, when studying digitally proficient populations.

2. A Ranked Model of BFP and Trust in SSC: This study moves beyond simple correlation to provide a ranked, multi-faceted model of how BFP traits differentially predict the complex construct of Trust (Relational, Systemic, Transactional) in the unique environment of Synchronous Social Commerce. This offers a deeper psychological lens than previous studies focused solely on cognitive variables.

3. Establishing a Framework for SSC Adoption: By integrating BFP, TAM, and Trust, this research establishes a robust, human-centric framework for analyzing technology adoption in the emerging domain of mobile live-streaming, providing a foundation for future research into the interplay of personality, social influence, and technology design.

Practical Implications

The theoretical constructions and relationships derived from relevant literature were scrutinized to develop the theoretical model for factors influencing customer acceptance and motivation of mobile live-streaming marketing activities. The significant practical findings offer guidance and insights for entrepreneurs who are engaged in mobile live-streaming marketing operations and those who are considering investing in this area. Furthermore, for a more comprehensive understanding, the hierarchy of objectives based on the model findings has been deconstructed, and each associated hierarchy of actions for these objectives is presented in Table 4.

Table 4 Practical Objectives and Actions

Objective	Action	Associated Model Construct
Primary Objective: *To increase customer acceptance and motivation*	The digital platform for real-time marketing should possess comprehensive product knowledge and professional skills, demonstrate unwavering commitment to customers, and prioritize customer benefits above all else.	Trust
	The objective is to optimize the operational efficiency of the mobile live-streaming market, thereby enhancing convenience for customers in both their personal and professional lives.	Perceived Usefulness
Secondary Objective 1: *To gain customers' trust*	Enhanced the reputation and brand value of online live marketing platforms can be achieved by considering the attributes of mobile live streaming market platforms. Operators of relevant platforms should strive to enhance the quality of pertinent product information, services, and systems.	Trust
Secondary Objective 2: *To increase customers' perception of usefulness*	The online live marketing platform is distinguished by its precise real-time responsiveness, provision of personalized services, and enhancement of customers' perceived value towards its products and services.	Perceived Usefulness
Secondary Objective 3: *To improve the understanding of customer personality*	To enhance the effectiveness of communication between digital platform for real-time marketing and customers.	Extroversion
	Strengthen the propaganda strength of digital platform for real-time marketing and its produce and promote product value in the customer.	Agreeableness
	Enrich the operational information of the mobile live broadcast market to enhance its appeal and provide customers with precise and timely product information.	Openness
	The digital platform for real-time marketing must provide customers with safe and stable products (or services) for a long time.	Conscientiousness
	They are enhancing customers' expense security and protecting them in legally exercising their rights and interests.	Neuroticism

Conclusion

The meaning of mobile live-streaming marketing is different from traditional e-commerce. This research shows that customer's personality traits matter in developing customer's perceptions and needs. In addition to this, the digital platform for real-time marketing needs to focus on facilitating favorable customer perceptions. This implies that mobile

platforms should adopt various ways to build trust and enhance customers' perception of usefulness especially in mobile live-streaming marketing.

Since this research was carried out in China, which boasts the highest number of internet users globally, it is highly advisable for future research to be conducted in countries where e-commerce is still in the developing stage. This will yield valuable insights into the distinct differences among these countries in terms of their perceptions of utilizing internet technologies in the sales process. More reasonable factors still affect customer acceptance and motivation, which is worth studying because it is hard for this research to include all possible causal effects. Reviewing other relevant factors involving mobile live-stream marketing and customer acceptance and motivation is recommended.

References

Ab. Malik, A. Md., Hairuddin, H., & Shuib, N. (2018). Openness to experience - A moderator between social commerce success factors and customer satisfaction relationship: Facebook brand page platform. *Management and Accounting Review (MAR)*, *17*(3), 67. https://doi.org/10.24191/mar.v17i3.794

Abbasi, H., Johl, S., Shaari, Z., Moughal, W., Mazhar, M., Musarat, M., Rafiq, W., Farooqi, A., & Borovkov, A. (2021). Consumer motivation by using unified theory of acceptance and use of technology towards electric vehicles. *Sustainability*, *13*(21), Article 12177. https://doi.org/10.3390/su132112177

Abbasi-Asl, R., & Hashemi, S. (2019). *Personality and morality: Role of the Big Five personality traits in predicting the four components of moral decision making*. PsyArXiv. https://doi.org/10.31234/osf.io/6azqs

Adams, D. A., Nelson, R. R., & Todd, P. A. (1992). Perceived usefulness, ease of use, and usage of information technology: A replication. *MIS Quarterly*, *16*(2), 227–249. https://doi.org/10.2307/249577

Ahuja, V., & Khazanchi, D. (2016). Creation of a conceptual model for adoption of mobile apps for shopping from e-commerce sites–An Indian context. *Procedia Computer Science*, *91*, 609–616. https://doi.org/10.1016/j.procs.2016.07.152

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control* (pp. 11–39). Springer. https://doi.org/10.1007/978-3-642-69746-3_2

Akhter Shareef, M., Kumar, V., Kumar, U., & Akhter Hasin, A. (2009). Theory of planned behavior and reasoned action in predicting technology adoption behavior. In Y. K. Dwivedi, B. Lal, M. D. Williams, S. L. Schneberger, & M. Wade (Eds.), *Handbook of research on contemporary theoretical models in information systems* (pp. 544–562). IGI Global. https://doi.org/10.4018/978-1-60566-659-4.ch031

Aprilivianto, Sugandini, D., & Effendi, M. I. (2019). Trust, risk, perceived usefulness, and ease of use on intention to online shopping behavior. In *Proceedings of the International Conference of Business, Economy, Entrepreneurship and Management* (pp. 251–256). https://doi.org/10.5220/0009963302510256

Armilawati, N. L. P. D. (2020). The effect of online shopping experience on risk perception and trust for building online repurchase intention. *International Journal of Contemporary Research and Review*, *11*(5), 20173–20181. https://doi.org/10.15520/ijcrr.v11i05.805

Belkhamza, Z., & Azizi Wafa, S. (Eds.). (2012). *Measuring organizational information systems success: New technologies and practices*. IGI Global. https://doi.org/10.4018/978-1-4666-0170-3

Cai, J., Wohn, D. Y., Mittal, A., & Sureshbabu, D. (2018). Utilitarian and hedonic motivations for live streaming shopping. In *Proceedings of the 2018 ACM International Conference on Interactive Experiences for TV and Online Video* (pp. 81–88). Association for Computing Machinery. https://doi.org/10.1145/3210825.3210837

Camilleri, M. A., & Falzon, L. (2021). Understanding motivations to use online streaming services: Integrating the technology acceptance model (TAM) and the uses and gratifications theory (UGT). *Spanish Journal of Marketing - ESIC*, *25*(2), 217–238. https://doi.org/10.1108/SJME-04-2020-0074

Chen, X., Jiao, C., Ji, R., & Li, Y. (2021). Examining customer motivation and its impact on customer engagement behavior in social media: The mediating effect of brand experience. *SAGE Open*, *11*(4). https://doi.org/10.1177/21582440211052256

Da Silva, D. V. C., Rocha, A. A. D. A., & Velloso, P. B. (2021). Mobile vs. non-mobile live-streaming: A comparative analysis of users engagement and interruption using big data from a large CDN perspective. *Sensors*, *21*(16), Article 5616. https://doi.org/10.3390/s21165616

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008

Davis, F. D. (1993). User acceptance of information technology: System characteristics, user perceptions and behavioral impacts. *International Journal of Man-Machine Studies*, *38*(3), 475–487. https://doi.org/10.1006/imms.1993.1022

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, *35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Dong, L. (2015). Comments on and comparative analysis of instrumental and value rationality-oriented public administration theories. In L. Dong, *Public administration theories* (pp. 251–271). Palgrave Macmillan. https://doi.org/10.1057/9781137536426_11

Dong, X., Liu, X., & Xiao, X. (2023). Understanding the influencing mechanism of users' participation in live streaming shopping: A socio-technical perspective. *Frontiers in Psychology*, *13*, Article 1082981. https://doi.org/10.3389/fpsyg.2022.1082981

El Othman, R., El Othman, R., Hallit, R., Obeid, S., & Hallit, S. (2020). Personality traits, emotional intelligence and decision-making styles in Lebanese universities medical students. *BMC Psychology*, *8*(1), Article 46. https://doi.org/10.1186/s40359-020-00406-4

Fabra, N., & Montero, J.-P. (2023). Technology-neutral versus technology-specific procurement. *The Economic Journal*, *133*(650), 669–705. https://doi.org/10.1093/ej/ueac075

Feenberg, A. (2002). The critical theory of technology. In A. Feenberg, *Transforming technology* (pp. 162–190). Oxford University Press. https://doi.org/10.1093/oso/9780195146158.003.0007

Gefen, D., Karahanna, E., & Straub, D. W. (2003). Trust and TAM in online shopping: An integrated model. *MIS Quarterly*, *27*(1), 51–90. https://doi.org/10.2307/30036519

Hagger, M. S. (2019). The reasoned action approach and the theories of reasoned action and planned behavior. In *Oxford bibliographies in psychology*. Oxford University Press. https://doi.org/10.1093/obo/9780199828340-0240

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139–152. https://doi.org/10.2753/MTP1069-6679190202

Hermes, A., Sindermann, C., Montag, C., & Riedl, R. (2022). Exploring online and in-store purchase willingness: Associations with the Big Five personality traits, trust, and need for touch. *Frontiers in Psychology*, *13*, Article 808500. https://doi.org/10.3389/fpsyg.2022.808500

Hill, R. J., Fishbein, M., & Ajzen, I. (1977). Belief, attitude, intention and behavior: An introduction to theory and research. *Contemporary Sociology*, *6*(2), 244–245. https://doi.org/10.2307/2065853

Hubert, M., Blut, M., Brock, C., Backhaus, C., & Eberhardt, T. (2017). Acceptance of smartphone-based mobile shopping: Mobile benefits, customer characteristics, perceived risks, and the impact of application context. *Psychology & Marketing*, *34*(2), 175–194. https://doi.org/10.1002/mar.20982

Jeon, H. G., Kim, C., Lee, J., & Lee, K. C. (2021). Understanding e-commerce consumers' repeat purchase intention: The role of trust transfer and the moderating effect of neuroticism. *Frontiers in Psychology*, *12*, Article 690039. https://doi.org/10.3389/fpsyg.2021.690039

Liu, L., Aremu, E. O., & Yoo, D. (2020). Brand marketing strategy of live streaming in mobile era: A case study of Tmall platform. *Journal of East Asia Management*, *1*(1), 65–87. https://doi.org/10.22906/JEAM.2020.1.1.65

Liu, Z., Yang, J., & Ling, L. (2020). Exploring the influence of live streaming in mobile commerce on adoption intention from a social presence perspective. *International Journal of Mobile Human Computer Interaction*, *12*(2), 53–71. https://doi.org/10.4018/IJMHCI.2020040104

Lv, J., Cao, C., Xu, Q., Ni, L., Shao, X., & Shi, Y. (2022). How live streaming interactions and their visual stimuli affect users' sustained engagement behaviour—A comparative experiment using live and virtual live streaming. *Sustainability*, *14*(14), Article 8907. https://doi.org/10.3390/su14148907

Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*(3), 709–734. https://doi.org/10.2307/258792

McCrae, R. R., & Costa, P. T. (2011). *NEO Five-Factor Inventory—Revised* [Database record]. APA PsycTests. https://doi.org/10.1037/t07553-000

Miller, B. (2021). Is technology value-neutral? *Science, Technology, & Human Values*, *46*(1), 53–80. https://doi.org/10.1177/0162243919900965

Mohammad, N. (2021). Pengaruh shopping orientation dan online trust terhadap online shopping intention platform Shopee. *PERFORMA: Jurnal Manajemen dan Start-Up Bisnis*, *6*(2), 180–188. https://doi.org/10.37715/jp.v6i2.2087

Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, *58*(3), 20–38. https://doi.org/10.1177/002224299405800302

Özbek, V., Alnıaçık, Ü., Koc, F., Akkılıç, M. E., & Kaş, E. (2014). The impact of personality on technology acceptance: A study on smart phone users. *Procedia - Social and Behavioral Sciences*, *150*, 541–551. https://doi.org/10.1016/j.sbspro.2014.09.073

Pai, F.-Y., & Huang, K.-I. (2011). Applying the technology acceptance model to the introduction of healthcare information systems. *Technological Forecasting and Social Change*, *78*(4), 650–660. https://doi.org/10.1016/j.techfore.2010.11.007

Prastiawan, D. I., Aisjah, S., & Rofiaty, R. (2021). The effect of perceived usefulness, perceived ease of use, and social influence on the use of mobile banking through the mediation of attitude toward use. *Asia Pacific Management and Business Application*, *9*(3), 243–260. https://doi.org/10.21776/ub.apmba.2021.009.03.4

Pratkanis, A. R., Breckler, S. J., & Greenwald, A. G. (Eds.). (2014). *Attitude structure and function*. Psychology Press. https://doi.org/10.4324/9781315801780

Putraa, P. (2020). Planned behavior theory in paying cash waqf. *International Journal of Psychosocial Rehabilitation*, *24*(4), 5669–5677. https://doi.org/10.37200/IJPR/V24I4/PR201662

Putranti, I. R. (2022). Principle of technological neutrality in trade facilitations: A legal perspective. *Jurnal Hukum Novelty*, *13*(2), 216–228. https://doi.org/10.26555/novelty.v13i2.a23177

Quintelier, E. (2014). The influence of the Big 5 personality traits on young people's political consumer behavior. *Young Consumers*, *15*(4), 342–352. https://doi.org/10.1108/YC-09-2013-00395

Rafique, M., Rizwan, M., Batool, A., & Aslam, F. (2014). Extending TAM, in terms of trust and attitude towards the online shopping intention. *Journal of Public Administration and Governance*, *4*(3), 90–106. https://doi.org/10.5296/jpag.v4i3.5851

Shin, Y. M., Lee, S. C., Shin, B., & Lee, H. G. (2010). Examining influencing factors of post-adoption usage of mobile internet: Focus on the user perception of supplier-side attributes. *Information Systems Frontiers*, *12*(5), 595–606. https://doi.org/10.1007/s10796-009-9184-x

Templer, K. J. (2012). Five‐factor model of personality and job satisfaction: The importance of agreeableness in a tight and collectivistic Asian society. *Applied Psychology*, *61*(1), 114–129. https://doi.org/10.1111/j.1464-0597.2011.00459.x

Teo, T., & Noyes, J. (2011). An assessment of the influence of perceived enjoyment and attitude on the intention to use technology among pre-service teachers: A structural equation modeling approach. *Computers & Education*, *57*(2), 1645–1653. https://doi.org/10.1016/j.compedu.2011.03.002

Tseng, F.-C., Huang, T.-L., Cheng, T. C. E., & Teng, C.-I. (2021). Not all qualities are equal: Moderating role of online shopper conscientiousness in quality evaluation. *Electronic Commerce Research and Applications*, *47*, Article 101056. https://doi.org/10.1016/j.elerap.2021.101056

Walczuch, R., & Lundgren, H. (2004). Psychological antecedents of institution-based consumer trust in e-retailing. *Information & Management*, *42*(1), 159–177. https://doi.org/10.1016/j.im.2003.12.009

Wang, X., & Wu, D. (2019). Understanding user engagement mechanisms on a live streaming platform. In F. F.-H. Nah & K. Siau (Eds.), *HCI in business, government and organizations. Information systems and analytics* (Vol. 11589, pp. 266–275). Springer. https://doi.org/10.1007/978-3-030-22338-0_22

Williams, L. J., Hartman, N., & Cavazotte, F. (2010). Method variance and marker variables: A review and comprehensive CFA marker technique. *Organizational Research Methods*, *13*(3), 477–514. https://doi.org/10.1177/1094428110366036

Yousaf, A., Mishra, A., & Gupta, A. (2021). 'From technology adoption to consumption': Effect of pre-adoption expectations from fitness applications on usage satisfaction, continual usage, and health satisfaction. *Journal of Retailing and Consumer Services*, *62*, Article 102655. https://doi.org/10.1016/j.jretconser.2021.102655

Zhang, W. (2007). Trust in electronic networks of practice: An integrative model. In C. Steinfield, B. T. Pentland, M. Ackerman, & N. Contractor (Eds.), *Communities and technologies 2007* (pp. 351–370). Springer. https://doi.org/10.1007/978-1-84628-905-7_18

Zhou, T., & Lu, Y. (2011). The effects of personality traits on user acceptance of mobile commerce. *International Journal of Human-Computer Interaction*, *27*(6), 545–561. https://doi.org/10.1080/10447318.2011.555298

Appendix

Questionnaire Items for Model Variables

The participants indicated their level of agreement with the following statements using the scale: ☐ Strongly Agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly Disagree

Construct	Questionnaire Item	References
Extroversion	I consider myself a talkative person.	Walczuch & Lundgren (2004); Gosling et al. (2003)
	I enjoy being outgoing and sociable.	
	I am usually full of energy around others.	
	I often bring enthusiasm into group activities.	
Agreeableness	I am considerate and kind to most people.	
	I am generally helpful and cooperative.	
	I try to see things from other people's perspectives.	
Openness	I enjoy exploring new ideas and experiences.	
	I have a vivid imagination.	
	I am curious about many different topics.	
	I like to try out unconventional ways of doing things.	
Conscientiousness	I pay attention to details in my work.	
	I like to be well organized in everything I do.	
	I follow through with my plans.	
	I can be relied on to finish tasks on time.	

Construct	Questionnaire Item	References
Neuroticism	I tend to worry about many things.	
	I often feel anxious or tense.	
Perceived Ease of Use	Learning to use mobile live-streaming shopping functions is easy for me.	Davis et al. (1989)
	It is easy for me to become skillful at using mobile live-streaming for shopping.	
	Overall, I find mobile live-streaming shopping platforms easy to use.	
Perceived Usefulness	Using mobile live-streaming helps me make better purchase decisions.	Davis (1989)
	Mobile live-streaming shopping improves my effectiveness when I shop online.	
	Mobile live-streaming makes it easier for me to evaluate products.	
	Overall, mobile live-streaming shopping is useful for me.	
Trust	I trust the information provided by mobile live-streaming hosts.	Lee (2005)
	I believe that most products promoted via mobile live-streaming are reliable.	
	I feel confident that mobile live-streaming platforms act in my best interest as a customer.	
	Overall, I trust mobile live-streaming as a way to shop.	
Customer Acceptance Motivation	I am motivated to use mobile live-streaming when I shop online.	
	I intend to continue using mobile live-streaming for my future purchases.	
	I am willing to recommend mobile live-streaming shopping to others.	