E-Business Unplugged:

Enhancing Interactive Online Experiences with Live Streaming and Social Media

Edited by Monica Law

Dr. Francis Cheung Business Analytics Research Centre

Hong Kong Shue Yan University

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Preface

In the dynamic world of e-business, the convergence of digital platforms, shifting consumer preferences, and emerging technologies has piloted in a new era of interactive and immersive online purchase experiences. This book delves deeply into the transformative role of social media and live streaming in redefining how consumers engage with and navigate the online purchasing process. It also offers a comprehensive exploration of the key trends, insights, and industry case studies at the forefront of the digital revolution. Divided into three thematic parts, the book offers readers a multifaceted understanding of the complex interplay between evolving online shopping experiences, consumer psychology, and e-business strategy.

Part 1: Live Streaming Commerce

This section examines the rising influence of live streaming platforms and their impact on consumer behaviour and purchase intentions. The first chapter investigates the factors that drive consumer engagement and purchase decisions within the live streaming e-commerce context. The second chapter delves into the cultivation of viewers' viewing habits by drawing insights from consumer value theory and flow theory. Then, the third chapter explores the potential of live streaming e-commerce as a viable business start-up option for young entrepreneurs in Hong Kong. The authors would like to acknowledge the research fund provided by Proactive Think Tank Limited and the support from the Enterprise and Social Development Research Centre (BA/RS/2020/003). Across these three chapters, the book offers a comprehensive analysis of the transformative role of live streaming in reshaping the e-commerce landscape from understanding consumer motivations to identifying emerging business opportunities.

Part 2: Online Shopping and E-commerce

Delving into the broad realm of online shopping and e-commerce, this part examines negative customer engagement, thus shedding light on the less favourable aspects of customer interactions. It also explores the evolving role of artificial intelligence (AI) chatbots in enhancing the overall customer experience alongside the key factors that influence consumer behaviour and purchase intentions on leading Chinese e-commerce platforms. The chapters within this section provide valuable insights for academic researchers and industry practitioners aiming to refine their online strategies. Moreover, this section presents a holistic view of the customer experience by offering a comprehensive analysis of the critical elements that are shaping the contemporary e-commerce landscape—from the integration of AI-driven customer interactions to the intricate factors that are influencing consumer decision-making. It emphasises the importance of addressing negative engagement to cultivate a sustainable and effective online shopping environment.

Part 3: Interactive E-Business and Industry Case Studies

The final section of the book explores interactive e-business by showcasing how leading organisations improve online experiences and influence consumer decision-making across diverse sectors. It also highlights the transformative power of social engagement and user-generated content. In particular, one case study investigates how airlines are redefining customer interactions to enhance the travel experience. Meanwhile, another study examines the evolution of esports from casual gaming to a professional and competitive arena. Additionally, a study delves into the psychological and behavioural effects of the popular mukbang phenomenon on audiences. Another research piece illustrates the significant impact of user-generated content on consumer behaviour and purchase intentions, particularly on the video-sharing platform Bilibili. Lastly, insights into diners' motivations for sharing restaurant reviews illuminate the role of user-generated content on OpenRice in shaping consumer dining experiences. Thus, this section provides a comprehensive exploration of innovative interactive e-business strategies, thereby demonstrating how organisations enhance online experiences across various sectors.

In sum, the contributions in this book offer a comprehensive and thought-provoking exploration of the ever-evolving e-business landscape. Across the three thematic parts, the chapters provide valuable insights and practical guidance that will be invaluable for researchers, students, and industry professionals alike. As we continue to navigate the digital frontier, this book serves as a vital resource for understanding the current and future trends that are shaping the world of online shopping and consumer engagement.

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Live Streaming Commerce

Assessing the influence of consumer engagement on purchase intention in live streaming commerce

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Abstract. This study examines four streamer characteristics for enhancing online consumer engagement and purchase intention. This work recruited 453 respondents of online live streaming consumers in Hong Kong to illustrate that parasocial interaction is fully mediated by engagement whereas creativity has a partial mediation effect of engagement to purchase intention. The research demonstrates the significant impact of two important streamer characteristics, namely, parasocial interaction and creativity, and their influence on viewer engagement, which subsequently drives purchase intention. Drawing on signalling theory, each streamer characteristic is found to convey relevant signals to consumers. The findings highlight the critical role of streamers in the success of live e-commerce. Marketers should review their live e-commerce strategies and adopt improved approaches to select and cooperate with streamers. The study underscores that live e-commerce success hinges on streamers' ability to masterfully blend creativity, communication, and customer engagement. This multifaceted approach, rather than a narrow focus on hard selling, will drive enhanced purchase intention and conversion among live stream viewers.

Keywords. Attractiveness, Creativity, Engagement, Parasocial interaction, Purchase intention, Responsiveness

1 Introduction

The e-commerce industry has experienced substantial growth in recent years. According to the figures from Statrys (2024), the e-commerce penetration rate is projected to rise from 59.8% in 2023 to 79.2% by 2024, and live streaming is emerging as a growing trend within the local e-commerce landscape. For the global market, the live commerce market is anticipated to reach USD 3.48 billion by 2030 with the Asia-Pacific leading the market (ResearchAndMarkets.com, 2024). The region's high internet penetration rate and widespread smartphone usage have created a large potential customer base. Additionally, social media platforms have become integral to daily life because they provide live commerce platforms with a direct channel to reach their target audience (ResearchAndMarkets.com, 2024). Various platforms, such as Alibaba's Taobao Live, have shown an increase in consumer engagement because of

live streaming commerce. Hence, the key to the success of live streaming commerce is obtaining high consumer engagement.

Customer engagement relates to interactive consumer experiences, which is a key factor for the success of live streaming e-commerce as it allows live streamers to build stronger relationships with their followers. It refers to the level of a consumer's involvement and connection (Wongkitrungrueng & Assarut, 2020). Live streaming commerce provides opportunities for consumers to interact with live streamers. This setup is different from traditional e-commerce, which only shows pictures and videos of products. Platforms for live streaming commerce provide interactive properties that are especially relevant for establishing customer engagement behaviours before, during, and after purchase (Verleye et al., 2014). Live streamers can employ different strategies to boost customer engagement in live streaming e-commerce, thereby increasing their purchase intention. However, it seems that Hong Kong consumers are not familiar with this type of live streaming commerce and do not prefer it (Law et al., 2023). Gaining consumers' engagement is the most difficult task. Therefore, this study investigates the characteristics of live streamers to enhance consumers' engagement and increase their purchase intention. The research questions are as follows: (1) What characteristics of live streamers can make Hong Kong online consumers increase their engagement in live streaming commerce? (2) Does engagement mediate the relationship between streamers' characteristics and purchase intention for live e-commerce? The findings may assist Hong Kong live streamers in preparing and thinking of additional ways to engage their followers.

2 Theoretical Background and Hypothesis Development

In the context of live e-commerce, consumers do not have full product information and cannot easily assess product quality. Live streamers are the key persons who interact with online consumers. For example, they can demonstrate and explain product functions as well as answer questions. Different live streamers have various characteristics. According to signalling theory, each streamer characteristic acts as a signal to online consumers, thus helping to reduce information asymmetries

and enhance purchase decision-making (Lu & Chen 2021). In this study, four major characteristics of live streamers were selected and examined: attractiveness, creativity, parasocial interaction, and responsiveness. The relationships of these characteristics with consumer engagement and purchase intention were further explored.

Attractiveness relates to the first and ongoing impressions created by streamers; it is the viewers' overall perception of the streamers, such as regarding their talent and personality (Ha & Lam 2017). Attractive streamers may provide favourable impressions to online customers, especially for forming first impressions, thus eliciting consumers' emotion and attention (Xu et al., 2020; Yu et al., 2018). In turn, these positive impressions encourage increased engagement in live streaming commerce. Hence, the following hypothesis is proposed:

H1: Attractiveness positively relates to engagement.

Creativity refers to streamers' approach in presenting, promoting, and conducting live broadcasts with special, different, and/or unusual methods while ensuring that the content is meaningful and/or useful to online consumers (Lee & Hong, 2016). For example, creative promotion has been illustrated to have positive effects on brand attachment (Smith et al. 2007). Thus, creative approaches and messages can attract consumers' attention and lead to positive responses and evaluations (Lee & Hong, 2016), thereby enhancing engagement. Hence, the following hypothesis is suggested:

H2: Creativity positively relates to engagement.

Parasocial interaction refers to the relationship that develops between two individuals (Schramm & Hartmann, 2008), such as between a viewer and a streamer. This interaction involves the viewer feeling a sense of closeness and connection with the streamer even though the streamer is unaware of the individual viewer and the relationship is not mutual. The unique aspect of live streaming is that consumers can interact with streamers in real time and build an intimate personal connection (Wohn et al., 2018). Therefore, the high degree of interactions generated by two-way simultaneous communications can increase customer engagement with the streamers (Zhong et al., 2022). The relationship can then improve between streamers and online consumers whereas their emotions, thoughts, and behaviours are more

likely to align with higher engagement (Davis & Rusbult, 2001; Ou et al., 2020). Parasocial relationships can serve as key behavioural facilitators in live e-commerce and drive consumer engagement (Hu et al., 2017). Hence, the following hypothesis is proposed:

H3: Parasocial interaction positively relates to engagement.

Responsiveness relates to consumers' perception of the real-time interaction between streamers and viewers (Zhang et al., 2021). It refers to the ability and willingness to respond quickly to a customer's request and provide timely service during and after the sales process (Zeithaml, 2000). Unlike shopping in a physical retail store, online shopping does not involve the customer physically interacting with the actual product. In the context of live streaming commerce, the role of the streamer is to demonstrate the product effectively, explain its features and benefits clearly, and provide good customer support after the sale (Wongkitrungrueng & Assarut 2020). In doing so, the streamer provides chances to engage with online consumers. Hence, the hypothesis is proposed as follows:

H4: Responsiveness positively relates to engagement.

Engagement has been studied extensively over the years because it is considered a key factor in building relationships and purchase intention. As customers' engagement with a live streamer increases, they make additional investments and show increased involvement, such as paying close attention, giving affective responses, and/or leaving comments (Hollebeek et al., 2019; Luo et al., 2024). These increased investments can enhance the online consumers' engagement, thereby influencing their purchase intention and behaviour during the live stream (Yi et al., 2023). Furthermore, research has shown that engagement can mediate a range of theoretical relationships in online settings (Hollebeek et al., 2014; Luo et al., 2024). For example, studies have found a positive relationship among online environmental cues, customer engagement, and purchase decisions (e.g., McClure and Seock, 2020; Ou et al., 2020). When customers interact with streamers, the information they obtain tends to stimulate their perceived sense of community and involvement, which subsequently increases their tendency for purchases (Gulfraz et al., 2022). Given that live streaming commerce is designed to engage customers and facilitate immediate

real-time purchases, engaged viewers are expected to make additional purchases (Lin et al., 2022; Luo et al., 2024) because they are interested in viewing live streams and interacting with the streamers. Hence, the hypotheses are proposed as follows:

H5: Engagement positively relates to purchase intention.

H6: Engagement mediates between (a) attractiveness, (b) creativity, (c) parasocial interaction, and (d) responsiveness and purchase intention.

In summary, the six hypotheses are summarised in Figure 1.

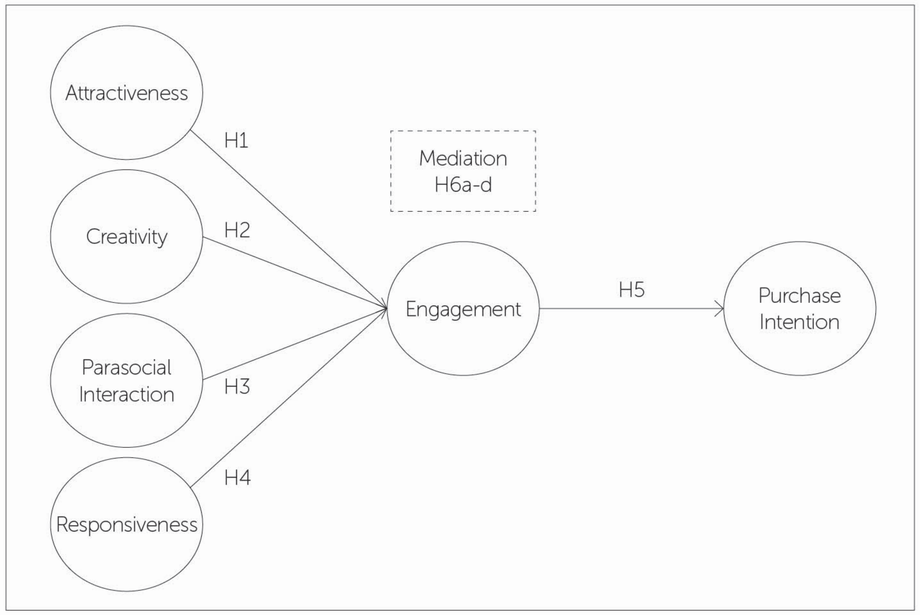

Fig. 1. Proposed research model

3 Methodology

3.1 Sampling and procedure

The researchers used Google Forms to prepare a questionnaire in Chinese and English, which consisted of three parts: online shopping experience, live e-commerce experience, and demographic information. A total of 1,006 valid questionnaires were collected for this study. Among all the respondents, 453 people had watched live broadcasts in the past three months. Their data were used as the analytical dataset for this study. The demographic characteristics of most respondents were as follows: 21–60 years old (92%), female (73%), married (55%), and secondary school/university education (39% and 25%, respectively).

3.2 Measures

The measurement items for the six constructs were derived from previous research studies. The items were evaluated using a five-point Likert scale, where 1 denoted strongly disagree and 5 denoted strongly agree. Some of the wording in the items was revised from the original versions to fit the context of examining live e-commerce streamers. Specifically, three items measuring attractiveness were adopted from Xu et al. (2020). Four items for assessing creativity were taken from Lee and Hong (2016), while three items for evaluating responsiveness were based on Zhang et al. (2021). In addition, four items measuring parasocial interaction were based on Xu et al. (2020). Three items measuring engagement were adapted from Wongkitrungrueng and Assarut (2018). Meanwhile, three items measuring purchase intention were taken from Ki et al. (2019).

4 Data Analysis and Results

Partial least squares structural equation modelling (PLS-SEM) was used with the SmartPLS 3.3.9 software for assessing the proposed research model and related hypotheses. The analysis was conducted in a two-stage process. The first stage involved an outer model assessment to examine the relationships between the latent variables and their observed indicator variables. The second stage utilised an inner model analysis with a 5,000-random-bootstrap setting to investigate the hypothesised relationships among the latent variables (Chin, 1998; Hair et al., 2014).

4.1 Measurement model (outer model) evaluation

In the measurement model, four key assessments were performed (Hair et al., 2014). Firstly, the factor loadings were examined, and each item recorded a score of 0.7 or above (Chin 1998). No cross-loadings were made. Secondly, the reliability assessment was conducted. Cronbach's alpha and composite reliability with principal component analysis illustrated that all the measures obtained 0.70 or above, thus reaching the recommended criteria for good internal consistency reliability (Nunnally, 1978). Thirdly, each construct had a score for the average variance extracted (AVE) higher than 0.5, thereby fulfilling the convergent validity (Hair et al., 2011). Lastly, the discriminant validity of each construct was evaluated using the Fornell–Larcker criterion and HTMT assessment. The square roots of the AVEs were higher than the interconstruct correlations and the HTMT scores ranged from 0.386 to 0.721 (lower than 0.85). Therefore, these outcomes illustrated sufficient discriminant validity. Tables 1 and 2 summarise the good quality criteria of the constructs.

Table 1. Quality criteria of the constructs

Latent Variable	Item	Mean	Standard Deviation	Standardised Outer loading	Cronbach's alpha	Composite reliability	AVE
Attractiveness	ATTR1	4.00	0.53	0.884	0.787	0.872	0.695
	ATTR2	3.73	0.69	0.867			
	ATTR3	3.55	0.83	0.744			
Creativity	CR1	3.72	0.58	0.841	0.886	0.921	0.744
	CR2	3.86	0.58	0.893			
	CR3	3.73	0.61	0.859			
	CR4	3.62	0.66	0.857			
Parasocial interaction	PAR1	3.21	0.78	0.879	0.862	0.915	0.781
	PAR2	3.52	0.71	0.849			
	PAR3	3.55	0.70	0.922			
Responsiveness	RES1	3.55	0.78	0.946	0.932	0.956	0.880
	RES2	3.61	0.75	0.945			
	RES3	3.48	0.77	0.922			
Engagement	ENG1	3.65	0.61	0.905	0.844	0.906	0.763
	ENG2	3.52	0.67	0.829			
	ENG3	3.81	0.59	0.884			
Purchase intention	PI1	3.74	0.64	0.876	0.901	0.938	0.835
	PI2	3.82	0.60	0.958			
	PI3	3.82	0.64	0.905			

Table 2. Square root of AVE (diagonal elements) and interconstruct correlations

	ATTR	CR	PAR	RES	ENG	PI
ATTR	0.834					
CR	0.597	0.863				
PAR	0.433	0.440	0.884			
RES	0.452	0.421	0.443	0.938		
ENG	0.499	0.629	0.565	0.463	0.873	
PI	0.479	0.625	0.346	0.486	0.601	0.914

4.2 Structural model (inner model) evaluation

In the structural model, three major assessments were adopted to examine the proposed model and hypotheses (Hair et al. 2014). Firstly, a collinearity assessment with the variance inflation factor (VIF) for each construct was conducted. The values ranged from 1 to 1.728 and indicated no collinearity among the predictors in this model because they were below the threshold of 5 (Hair et al. 2011). Secondly, the bootstrapping procedure (5,000 samples, no sign changes option) was used to evaluate the constructs' relationships. Three out of the five proposed hypotheses were significant, as shown in Table 3. Lastly, the predictive power of the model was evaluated: (1) ENG and PI had coefficients of determination (R2) of 0.517 and 0.362, respectively, thus indicating high-to-medium predictive power (Henseler et al. 2009). (2) The effect size (f2) scores ranged from 0.038 to 0.692, thereby illustrating low-to-high effect sizes of the endogenous constructs (Hair et al, 2014). (3) The model's predictive relevance was supported by the predictive accuracy (Q2) with scores of 0.372 for ENG and 0.294 for PI, which illustrated medium thresholds.

Table 3. Significance testing results of the structural model path coefficients

	Path	Estimate	SE	t-value	Sign.	f^2	Remark
H1	ATTR→ENG	0.072	0.102	0.706	n.s.	0.070	Unsupported
H2	CR→ENG	0.400	0.104	3.855	***	0.038	Supported
H3	PAR→ENG	0.300	0.083	3.626	***	0.184	Supported
H4	RES→ENG	0.129	0.100	1.289	n.s.	0.157	Unsupported
H5	ENG→PI	0.601	0.088	6.842	***	0.692	Supported

Note: SE = Standard Error; Sign. = Significance (***p < .001); n.s. = not significant

4.3 Mediation analysis

The direct and indirect effects of ENG, which was the major mediator, were assessed with bootstrapping and the Sobel test. One path with full mediation (i.e. H6c) and one path with partial mediation (i.e. H6b) were found, whereas two paths without significant mediation effects (i.e. H6a and H6d) were noted.

Table 4. Significance testing results of the mediation effect

	Path	Direct effect	Indirect effect	Sobel Z	Remark
H6a	ATTR→ENG→PI	0.090	0.043	0.702	No effect
H6b	CR→ENG→PI	0.474***	0.240**	3.333	Partial mediation
H6c	PAR→ENG→PI	0.013	0.180***	3.971	Full mediation
H6d	RES→ENG→PI	0.25**	0.078	1.291	No effect

Note: **p < .01; ***p < .001

5 Discussion and Conclusion

The research findings make several theoretical and practical contributions. Firstly, the study develops a theoretical model that reveals certain streamer characteristics influence consumer engagement and purchase intention. Secondly, the findings show that creativity and parasocial interaction are the most significant factors affecting engagement. Highly interesting and unique live streams can capture viewers' attention and foster attachment (Lee & Hong, 2016), while parasocial interactions help build close personal connections and communication (Zhong et al., 2022). Thirdly, the research confirms that engagement is a major construct that can enhance consumer purchase intention (Luo et al., 2024). This outcome illustrates that consumers' purchase intention is likely to increase when they are highly engaged. Lastly, this study finds that engagement acts as an important mediator between parasocial interaction and purchase intention. When consumers have a strong parasocial connection with a streamer, their engagement with the streamer leads to increased purchase intention. Furthermore, the finding shows that engagement has a partial mediating effect between creativity and purchase intention. While creativity can directly impact

purchase intention, engagement also plays a role in mediating this relationship but not to the same extent as in the case of parasocial interaction. This outcome implies that the creativity of the live stream content and viewers' engagement with the streamer contribute to shaping their purchase intention. However, engagement is not as central to the relationships between attractiveness and purchase intention, nor between responsiveness and purchase intention.

The study's findings have important practical implications by highlighting that the ways in which streamers communicate and interact with customers are vital. Engaging in personalised, genuine interactions can help streamers strengthen their parasocial connections with viewers. As the research findings show, these parasocial interactions can enhance viewer engagement, which is a key driver of purchase intention. Simply delivering a standard sales pitch is not enough. Streamers need to foster a sense of personal connection and attachment through creative, interactive live stream experiences. Additionally, the study underscores the value of creativity in live stream content. Viewers are likely to remain engaged and make purchases when the live stream offers unique, attention-grabbing experiences rather than predictable, generic formats. Streamers should invest time and effort into developing innovative, entertaining approaches that capture their audience's interest and imagination. The study emphasises the importance of creative approaches in the context of live streaming commerce. Many streamers currently take a routine or formulaic approach to their live streams. However, the findings indicate that streamers should devote time and effort to interact and communicate with customers directly rather than focusing solely on selling products.

Lastly, several limitations are found in this study. Firstly, this study only examined live e-commerce in Hong Kong and related online consumers' responses. Additional comparisons of live e-commerce in different cities and regions can be investigated to obtain a comprehensive understanding of various live streaming practices. This added examination can help researchers formulate effective and tailored streaming strategies and approaches. Secondly, only four streamer attributes were selected and examined. Future research can explore other streamer and platform characteristics, such as streamer demographic characteristics, platform recommendations, and operation systems.

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Cultivating viewers' habit of watching live streams: Insights from consumer value theory and flow theory

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Abstract. The purpose of this study is to explore the relationships among perceived serendipity, social presence, and the habit of watching live streams by applying consumer value theory and flow theory. This study uses specific metrics to measure construct items and conducts an online survey through Google Forms using snowball sampling. A total of 1,061 samples with 453 valid samples of participants who have watched live stream videos within three months are collected. The research hypotheses are tested by partial least square structural equation modelling. Results reveal that perceived serendipity and social presence are important factors for enhancing consumer values and creating flow experience. Hedonic value, social value, and flow have significant and positive effects on the habit of watching live streams. However, the effect of utilitarian value on this habit is not significant. Therefore, live streamers and live stream platform operators can design various elements to increase the penetration of live streaming. This improvement can help enhance viewers' perceived hedonic and social values and flow experience, which can influence their adoption of habitual watching behaviours. This study demonstrates the validity of prediction model for live streaming habits through consumer values and flow. Our study also provides useful insights by demonstrating the importance of serendipity and social presence in the live streaming context.

Keywords. Consumer values, Flow, Habit, Perceived serendipity, Social presence

1 Introduction

Live streaming involves the open broadcast of audio and video content, which usually provides a real-time interactive and creative experience for the audience (Sjöblom & Hamari, 2017). The rapid development of information technology and internet connectivity has resulted in the popularity of live streaming as a major form of online communication and entertainment. In China, the online live broadcast industry has experienced tremendous growth since 2015. The online live broadcast market increased from US$ 2.6 billion in 2016 to US$12 billion in 2019. In December 2020, the number of live broadcast users in China reached 617 million (Chin, 2022). Live streaming e-commerce has also become one of the major marketing channels in China. For instance, the live streaming broadcast of the "Double Eleven" Festival generated US$6 billion (Hallanan, 2020). Reports from the Ministry of Commerce of China show that more than 4 million live e-commerce live broadcasts were streamed in the first quarter of 2020.

Live streamers need to understand their audience and the factors that attract them to this compelling experience to realise the lucrativeness of live streaming e-commerce. However, academic research has not paid enough attention to live streaming (Todd & Melancon, 2018). Among the limited literature, most studies have focused on the key features of live streaming platforms; however, little effort has been made to investigate users' continuous viewing behaviours in live streaming broadcasts (Hu et al., 2017; Wang & Li, 2020). Hu et al. (2017) investigated people's continuous watching intention by using a dual social identification framework based on social identification theory. They examined how interactions between streamers and audiences relate to viewers' continuous watching intention. In addition, Hou et al. (2020) applied uses and gratification theory to examine how sex and humour appeals as well as social interactions that are related to viewers' intention to watch live streaming. These studies provide insights for live streamers to compel their audience to continue watching their live streams.

According to the unified theory of acceptance and use of technology (UTAUT2) model, habit is the key to continuing one's behaviour (Venkatesh et al., 2012). Helping current viewers form a habit of watching live streams is expected to retain the audience's engagement, which will eventually accelerate the development of live streaming e-commerce in different areas. However, the current literature on live streaming lacks investigation on live e-commerce watching habits. Hence, the theoretical development on live streaming research has been hindered. The study attempts to fill this research gap by examining the key determinants of audiences' habit development in online live streaming programmes on the basis of consumer value theory and flow theory.

Researchers have widely discussed and used consumer value theory (Zeithaml, 1988) and flow theory (Koufaris, 2002) to predict consumers' decisions and behaviours. Consumer values and flow have been established as key determinants of online experiences, such as mobile purchases (Gao et al., 2015), the use of streaming apps (Oyedele & Simpson, 2018), and the use of sharing platforms (Liang et al., 2021). Grounded in these two theories, this study investigates three value constructs (i.e., utilitarian value, hedonic value, and social value) and one flow construct to examine their influences on the habit formation of watching live streams. The study also develops the antecedents of these constructs from the perspectives of personal and social perceptions, including perceived serendipity (personal perspective) and social presence (social perspective).

This work raises two key management questions. Firstly, how can live streamers build viewers' habitual watching behaviours? Secondly, how can these streamers create value and provide flow for viewers? Drawing on previous research, this study develops a research model based on consumer value theory and flow theory. We expect that customers' perceived value of live streaming shopping and flow experience will enhance their habit of watching live streaming broadcasts. In addition, considering the creative and interactive nature of live streaming platforms, perceived serendipity experience and social presence have been conceptualised as the antecedents of perceived values and flow. The results support most of the proposed hypotheses, which indicate that perceived serendipity and social presence influence perceived value and flow, thus being able help with the habit formation of watching live streams.

This research makes several important contributions to the limited research in this area. Firstly, this work is one of pioneering studies on viewers' watching habits in live streaming e-commerce. Our study not only fills in the research gap but also opens a new area for future researchers to explore how people's information needs, entertainment needs, and social needs are satisfied in live streaming to form a habit. Secondly, this study enriches the literature by offering a theoretical framework that combines consumer value theory and flow theory. Thirdly, this study investigates the antecedents of value and flow from the perspectives of personal and social

perceptions, thereby improving the understanding of behaviours towards watching live streaming e-commerce. Accordingly, practical suggestions can be provided to streamers.

2 Theoretical Background

2.1 Consumer value theory

Consumers' perceived value refers to the overall evaluation of perceived costs and benefits from consumption (Zeithaml, 1988). The current study adopts this definition and defines perceived value as consumers' overall evaluation of live streaming videos. Consumer perceived value is one of the key factors in developing competitive advantage and predicting consumer decisions and behaviours (Hsiao & Chen, 2016; Jin et al., 2015). Many studies have suggested that perceived value is positively related to consumer adoption intention (Chiu et al., 2014; Swait & Sweeney, 2000), willingness to repurchase (Hwang & Griffiths, 2017), and willingness to adopt mobile apps (Hernandez-Ortega et al., 2017).

Previous studies have extensively examined the concept of consumer perceived value and operationalised it as a multidimensional construct (Chiu et al., 2014). For example, Sheth et al. (1991) developed a detailed typology with five different values, namely, functional, emotional, social, conditional, and epistemic values. In the retail context, Sweeney and Soutar (2001) classified consumer value into functional, emotional, and social values. Subsequently, these three dimensions of perceived value were applied in different studies of online consumer behaviours. Youn (2019) suggested that social, hedonic, and utilitarian values influence the usage of smartphones. Live streaming videos offer users various kinds of experiences, including visual contents and social interactions between live streamers and other audiences. Consumer value, which consists of utilitarian, hedonic, and social components, is an appropriate framework to adopt in this study because it includes all the major benefits of watching live streaming e-commerce simultaneously.

2.2 Flow theory

Flow is a psychological state in which people are so intensely involved in an activity that nothing else seems to matter (Csikszentmihalyi, 1988). People become absorbed in their activity and even lose a sense of self-consciousness while feeling a heightened sense of control of their environment (Csikszentmihalyi & LeFevre, 1989). Flow theory has been widely applied in different areas, such as education (Rathunde & Csikszentmihalyi, 2005), marketing (Novak et al., 2000), and online activities (Lin et al., 2019). On the basis of this conceptualisation, a substantial number of studies on the antecedents and outcomes of flow experience in various computer-mediated contexts have been conducted (Hoffman & Novak, 2009). Prior work shows that flow experiences can increase purchase intention (Ali, 2016), intention to revisit websites (Koufaris, 2002), web navigation (Novak et al., 2000), online game (Liu, 2017), and online impulse buying (Wu et al., 2020). Furthermore, a few researchers have applied flow theory to watching videos (Leung, 2020). However, to the best of our knowledge, no prior studies have investigated the relationship between flow experiences and the habitual viewing of live streaming e-commerce.

3 Proposed Model and Hypotheses

The habit of watching live streaming e-commerce is defined as the automaticity in the consumption and use of live streaming platforms, which develops as individuals repeatedly and routinely access, interact, and utilise the platform. This definition is in line with research on the habitual use of media and social media (LaRose, 2010). Viewers may consume media without conscious reflection because of their repeated use (Larose & Eastin, 2004). Studies have suggested that the habitual use of media involves the repeated use of a platform, motivations that drive this repetition, and feelings of inability to limit usage (Vishwanath, 2015). The conscious, goal-directed behaviour of watching live streaming may trigger viewers' habit formation and the development of the automaticity of actions (LaRose, 2010). Thus, researchers argued that a significant relationship exists between habits and binge watching (Rubenking & Bracken, 2018). Although live streaming has become increasingly common in recent years, the discussion on the development of audiences' habit of watching live streaming e-commerce remains limited (Hu et al., 2017). Hence, this study aims to explain this habit by examining how the perceived values of live streaming e-commerce videos, the contents of live streaming, the presence of streamers and other audiences, and the interactions between all participants play a key role in attracting and retaining audiences (Hamilton et al., 2014; Hu et al., 2017).

3.1 Consumer values and habit of watching live streaming e-commerce

3.1.1 Perceived utilitarian value

Figure 1 illustrates the research model. This study specifies that consumer value and flow directly relate to consumers' habit of watching live streaming e-commerce videos. Consumer values include utilitarian, hedonic, and social values (Sweeney & Soutar, 2001). Utilitarian value refers to whether their needs in functional terms are met or whether the adoption behaviour contributes to functional performance (Babin et al., 1994). It is the value derived from functional benefits concerning money, time, usability, and convenience (Overby & Lee, 2006). Additionally, utilitarian value refers to the degree to which a product meets the expected utility (Zeithaml, 1988). In the context of online shopping, utilitarian value is concerned with the purchase of authentic

products (Chen & Dhillon, 2003), the quality of products meeting the expectations of shoppers (Baek & Oh, 2021), price utility (Kim et al., 2011), and convenience (Yu et al., 2018). Many studies have supported the positive relationship of utilitarian value with consumer behavioural intentions and outcomes (Choi & Kim, 2016; Moon & Kim, 2001).

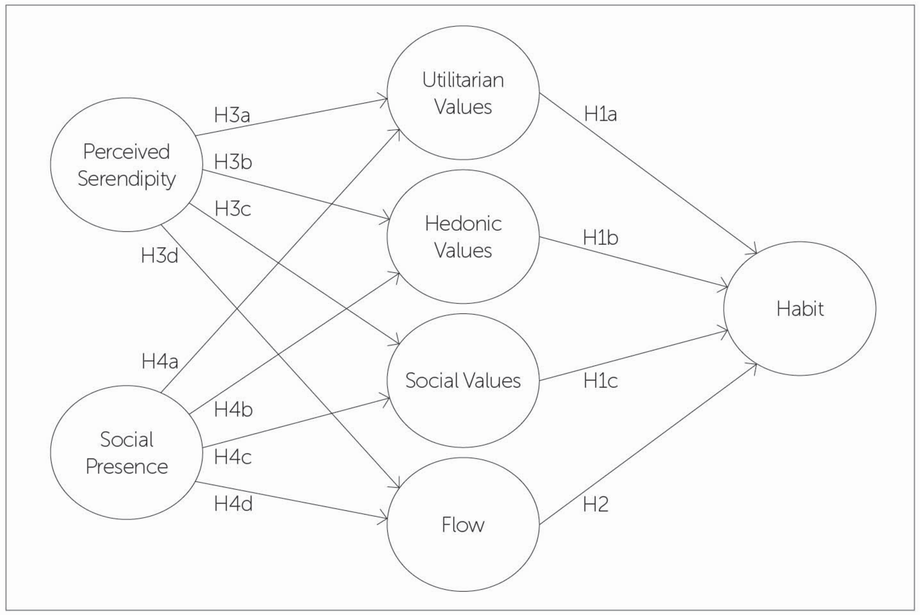

Fig. 1. Conceptual Model

Live streaming e-commerce allows viewers to receive different kinds of information that match their interests and needs. Significant utilitarian value may come from the authenticity, relevance, and convenience of the information provided by streamers. Firstly, live streaming e-commerce videos, which allow streamers (opinion leaders or sellers) to provide their own views or comments, demonstrate products without fabrication, and respond to the questions of viewers immediately, are perceived as highly authentic (Hamilton et al., 2014). Such authenticity can reduce viewers' doubts, thus being motivated to revisit the live streamers' videos from time to time. These repeated visits help viewers form a habit. Secondly, live streaming allows viewers to ask questions and receive answers from the streamer in almost real time. This spontaneous and interactive nature not only fosters customers' sense of connection (Wang et al., 2000) but also allows streamers to tailor their service to the needs of viewers, thereby increasing the relevance of their live streams (Sun et al., 2019). Thirdly, the convenience brought by live streaming to viewers allows them to rely on such a convenience and form a habit. Consumers who perceive convenience from watching live streaming videos are likely to watch additional live streaming videos (Loureiro et al., 2014). Thus, we hypothesise that:

H1a: Perceived utilitarian value is positively related to viewers' habit of watching live streaming e-commerce.

3.1.2 Perceived hedonic value

Hedonic value is related to the affect that involves the fun and enjoyment that customers derive from using a product or service (Sheth et al., 1991). It refers to the feelings or the affective status aroused by a product (Kim et al., 2011) or the shopping process (Jarvenpaa & Todd, 1996). Prior studies in online shopping have suggested that consumers may perceive emotional value from various online experiences, such as searching and using online services (Dabholkar & Bagozzi, 2002), engaging in co-creation activities (Mohd-Any et al., 2015), and participating in live streaming commerce (Oyedele & Simpson, 2018).

Numerous studies have considered the hedonic factor (such as perceived enjoyment) an intrinsic motivation in the adoption of information technology (Lowry et al., 2013). The hedonic values or enjoyment from online activities lead consumers to browse and stay on shopping websites for an extended period (Kim et al., 2007), have high purchase intentions (Xu et al., 2020), use social networking services continuously (Choi, 2016), increase their usage intention in entertainment contexts (van der Heijden, 2004), and strengthen their intention to patronise online stores (Lee et al., 2010). Similarly, we believe that the positive mood and emotions that are created when watching live streams may drive viewers to experience such positive feelings again (Ma, 2021). The perceived hedonic value from watching live streams motivates them to view live streamers' broadcast repeatedly, which eventually develops the habit of watching these videos. Therefore, we hypothesise that:

H1b: Perceived hedonic value is positively related to viewers' habit of watching live streaming e-commerce.

3.1.3 Perceived social value

Social value refers to products' value in enhancing consumers' social well-being and interpersonal relationships (Rintamäki et al., 2006). This perceived value can be obtained from the association with one or more special social groups (Suki, 2016) and the improvement of one's self-image (Khan & Mohsin, 2017). Prior studies in shopping show that consumption is a social act. As consumers shop, they form perceptions about themselves, the sellers, and other patrons (El Hedhli et al., 2013). During the shopping process, consumers may enhance their personal identity (Sirgy et al., 2000) and satisfy their needs (Koo et al., 2008). Compared with traditional mass media, live streams offer not only useful and creative real-time watching experiences but also opportunities to communicate and interact with streamers and other audiences. These interactions may promote the development of social relationships among streamers and the audience (Chen & Lin, 2017), thereby creating social value for the audience.

Given that live streaming e-commerce allows shoppers to observe the appearance, personality, and behaviour of streamers, consumers may evaluate streamers' attributes, admire and identify with them (Hu et al., 2017). Such a social identification motivates viewers to watch live stream broadcasts. In addition, viewers can interact with one another and exchange opinions via text-based dialogues (Hamilton et al., 2014). The identification developed among viewers (Hu et al., 2017) can increase their frequency and length of watching live streams. Other studies have found that consumers' social desire influences their adoption and use of mobile technology (Leung & Wei, 2000) and participation in online games (Gilbert & Han, 2005). Koo et al. (2008) demonstrated that social affiliation (e.g., friendly relationships) eventually has a positive influence on repatronage intention. Moreover, the social values brought by live streaming may increase the frequency of watching live streams (Ma, 2021). Thus, we hypothesise that:

H1c: Perceived social value is positively related to viewers' habit of watching live streaming e-commerce.

3.2 Flow and habit of watching live streaming e-commerce

Prior studies have shown that consumer experiences of flow may lead to a variety of consumer behavioural outcomes especially in the context of digital marketing and human–computer interaction. For example, flow experience may influence consumers' online purchase intentions (Hsu et al., 2012), revisit intention (Koufaris, 2002), intention to play online games (Procci et al., 2012), stickiness of AR games (Lee et al., 2018), brand identification and loyalty (Lin et al., 2019), and virtual reality shopping (Han et al., 2020). Hsu (2020) asserted that the flow experience involved in the vlog-viewing process may lead to consumers' addiction, urge to purchase, and impulse purchase. These studies indicate the relationship between flow and habit in the context of live streaming activities. In the flow state, viewers usually feel in control, exhibit full concentration, and experience high levels of enjoyment when they watch a live stream broadcast. This wonderful experience compels viewers to engage in these activities repeatedly. Hence, a habit may be established. Thus, we hypothesise that:

H2: Flow is positively related to viewers' habit of watching live streaming e-commerce.

3.3 Perceived serendipity

Serendipity refers to the accidental discovery of interesting information by consumers. Studies related to recommendations to consumers described serendipity as unusual or surprising, thus making consumers feel interested (Chen et al., 2019). Serendipitous events are unexpected and create a feeling of surprise; hence, people may feel that they are lucky (Reisenzein et al., 2019). These feelings of serendipity may create positive experiences (King et al., 2006) and enhance customer satisfaction (Lindgreen & Vanhamme, 2003). Moreover, surprise incentives may increase customers' unplanned spending (Valenzuela et al., 2009). Many studies have examined the positive outcomes of serendipitous encounters. For example, serendipity has been found to be related to customer engagement (Chitturi et al., 2008), positive user experience (Fleck, 2003), enjoyment (Zhang et al., 2012), perceptions of meaningfulness of an experience (Matt et al., 2014), and likelihood of purchasing products (Ozkara et al., 2017).

One of the unique characteristics of live streaming services is the element of surprise and chance. When people opt to watch a live streaming program, they do not know the exact contents of the video beforehand. When the source, contents, and presentation style are perceived as good, this perception generates serendipity. Serendipity occurs when an encounter results in feelings of surprise and luck. In such contexts, the information provided by live streamers may be judged as positive and useful (Oh et al., 2021). For example, live streamers often give discounts to their viewers in real time. This bargain-hunting experience enhances the perceived utilitarian value to viewers. In addition, people have increased enjoyment when the recommendation system provides serendipity (Zhang et al., 2012) or when they encounter songs and information unexpectedly (Celma & Lamere, 2011). We posit that perceived serendipity brings hedonic values to live stream viewers. In a recent experimental study on recommendation systems, serendipitous suggestions instead of personalised suggestions were found to enhance participants' sociality perceptions of the system, such as being helpful, friendly, and competent (Oh et al., 2021). The logic can also be generalised to the live streaming context. Thus, we hypothesise that:

H3a: Perceived serendipity is positively related to perceived utilitarian values of live streaming e-commerce.

H3b: Perceived serendipity is positively related to perceived hedonic values of live streaming e-commerce.

H3c: Perceived serendipity is positively related to perceived social values of live streaming e-commerce.

Moreover, we believe that perceived serendipity can influence the flow of viewers. Firstly, serendipity is an unexpected and pleasant result to viewers. The surprise encountered by viewers will attract their attention to live streams. Researchers have also confirmed that unexpected information can finally lead to flow experience (Lu & Cheng, 2020). Viewers with perceived serendipity often develop a sense of enjoyment (Kim et al., 2021), which is one of the key features of flow (Ozkara et al., 2017). Enjoyment was found to lead to immersion as a flow state among online game players (Lowry et al., 2013) and mobile social media users (Kim et al., 2017). Thus, viewers should not be an exception. If viewers continuously experience surprise and pleasure brought by streamers, then they will be attracted and immersed in the online video, thus entering flow experience and prolonging their usage time (Lu & Cheng, 2020). On the basis of these previous studies, we hypothesise that:

H3d: Perceived serendipity is positively related to the flow of viewers.

3.4 Social presence

Social presence refers to the "degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships" (Short et al., 1976, p. 65). It assesses the feeling of being socially and psychologically involved in a communication (Durlach & Slater, 2000).

Social presence has been found to affect people's behaviour in an online environment, including their mobile messaging usage (Ogara et al., 2014), social media activities (Han et al., 2015), and participation in online communities (Wang & Tai, 2011). We can infer from these studies that social presence can eventually affect people's habitual behaviours in watching live streams. This study supports the view that when individuals perceive a high level of social presence through their personal interaction with live streamers and other audiences, viewers tend to be involved and engaged in watching live streams. Thus, live streaming can provide social or symbolic value because customers can build social relationships with other participants and assign symbolic meanings about themselves, the seller, and the seller's offerings.

Prior studies in different contexts have indicated that social presence may enhance the perceived values of users or consumers. Han et al. (2015) found that social presence increases the perception of the usefulness of information, which is one aspect of utilitarian value. For example, feedback from other viewers helps people infer the popularity and acceptance of products. In addition, one study on the use of mobile social network services supported the idea that social presence may enhance users' enjoyment (Choi, 2016). Wang and Lee (2020) also found that social presence is directly related to enjoyment. Studies in other online contexts have also confirmed that social presence leads to enjoyment (Kim et al., 2020). Thus, we believe that social presence can bring hedonic value in the context of live streaming. Finally, social presence with increased interactions creates a feeling of closeness and familiarity among participants (Gefen, 2000). It also heightens participants' sense of belonging

and emotional attachment (Li et al., 2021), which are directly related to the perceived social values of users. Thus, during live streaming, viewers may derive social benefits by interacting and communicating with people who have similar interests. In this regard, the following hypotheses are proposed.

H4a: Social presence is positively related to perceived utilitarian values of live streaming e-commerce.

H4b: Social presence is positively related to perceived hedonic values of live streaming e-commerce.

H4c: Social presence is positively related to the perceived social values of live streaming e-commerce.

The relationship between social presence and flow state has also been examined from different contexts. A study on online games identified that instantaneous feedback to players can stimulate their flow states and increase their concentration in game activities (Chiang et al., 2011). Another study on mobile social network games had a similar result (Wang & Lee, 2020). The feeling of social presence can create an atmosphere that allows people to participate in online activities (Zhao et al., 2014). A high perceived social presence reinforces the realness of a particular feeling; moreover, it increases people's flow experience (Alzahrani et al., 2017). The interactive, dynamic nature of live streaming makes it highly engaging and interesting, thereby allowing consumers to reach the flow state (Su et al., 2020). Thus, the following hypothesis is proposed:

H4d: Social presence is positively related to the flow of viewers.

4 Research Method

4.1 Instrument

The study employed a quantitative method using an online questionnaire to gather primary data from target participants. The questionnaire was divided into three parts. The first part encompassed a filter question about respondents' current behaviours towards watching live streaming videos. The second part consisted of 21 scale indicators that were associated with the research constructs (Table 1). We created our survey instrument by adopting measurement items that were validated in previous studies. Then, we modified these items to fit the context of our study. A five-point Likert scale was applied to assess each indicator with anchors ranging from strongly disagree (1) to strongly agree (5). The last part of the questionnaire collected the demographic characteristics of participants, including gender, age, income, occupation, and family status.

Table 1. Results of Measurement Model

Constructs and Items	Mean	SD	Standardised Loadings
Perceived Serendipity (CA = 0.830, CR = 0.899, AVE = 0.747)			
• PS1 When watching a live stream, I can often see unexpected contents.	3.567	0.484	0.873
• PS2 When watching a live stream, I often find interesting and surprising information.	3.572	0.454	0.900
• PS3 When watching a live stream, I gain more valuable information than what I want to know when searching online.	3.411	0.508	0.818
Source: Lu and Cheng (2020)			
Social Presence (CA = 0.776, CR = 0.869, AVE = 0.690)			
• SP1 Live streaming shopping has a sense of human contact.	3.657	0.371	0.789
• SP2 Live streaming shopping has a sense of personalness.	3.362	0.446	0.874
• SP3 I can keep in touch with the streamer and others during the live streaming.	3.138	0.534	0.827
Source: Sun et al. (2019)			
Perceived Utilitarian Value (CA = 0.845, CR = 0.906, AVE = 0.763)			
• PUV1 Live streaming helps me to find the information I would like to collect.	3.563	0.443	0.862
• PUV2 Live streaming can help me collect information in a highly effective way.	3.581	0.433	0.894
• PUV3 Live streaming can help me address misgivings.	3.408	0.484	0.865
Source: Chen et al. (2020)			
Perceived Hedonic Value (CA = 0.866, CR = 0.918, AVE = 0.790)			
• PHV1 I feel pleasure from using online streaming	3.446	0.457	0.845
• PHV2 I experience enjoyment from using online live streaming	3.541	0.449	0.895
• PHV3 I have fun using online live streaming	3.442	0.496	0.924
Source: Chen et al. (2020)			
Perceived Social Value (CA = 0.908, CR = 0.942, AVE = 0.845)			
• PSV1 I use online live streaming to make the acquaintance of new friends.	2.709	0.613	0.929
• PSV2 I would like to use online live streaming to expand my social circle.	2.698	0.593	0.935
• PSV3 I try to use online live streaming to make contact with people I find interesting.	2.927	0.609	0.893
Source: Chen et al. (2020)			
Flow (CA = 0.569, CR = 0.773, AVE = 0.534)			
• FL1 When watching a live stream, I do not realise how time passes.	3.439	0.504	0.845
• FL2 When watching a live stream, I often forget the work I must do.	2.808	0.593	0.686
• FL3 When watching live stream, I am not distracted easily by other things.	3.298	0.507	0.644
Source: Chen and Lin (2017)			
Habit (CA = 0.857, CR = 0.912, AVE = 0.776)			
• HA1 Watching live streams has become a habit for me.	2.890	0.669	0.897
• HA2 I don't even think twice before watching live streams.	2.909	0.586	0.868
• HA3 Watching live streams has become natural to me.	3.128	0.580	0.879
Source: Zhang et al. (2014)			

4.2 Participants and data collection

The data were collected by the Enterprise and Social Development Research Centre and Proactive Think Tank Limited. We collected data via a web survey by using snowball sampling through different social media posts and live streaming websites. Working adults were selected as the target segment because this group is one of the most prolific users of social media. However, few studies have focused on this segment. In addition, participation was anonymous and voluntary. Informed consent was obtained from all the study participants via survey instructions. The total number of respondents was 1,175. After deleting repeated responses, 1,006 valid responses were retained. Among the 1,006 samples, 453 respondents reported watching a live streaming video in the past three months. These respondents were selected as the participants of this study.

Table 2 depicts the sample characteristics. The sample consisted mainly of female respondents (72.63%). Over 90% (92.05%) of the respondents were aged between 21 and 60, thus indicating that the sample was highly representative of working adults in Hong Kong. Many respondents were well educated, that is, 60.05% of them held a tertiary qualification or above.

Table 2. Profile of Respondents

	Watched live streaming videos in the past three months (Total: 453)		
	Item	**No.**	**%**
Gender	Male	124	27.37%
	Female	329	72.63%
Age	Below 21	11	2.43%
	21–30	55	12.14%
	31–40	112	24.72%
	41–50	136	30.02%
	51-60	114	25.17%
	61 or above	25	5.52%
Education	Primary or below	4	0.88%
	Secondary	177	39.07%
	Tertiary	89	19.65%
	University	114	25.17%
	Postgraduate	69	15.23%
Family status	Married	251	55.41%
	Single	163	35.98%
	Divorced/Separated	28	6.18%
	Widowed	11	2.43%

4.3 Common method bias

Given that the online survey was the only source of data, common method bias (CMB) was addressed through procedural and statistical techniques. The items were rearranged, and the wordings were refined after the pilot study (Podsakoff et al., 2003). Statistically, Harman's single factor test was used to examine the effect of CMB. In our study, the total variance for a single factor was 43.33%. When a complete set of factors was present in the model, 77.94% of the variance was explained. These results suggested that serious CMB was unlikely (Gao et al., 2018). Full collinearity test also suggested that the VIF values were less than the 5.0 threshold, thus also suggesting that the CMB issue was not serious in this study (Hair et al., 2012).

4.4 Data analysis method

The objective of this study was to examine the key determinants of consumers' development of the habit of watching live streams. The analysis was undertaken via partial least squares (PLS) using Smartpls 4.0. PLS is a general technique for analysing path models involving latent constructs. The application of the partial least squares structural equation modelling (PLS-SEM) requires a two-phase process (Manley et al., 2021). The first phase involves assessing the measurement reliability and validity, while the second phase entails evaluating the structural model (Hair et al., 2020). PLS-SEM is an analytical technique that is commonly used in the research of information systems, new technology, and marketing (Henseler et al., 2016). Furthermore, it is a suitable method to analyse complex models that involve causal direct and indirect relationships and assess multi-item constructs (Manley et al., 2021).

5 Findings

5.1 Measurement model

Table 1 summarises the descriptive statistics, Cronbach's alpha, composite reliability, average variance extracted (AVE) of each latent variable, and factor loadings of each item. Most of the reliability measures, including Cronbach's alpha and

composite reliabilities, exceeded 0.70, which indicated that the measurement model possessed good internal consistency reliability (Nunnally, 1978). The factor loadings and AVE were calculated to assess convergent validity. All constructs achieved an AVE greater than 0.50, while all factor-loading measures were above 0.65 with loadings significantly at $p < 0.01$, thus meeting the recommended criteria for convergent validity (Hair et al., 2012). An examination of cross loadings of indicators and Fornell–Larcker criterion were used to assess the discriminant validity of each construct (Fornell & Larcker, 1981). The Fornell–Larcker criterion assessment, which compares the square roots of the reflective construct's AVE with the correlations between the constructs, confirms the discriminant validity of the measurement model (Table 3). Table 4 summarises the range of factor-loading and cross-loading of each construct. The factor loadings of each construct were higher than all its cross loadings with other constructs. The heterotrait-monotrait (HTMT) ratio test was also conducted to provide additional evidence of adequate discriminant validity. None of the HTMT values between the different pairs of the constructs was higher than the cutoff level of 0.85, thus further indicating discriminant validity (Table 5). Considering the results of the data analysis, the measures of all constructs possessed acceptable validity and reliability. The next stage of analysis focuses on testing the structural model.

Table 3. Square root of AVE (diagonal elements) and interconstruct correlations

	FLOW	HA	PHV	PS	PUV	SP	PSV
FLOW	0.730						
HA	0.509	0.881					
PHV	0.484	0.508	0.889				
PS	0.562	0.528	0.677	0.864			
PUV	0.435	0.437	0.575	0.580	0.874		
SP	0.328	0.390	0.428	0.434	0.325	0.831	
PSV	0.394	0.605	0.368	0.410	0.371	0.429	0.919

Table 4. Examination of cross loadings

	Range of Factor Loading	Range of Cross Loading
Perceived Serendipity (PS)	0.873–0.900	0.311–0.636
Social Presence (SP)	0.789–0.874	0.202–0.417
Perceived Utilitarian Value (PUV)	0.862–0.894	0.226–0.547
Perceived Hedonic Value (PHV)	0.845–0.924	0.239–0.619
Perceived Social Value (PSV)	0.893–0.935	0.254–0.587
Flow (FL)	0.644–0.839	0.210–0.529
Habit of watching live streams (HA)	0.868–0.897	0.269–0.561

Table 5. Heterotrait-monotrait ratio (HTMT)

	FL	HA	PHV	PS	PUV	SP
Flow (FL)						
Habit (HA)	0.706					
Perceived Hedonic Value (PHV)	0.661	0.585				
Perceived Serendipity (PS)	0.781	0.621	0.798			
Perceived Utilitarian Value (PUV)	0.604	0.509	0.673	0.688		
Social Presence (SP)	0.493	0.471	0.523	0.541	0.400	
Perceived Social Value (PSV)	0.562	0.683	0.414	0.471	0.420	0.499

5.2 Structural model

After establishing the reliabilities and validities of the measurement model, the quality of the structural model was assessed by various indicators, including a collinearity assessment, the significance and relevance of structural model relationships, the r-squared (R^2) for exogenous–endogenous relationships, effect size, and predictive relevance of the model (Hair et al., 2014).

The VIF values were used to assess the collinearity of each construct. Given that the VIF ranged from 1.000 to 1.689, which was below the threshold of 5, collinearity among the predictor constructs was not an issue in this model (Hair et al., 2011). The predictive power of the model was assessed by the R^2 values of the endogenous constructs (Hair, et al., 2014). The variance explained in mediating and endogenous variables, which included utilitarian value, hedonic value, social value, flow, and live-stream-watching habit, are summarised in Figure 2, which demonstrates moderate

to high predictive power in different constructs (Henseler et al., 2009). The structural models of both studies demonstrated acceptable predictive power. The effect size, f^2, ranged from 0.001 to 0.572, thus reflecting that the effect sizes of different endogenous constructs on exogenous constructs ranged from small to high (Table 6). The cross-validated redundancy values, Q^2, for all three endogenous constructs were above zero, which reflected that the predictive accuracy of the model was acceptable (Wold, 1982).

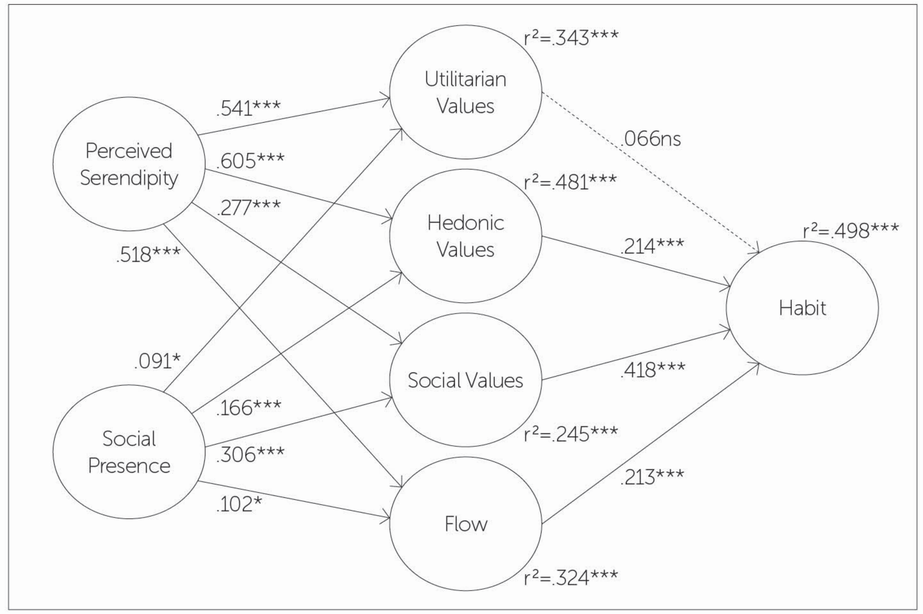

Fig. 2. Structural equation model results of estimated beta values and coefficients of determination (r^2) (Notes: n = 453, *: p < .05; **: p < .01; ***: p < .001; ns = not significant)

Table 6. Significance testing results of the structural model path coefficients

Hypotheses	Path	Path coefficient	t-value	Sign.	f^2	Supported
H1a	PUV→HA	0.066	1.293	n.s.	--	No
H1b	PHV→HA	0.213	4.279	***	0.054	Yes
H1c	PSV→HA	0.418	8.578	***	0.272	Yes
H2	FL→HA	0.214	3.893	***	0.062	Yes
H3a	PS→PUV	0.541	13.051	***	0.361	Yes
H3b	PS→PHV	0.605	13.199	***	0.572	Yes
H3c	PS→PSV	0.277	5.659	***	0.083	Yes
H3d	PS→FL	0.518	11.175	***	0.322	Yes
H4a	SP→PUV	0.091	1.966	*	0.001	Yes
H4b	SP→PHV	0.166	4.066	***	0.043	Yes
H4c	SP→PSV	0.306	6.435	***	0.101	Yes
H4d	SP→FL	0.102	2.313	*	0.013	Yes

Notes: *p < .05; **p < .01; ***p < .001

The significance of the path coefficients of the samples was assessed by the bootstrapping procedure with 5,000 samples. Notably, 11 out of 12 hypotheses received significant support (Table 6). Table 7 summarises the specific indirect effects of each path. H1a, H1b, and H1c proposed the positive impacts of perceived utilitarian values, hedonic values, and social values on the habit of viewing live streams, respectively. H1b and H1c were supported: high levels of perceived social values and hedonic values increase the likelihood of viewers developing the habit of watching live streams. The result of H2 demonstrates that respondents with flow experience in watching live streams are likely to develop habitual behaviours in watching these videos. H3 hypothesised a positive relationship between perceived serendipity and perceived values, providing support to H3a, H3b, and H3c. Thus, an increase in the perceived serendipity in live streaming enhances the values that the audience perceives. The results also showed a positive relationship between perceived serendipity and flow (H1d). Viewers are likely to enter into a flow state with creative and interesting videos. H4 proposed a positive relationship between social presence and perceived utilitarian (H4a), hedonic (H4b), and social values (H4c). The findings provided support to these hypotheses: a high perception of social presence

in live streaming increases the utilitarian, hedonic, and social values that the audience perceives. H4d also supported the relationship between the social presence and flow of viewers.

Table 7. Specific indirect effects of the model

Path	Indirect Effect	t-value	Sign.	Confidence interval	Supported
PS→PUV→HA	0.039	1.245	n.s.	-0.02–0.102	No
PS→PHV→HA	0.129	4.980	***	0.061–0.206	Yes
PS→PSV→HA	0.115	4.310	***	0.004–0.050	Yes
PS→FLOW→HA	0.110	4.407	***	0.062–0.161	Yes
SP→PUV→HA	0.006	0.981	n.s.	-0.017–0.093	No
SP→PHV→HA	0.035	2.990	**	0.016–0.063	Yes
SP→PSV→HA	0.129	3.469	**	0.081–0.182	Yes
SP→FLOW→HA	0.022	1.873	0.062	0.004–0.050	Mixed

6 Discussion and Implications

6.1 Discussion

Viewers' perceived serendipity of watching experience has a significant effect on their habits of watching live streams. This interrelation between perceived serendipity and perceived values (hedonic and social values), which characterises the habit of watching live streams, is in accordance with the literature of recommendation systems (Oh et al., 2021; Zhang et al., 2012). Our result suggests that unexpected information and suggestions may lead to intrinsic values, including hedonic and social values, which will enhance viewers' intention to build a habit of watching live streams. This study also supports the theory that perceived serendipity can lead to the continuous viewing of live streams through flow experiences (Lu & Cheng, 2020). Serendipitous information and communication are fun, curiosity-evoking, and satisfying social activities, which lead to heightened perceptions of values and are likely to cause viewers to enter into a flow state.

Increased social presence can indirectly encourage consumer intention to watch live streams. This result corroborates and further develops previous findings, such as those of Chen and Lin (2017) and Kang et al. (2021), which suggested that social presence is one of the key factors that facilitate people's participation in online activities. Perceived social value is the primary mediator that connects social presence and viewers' habit of watching live streams, thus confirming the relationships among social presence, perceived value, and consumer behavioural intention in the e-business literature (Han et al., 2015; Ogara et al., 2014). This result is important for planning live streaming experiences, which must be designed to focus not only on the outcome but also on the way people will interact with the experience.

This study confirms the relationship among perceived hedonic value, social values, and the habit of watching live streams. Viewers who have a highly enjoyable experience from watching broadcasts and their interactions with streamers and other viewers may be inclined to develop a habit of watching live streams (Ma, 2021). This finding is consistent with previous claims that perceived hedonic values and social values are significantly influenced by social presence in online contexts (Ye et al., 2020). This work also adds to the results of Hsu (2020) in that it explains that flow experience can significantly affect consumers' habit of watching live streams.

6.2 Managerial implications

From a managerial perspective, this study provides insights into the key elements for live streamers and live streaming platforms to attract and retain audiences. The real-time nature of live streams not only allows streamers to create interesting, surprising, and delightful content but also facilitates interactions with and between audiences. Many studies related to the digital environment have examined how to strengthen users' perceived serendipity (Lu & Cheng, 2020). McCay-Peet and Toms (2011) proposed five core elements of support for serendipity in a digital environment: enabling connections, introducing the unexpected, presenting variety, triggering divergence, and inducing curiosity. Live streamers create interesting and surprising content by delivering unexpected and divergent content, humorous presentation styles, and social connections. They can also introduce unexpected or novel information to induce users' curiosity.

Streamers should enhance the parasocial relationships between the streamer and viewers, which can enable viewers to perceive the streamer as a reliable friend and develop a sense of closeness with each other. Flow experience can be facilitated by increasing serendipitous content and interaction between streamers and viewers. Currently, viewers in Hong Kong mainly watch live streams through traditional social networking apps. Platform providers may design additional interactive features in live stream platforms to increase the penetration of live streaming (Chen & Lin, 2017). Moreover, streamers should use interesting content to enhance interactions, be responsive to viewers' interests and needs, and develop vivid real-time interactions with and among viewers (Hilvert-Bruce et al., 2018; Hu et al., 2017).

Streamers can also consider designing various elements to enhance viewers' perceived utilitarian, hedonic, and social values, which can influence viewers' adoption of habitual watching behaviours. Streamers' presentation of content should be interesting and delightful and meet viewers' needs for information and entertainment. The strongest impact on building the habit of watching arises from hedonic and social values. Given that watching live videos usually takes a long period, streamers need to maintain the audience's engagement and reduce their boredom by including entertaining activities or incentives (e.g., flash promotions or discounts). Streamers should also provide immediate responses to audience's feedback and questions about the broadcast and facilitate exchange among viewers. Some streamers even maximise social media to collect feedback and strengthen their communication and relationship with the audience.

6.3 Conclusion, limitations, and suggestions for future research

This study contributes to the literature of live streaming by developing a theoretical model that uncovers how perceived serendipity affects Hong Kong viewers' habit of watching live streams through perceived values and flow. Although prior studies have focused on exploring related factors that may affect viewers' continuous intention to watch live streams, few works have viewed values and flow as mechanisms to build their habits (Lu & Cheng, 2020). Through the social presence construct, we disclosed how the interactions between streamers and viewers are related to consumer values, flow experience, and viewers' habit of watching live

streams. Finally, we identified key features of online social activities that deserve attention in future studies by examining the formation of habits in live streaming. Our study makes a practical contribution to enhancing viewers' intention to watch live streams. We found that serendipitous content and communication style have created values and flow experiences for viewers of live streams.

Although this study provides useful insights, its limitations may hinder drawing conclusions from its findings. Firstly, the study was conducted among users of social media and online shopping websites operating in Hong Kong by using a nonprobabilistic sampling method. Therefore, caution is recommended regarding the generalisability and external validity of the results of this study. Our study also focuses on working adults and excludes youngsters. Consequently, future research should attempt to sample a group of viewers in different cultures and demographic background. In addition, this study employed a self-administered survey questionnaire among live stream viewers. However, different research methods (e.g., experiments) may be used to explore the relationships between the constructs we identified.

Second, live stream broadcasts have different types. Thus, audiences watching different types of live streams may have different expectations, values, and motivations and behave differently. This study did not examine the key features among various groups of viewers. With the rapid development of live streaming programs, additional types of content are expected to be live streamed. Future studies can build on these results by analysing the psychological process and behavioural outcomes of viewers among different types of live streams, such as life sharing, commentary, live stream commerce, and talent shows. These perspectives may reinforce the robustness of the study's results.

Finally, in recent years, the infrastructure and process of live streaming commerce have become increasingly comprehensive. The consumption process now involves many touchpoints. For example, key opinion leaders or live streaming platforms may promote their broadcast through various social media networks (preconsumption stage). After the broadcast, they invite viewers to join social network groups to continue their communication and relationship (postconsumption stage). Notably, an empirical study of how different touch points facilitate the evaluation of perceived value has not been conducted. Thus, future studies can expand to include additional communication and promotion elements in different stages of live streaming e-commerce to capture the distinctive characteristics of this rapidly developing area of digital marketing.

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Live streaming e-commerce as a business start-up option for Hong Kong youngsters

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Abstract. The COVID-19 pandemic has helped boost live streaming e-commerce activities in Hong Kong, thus becoming a serious consideration for new business ventures. In this qualitative study based on interviews with 26 live streamers and senior management personnel of live streaming platforms in Hong Kong, the authors investigated whether live streaming e-commerce is a viable start-up option for Hong Kong youngsters. Nine questions were posed to gather insights. These nine questions covered the reasons why live streaming e-commerce has become a start-up option in Hong Kong, the profit model employed, the characteristics of and performance style for successful live streamers, the training required, the available online platforms, the effective strategies, the challenges faced, and the career prospects. The findings indicate that live streaming e-commerce is only starting to take root in Hong Kong. Hence, the market size remains small. Nevertheless, the low entry barriers and the available platforms and technology make the proposition highly attractive, thus giving the youngsters a possible opening.

Keywords. Live streaming e-commerce, Live-streaming platform, Start-up option, Streamer

1 Introduction

Electronic commerce (e-commerce) is a way of selling and buying products or services through electronic means. Business to Business (B2B), Business to Consumer (B2C), Consumer to Consumer (C2C), Consumer to Business (C2B), Business to Business to Consumer (B2B2C), and Business to Consumer to Consumer (B2C2C) are some of the business models that have been facilitated by e-commerce especially in the last decade. In 2020, the world was ravaged by COVID-19. During the pandemic, most people were isolated at home, thus allowing online live streaming to become a popular way of consuming entertainment and live streaming e-commerce to evolve into a safe and effective way of shopping (Wongsunopparat & Deng, 2021). Data from Taobao show that the number of new Taobao merchants that opened live streaming services increased by 719% month on month in February 2020. During the whole month of February, the total number of orders received by Taobao live streaming

merchants increased by 20 percent every week on average; moreover, the transaction amount doubled compared with 2019 (Xinhuanet, 2020). During this period, live streaming e-commerce started to become an increasingly common practice in the B2C and C2C business models in Hong Kong. However, this model was already mature in China. Live streaming e-commerce has been used in individuals' online selling sites. The new addition to its usage is the broadcasting of sale activities through different online channels. The success stories of live streamers in China have attracted people in Hong Kong to follow this approach and start their C2C e-commerce through livestreaming. Hence, this study investigates whether live streaming e-commerce is a viable start-up option for Hong Kong youngsters.

2 Literature Review

2.1 Live streaming e-commerce

In general, live streaming e-commerce is an e-commerce marketing model that uses live streaming to display, recommend, and sell commodities to consumers (Wongsunopparat & Deng, 2021). Qin (2020) stated that live streaming e-commerce is a new model for e-commerce marketing that involves strong interaction and sociality. Enterprises and businesses can narrow the distance between users and products through live streaming to achieve precise marketing.

Recktenwald (2017) defines live streaming as broadcast video streaming services provided by web-based platforms and mobile applications that feature synchronous and cross-modal interactivity (video, text, and image). Across live streaming platforms, users have generated content genres of onscreen performance, including gameplay, cooking, painting, karaoke, and social eating (Recktenwald, 2017; Recktenwald & Du, 2016). Bründl and Hess (2016) described these platforms as places where users can broadcast their own content and watch other users' live content alongside synchronously interacting with social functions, such as chatting, following, and subscribing. Currently, live streaming has been heavily utilised by social media platforms, such as Facebook, Instagram, and YouTube (Lu, 2021).

Live streaming e-commerce combines the sales attributes of e-commerce and the flow attributes of live streaming. It has the characteristics needed for the targeted presentation of commodity information. Users and content producers can access and share commodity information at any time, and with live streaming providing a rich visual experience, their shared community fosters high interactivity, strong sociability, and real-time engagement (Qin, 2020). Lee and Chen (2021) further described it as a novel shopping environment that facilitates a virtual space for viewers to watch and interact with streamers and vice versa. This activity promotes user attachment and enables streamers to build a customer base.

In live streaming e-commerce, consumers can directly connect with brands and factories, thus eliminating the premium of intermediate links. Meanwhile, during live streaming, consumers can interact with live streamers in real time and with many other consumers (Zhong, 2020). This interaction increases consumers' understanding of products while catering to consumers' psychological pursuit of leisure and entertainment (Cai, 2020) and enhancing their shopping experience (Chen, 2020). In addition, consumers can watch live streaming e-commerce anytime and anywhere, because this activity is no longer restricted by time and region (Zhong, 2020). Live streaming e-commerce can also create rich live streaming scenes for consumers (Chen, 2020). It not only delivers real and dynamic product content to consumers but also enhances consumers' sense of presence (Cong, 2021), which stimulates consumers' shopping desire to a large extent. In general, a combination of chat functionality and intractability in the user interface of the application results in live streaming e-commerce delivering a narrative experience; hence, consumers are engaged in the process and can receive the social interaction they strive (Guo et al., 2021).

Furthermore, live streaming e-commerce has two main operating modes. One mode is an embedded live-streaming function in traditional e-commerce platforms, such as Taobao and JD.com; the other mode involves the integration of e-commerce into live streaming platforms, such as Douyin and Kuaishou (Xie, 2020; Zhang, 2020). Therefore, live streaming e-commerce is based on traditional e-commerce, provides businesses with a new and better touch of consumer channels and achieves a breakthrough in time, space, and marketing methods (Wong, 2019).

2.2 Live streamers

Cunningham et al. (2019) defined live streamers as individuals who convert their onscreen practice and interactivity with their followers into revenue streams, which are generated through features and affordances on and off platforms. In live streaming e-commerce, streamers take the initiative to convey product information to consumers and guide consumers to purchase. In this process, streamers introduce products to consumers in the form of live streaming and give full play to their advantages (e.g., appearance, eloquence, skills, etc.), market judgment, and sales ability to turn accumulated fans into consumers with purchasing power and achieve the final realisation of traffic while selling products (Xie, 2020). Through their strong ability to attract fans and their performance in live streaming, streamers can, to a certain extent, eliminate the suspicion of potential buyers because of consumers' lack of understanding of the product; thus, streamers can deepen viewers' interest in the product (Cai, 2020). Fu (2020) suggested that selling products through live streaming e-commerce platforms is the guiding role of key opinion leaders to consumers. The professional ability, expression value, and popularity of live streamers are important reasons for becoming opinion leaders. However, live streamers and opinion leaders are an indispensable part of live streaming e-commerce.

Zhao (2018) and Song (2020) concluded three types of live streamers exist. Firstly, professional live streamers who are usually familiar with the live streaming process have a deep understanding of the product or have a professional knowledge background. They can provide a reference for consumers to make decisions. Secondly, web celebrities or stars with a certain fan base usually have a strong appeal and can influence consumers' purchasing decisions to a certain extent. Thirdly, the sellers themselves display the production or the process of the products through live streaming. Therefore, they can deepen consumers' understanding of the products through interaction, which enhances consumers' purchase intention.

Jenkins et al. (2013) noted that Chinese live streamers operate entrepreneurially and interdependently within this media ecology across multiple platforms and stakeholders. These entities may be fan communities or general users, sponsors or advertisers, regulators, and policymakers. Creators benefit from the creation, distribution, and exploitation of intellectual property but also engage in social content innovation by generating discursive, improvisational, unscripted, and multimodal fare as featured in vlogs, streams, memes, gifs, tweets and stories. Production practices require an ultralow budget. Moreover, creator labour mainly involves online community management through the interactive, curatorial, and networking affordances of social media platforms, including commenting, liking, sharing, cocreating, and collaborating.

Furthermore, only 20% of the livestreaming industry is based on gaming and gameplayers, while the rest is dominated by "In Real Life" streamers, of whom 70% are women appealing to audiences comprising 75% men (Yang, 2018).

2.3 Live streaming e-commerce platform

A live streaming e-commerce platform is a social commerce property that integrates real-time social interactions into e-commerce by broadcasting live streams. In live streaming e-commerce, participants mainly include platform parties, live streamers, and consumers. Live streamers can use the functions of the platform to introduce products, guide shopping, interact with consumers, and engage in other behaviours, while consumers can watch live streams, interact, view, and buy products on the platform (Jia, 2019). For consumers, a live streaming e-commerce platform is not only a novel shopping channel but also a source of entertainment and leisure. It creates a new shopping scene for consumers and leads to a new shopping trend instead of offline shopping (Song, 2020). Compared with traditional e-commerce platforms, live streaming e-commerce platforms are characterised by high interaction, real-time engagement, and high consumer participation. The various types of live streaming e-commerce platforms have a huge user base. The original platform's loyal user base is indispensable for attracting users to participate in live streaming and facilitating the final traffic conversion (Jia, 2019).

2.4 4Ps of live streaming e-commerce

Wongsunopparat and Deng (2021) found that product individualisation has a positively significant influence on purchase decisions. Product individualisation refers to consumers perceiving the product of a certain brand as distinct and requiring the product to be different from the previous similar products; this product is expected to have its own unique style, which can reflect the personality and habits of various individuals (Wang et al., 2012). Moreover, Tao and Zi (2017) demonstrated that in the web celebrity economy, consumers' pursuit of products not only stays in the aspect of performance but also extends to the fashionability of products. This research on consumer purchasing intention under the internet celebrity model reveals that such pursuits highlight consumers' personalities.

Clement Addo et al. (2021) observed that price directly or indirectly affects consumers' purchasing decisions in live digital marketing. Their study also found that price has little significance when consumers decide to become loyal followers of a trusted product, brand, or supplier. However, the importance of price cannot be completely discounted even if follower relationships are established.

Guan (2021) suggested that discount promotion may lead to consumers' impulse-buying behaviour in live streaming. In addition, Zhang (2017) determined that discount promotion has the greatest impact on consumers' purchase intention in e-commerce. Meanwhile, Yin (2013) explained that various promotion methods, such as special sale promotions, time-limited sales, and gift promotions, can promote consumers' browsing of shopping websites, thus stimulating their impulse buying intention and promoting their online impulse buying behaviour.

Live streaming e-commerce platforms also have a directional promotion effect on online consumption (Song, 2020). Platform experience positively influences consumers' purchase intention by positively influencing perceived pleasure and perceived trust (Dong, 2019). Notably, platform services are conducive to the enhancement of consumers' purchase intention (Tian & Tian, 2020). In addition, the convenience of payment methods helps to improve consumers' perceived ease of use and influences consumers' willingness to continue using the platform (Wu & Zhou, 2017). Website professionalism, website popularity, after-sales service, and logistics quality have varying degrees of influence on purchasing decisions (Liu, 2016).

2.5 Purchase intention in live streaming e-commerce

According to Peña-García et al. (2020), online purchase intention refers to consumers' preparedness and willingness to make an online purchase. This intention is influenced by attitudes, beliefs, and perceptions. In the context of live streaming e-commerce, the streamer is a connection point between the product and the consumer; celebrity streamers are fundamental to attracting users (Clement Addo et al., 2021). Thus, the streamer's image and word of mouth affect the viewers' perception of the product; furthermore, viewers can easily derive trust in the product quality based on the streamer's good reputation, thus effectively increasing consumers' purchase intention (Wongkitrungrueng et al., 2020). Given that live streaming e-commerce is a sales task, it tests the streamer's sales ability. Xu et al. (2022) illustrated that when the streamers' level of professionalism is high, the streamers' introduction to the product will be highly recognised and trusted by viewers. Viewers believe that streamers are experienced professionals in their careers. As such, they will have an intention to buy only when they trust the streamer's description of the product's functions and the various ways of its use, as well as the streamer's reasons for recommending the product. Moreover, Xu et al. (2022) confirmed that when the streamer establishes personal popularity and gains viewers' virtual intimacy recognition, live streaming viewers will trust the streamer and believe that they have a parasocial relationship with the streamer, which will help promote product sales. Liu et al. (2020) agreed that a streamer's credibility, professionalism, interactivity, and attractiveness influence

perceived hedonic shopping value and perceived practical shopping value, thus promoting purchase intention. Additionally, Guo et al. (2022) concluded that streamers' characteristics affects their popularity, consumers' watching intention, and consumers' purchase intention.

Besides the characteristics and professionalism of streamers, other streamer-related factors affect the viewers' purchase intention. Park and Lin (2020) discovered that the streamer–product fit positively affects streamer attractiveness and streamer trustworthiness while live content–product fit positively affects utilitarian and hedonic attitudes towards the content. Source trustworthiness, hedonic attitude, and self–product fit positively affect consumers' intention to buy. Furthermore, Chen et al. (2021) found that interpersonal factors, such as perceived expertise, perceived similarity, and perceived likeability influence purchase intention, which is mediated by swift guanxi. Meanwhile, Hou et al. (2020) showed that the sex and social status of the streamer influence consumption intention while interactivity and humour appeal influence continuous watching intention. The effects of these factors vary across different types of live streaming (i.e., events, education, and personal sharing). Sun et al. (2021) also demonstrated that interactivity has a positive effect on purchase intention through social presence and flow experience. Addo et al. (2021) further proved that customer engagement has an association with followship and purchase intention. Furthermore, other factors of live streaming factors influence viewers' buying intention. For instance, Guo et al. (2021) demonstrated that live-streaming features positively affect the overall perceived value and purchase intention and negatively affect the overall perceived uncertainty; moreover, saving money enhances the effect of live-streaming features on the overall perceived value. In addition, Sun et al. (2019) reported that visibility affordance, metavoicing affordance, and guidance shopping affordance (i.e., IT affordance) positively affect customer purchase intention via engagement in live streaming.

2.6 Strategies for live streaming e-commerce

Qu (2022) reviewed the strategies for live streaming e-commerce by small and medium enterprises in China and concluded that seven strategies can lead to companies' success.

- *Engagement strategy and social media strategy:* Interactions should be built through a reward system and fan group-chat play (e.g., immediacy, and peer cues) together with the commenting, gifting, fan group, immersion, immediacy, interaction, and sociality to create an interactive environment with consumers. Product uncertainty should be reduced along with creating a convenient atmosphere with social presence, enjoyment, and internet celebrities to buy.
- *Content strategy:* Live streaming broadcasts should be enhanced to gain a high level of knowledge, social influence, and live streamer authenticity by presenting realistic plots, customer response capability, response speed with question-and-answer service, and attitudinal similarity. Roles should be set to maintain the close relationship between the speaker and the salesperson with the corresponding characteristics of live streaming e-commerce, including expertise, attractiveness, credibility, interactivity, popularity, price support, affinity, and responsiveness.
- *Official policy strategy:* Key players should vigorously strive for relevant government policy support, including media influence, technical training, and product promotion services. Government departments and the platform itself should strengthen cooperation, build consensus, and jointly supervise the mobile network of live streaming platforms to establish a conducive environment for live streaming in mobile terminals.

- *Rewards strategy:* Customer engagement should be improved through a random rewards strategy, which can be supported by online payments and smartphones. Reputation can be promoted through the word-of-mouth effect of businesses and products directly and indirectly by swift guanxi, coupons, virtual gifts, and shopping experience.
- *Quality strategy:* Customers' various perceptions should be enhanced especially regarding high-quality products, information quality, system quality, communication quality, and service quality by platforms. Further improvement should be made in terms of perceived website attractiveness, convenience, streamer's attractiveness, gamification mechanisms, parasocial interaction, and participation in live streaming. Chat interface pages of live streaming e-commerce platforms should be set in a way that allows customers to navigate stores efficiently and sellers to browse customers' comments directly.
- *Innovation strategy:* Innovative interaction forms and communication methods should be used to make live streaming platforms entertaining and affect users' reusing behaviour to enhance user interest (e.g., real-time communication). This approach can help form customer stickiness, strengthen marketing stimulation, improve impulse purchase, enhance the brand conversion rate by attracting the audience, and build positive brand attitudes. Innovation in content and form can help maximise the use of AR, VR, and other new technologies combined with mobile live streaming. Other innovations include widely using electronic functional equipment, integrating multiple channels to create intelligent marketing, and further optimising the live-streaming interface of mobile terminals. These solutions can help attract viewers and intuitively allow them to understand the product
- *Pricing strategy:* Rational pricing decisions should be used, and high-value products should be ensured to promote impulse consumption. Price discounts should also be used appropriately to promote sales revenue.

3 Research Method

The research method of this study involved in-depth personal interviews of 26 live streamers and senior management of online platforms engaging in live streaming operations in Hong Kong. The main source of primary data consisted of semi-structured interviews. According to Eisenhardt and Graebner (2007), conducting interviews is a valid method for a qualitative research setting. A flexible interview guideline was designed to collect free comments and allow for additional questions to emerge during the conversation (Hofmann & Jaeger-Erben, 2020). All interviews were conducted face to face and were recorded with the interviewees' consent.

4 Results

The purpose of this study is to investigate whether live streaming e-commerce is a viable start-up option for Hong Kong youngsters. Thus, the first interview question is why live-streaming e-commerce will become a start-up option in Hong Kong.

4.1 Why will live streaming e-commerce become a start-up option in Hong Kong?

The interviewees had a congruous opinion because of COVID-19: *"During the pandemic, 2020 become a milestone for Hong Kong live streaming e-commerce. As many people avoided going out and working from home became more common, people who would not shop online in the past were also trying it. Online shopping has become a new experience for many people. In addition to online retail platforms, live streaming and social media e-commerce have increased. The ecology of local e-commerce in Hong Kong has also changed. As more people shop online, more people with and without live streaming e-commerce experience were attracted to join as live streamers and participate in the local e-commerce ecosystem. The emergence of the pandemic has indeed catalysed the development of Hong Kong's e-commerce market. Looking at the numbers, Hong Kong's retail market had a share of about HK$400 billion, while e-commerce only accounted for about HK$20 billion, or 5%. However, in the Mainland, the proportion was more than 40%. Therefore, the Hong Kong e-commerce market had great potential that attracted many people to join and start their ventures."*

Moreover, some interviewees emphasised that *"the live-streaming setup facilities are available, and the cost is affordable for any individual to start up their C2C business model."* The external environmental change offered an opportunity in addition to the low industry entrance barrier for Hong Kong people to start their ventures in live streaming e-commerce Therefore, the second question asks about the profit-making model of live streaming e-commerce.

4.2 What is the profit-making model of live streaming e-commerce?

Entrepreneurs can start their businesses using two models for live-streaming e-commerce. In the first model, individuals doing the live streaming prepare the goods for sale by themselves. In the second model, the merchants who do the live streaming receive help in promote their products. An interviewee explained, *"There are two models for live-streaming businesses for start-ups like us: The first is that we purchase the goods ourselves and sell them through live streaming. Our team has been doing different business for more than 10 to 20 years, and we know many suppliers and many sources to import goods for sale. The second one is the marketing agency approach in which we help clients with live streaming marketing. We use live streaming to do brand promotion for them, explain the benefits of the product, and then sell the product. By sharing the profit with them after selling the goods, the clients will not lose money. Hence, this model will be easier for customers to accept."*

People can start their live streaming business by simply buying and selling on the live streaming or social media platforms or by providing live streaming marketing services to corporate clients. Then, the third interview question asks about the requirements/characteristics to be a successful entrepreneurial live streamer.

4.3 What are the requirements/characteristics to be a successful entrepreneurial live streamer?

Interviewees who were senior management personnel in online platforms engaging in live streaming operations selected live streamers based on background/type, reputation, audience acceptance, and sales ability.

Some interviewees would use the background/type (for example, a mother, an office lady, a cosmetic professional, or an electronic expert) of the live streamers to match the nature of the products that they were going to sell. They believed that various types of products required different types of live streamers to promote to a range of targeted consumers. Moreover, live streamers with good reputations and viewers' acceptance helped to promote the buying intention of the viewers.

To build reputation and viewers' acceptance, the interviewees stated, *"The trust/creditability of the live streamers is developed by their professional knowledge of the products and sincere friendship with the audiences."*

However, the interviewees stressed that the most important requirement should be as follows: *"During the live- streaming, whether the products can be sold is the most important. Therefore, regardless of the characteristics that live streamers have, the most important thing is their ability to sell products. In fact, live streamers who have practical sales experience have performed much better than those who do not."*

In conclusion, the interviewees noted, *"The practice of personal selling before the camera is different from face-to-face personal selling. Thus personal character fit is the key to being a successful live streamer."*

The key successful factor of a live streamer is her/his personal character fit with the products sold. Hence, the fourth question explores the performance styles in live streaming that will help streamers to improve viewers' watching and buying intentions.

4.4 What kind of performance styles in live streaming will help live streamers to improve viewers' watching and buying intentions?

Live streamers usually have three styles. The first style is informational. The main task is to explain product-related information to the audience in detail. The second style is entertainment, which mainly entails making the atmosphere of live streams lively. The third style is relational. The main task is to interact with the audience and build relationships with fans. Under different circumstances, such as various purposes, occasions, and products, live streamers will focus on a certain style. However, most of the interviewees believed that live streamers must combine the above three styles: *"The best style of live streamer must be a mixture of all three. If you have a strong sensibility, you will stick to fans. Secondly, you must be professional, and thirdly, you must not be boring when speaking. The first and most important thing to do in live streaming is all about sensibility and relationships. Therefore, professionalism, information, and entertainment are all important. Entertainment can be regarded as communication skills, and it is necessary to make live streaming not boring. You cannot just be professional and informative. You must have communication skills, and the whole thing must not be boring so that it can be viewed by others. It must not be only entertaining or only talk about emotions and relationships without being professional. It must not only talk about professionalism and product information without talking about emotions and relationships. If everything is well balanced, you are a perfect live streamer"*

"The three can be a combination, but the information and relationship should be more important. You must have good knowledge and understanding of the product, that is, you must be an expert. In addition, you and the viewers must have a similar feeling of friendship. The feeling of being a close friend during the communication process makes people feel that you are very kind. During the live streaming, when they ask you many questions, you can answer them immediately, or you can give them a lot of opinions. When they feel that you can answer them well, they will trust you more."

Furthermore, some of the experienced live streamers interviewed suggested that a successful live streamer is trained but not born. As such, the fifth question inquires about the kind of training that a young aspirant needs to obtain to become a successful live streamer.

4.5 What kind of training does a young aspirant need to obtain to become a successful live streamer?

Some interviewees agreed that *"before young people enter the live streaming e-commerce industry, they should receive good and sufficient training. You can, through an internship practice in the industry, understand the industry, know yourself, and understand whether you are capable and suitable to develop in this industry."*

The interviewees have had three common suggestions on what kind of training should be received. Firstly, they suggested that young aspirants learn communication and sales skills. *"The most important thing to be a good live streamer is to have excellent speaking and sales skills so that you can clearly explain the product features and successfully sell the product." Some interviewees suggested that "it would be better for young people to have sales experience because this will help them get twice the result with half the effort. However, you need to understand whether you are suitable for this industry. Not everyone can do a good job as a live streamer after training."*

Secondly, young aspirants are advised to continue learning new knowledge. *"A successful live streamer needs to have in-depth knowledge of the product and understand the needs of the viewers watching live streams. Only by selecting high-quality products that meet consumers' needs can we build fans' confidence. We must also have team spirit, be willing to cooperate with all parties, and have an attitude of continuous learning. Some related short-term training courses are available on the market now, and young people can also receive relevant training first and try it. Moreover, facing an increasingly complex future society in terms of knowledge, technology, and culture, in addition to professional knowledge and skills, we also need interdisciplinary and cross-sector knowledge. The development of the live streaming e-commerce industry requires support from many surrounding professional services, such as logistics, warehousing, online operations, big data analysis, photography production, film editing, and advertising."*

Thirdly, young aspirants are encouraged to continue watching, thinking, and understanding. *"Young people who want to be live streamers can start by watching more, thinking more, and understanding more. Watching more live streams of other streamers, carefully understanding the various skills involved in being a live streamer, finding out where you can improve, and imagining where you can make different effects. Thinking more means thinking about the resources you have and don't have, your advantages and disadvantages, and how to position yourself so that you can use your strengths. To know more is to master information, including knowing more about the product to be promoted and which customers' needs the product can meet so that suitable products can be sold to customers in need."*

Lastly, many interviewees strongly encouraged youngsters who would like to step into the live streaming e-commerce industry *"to try to enter the industry, explore their interests and expertise, and understand whether they are suitable to be live streamers." Some interviewees also reminded "young people who are in school that they can try to be a streamer but also need to continue their studies at the same time." "Many people will never know whether they are suitable to be a live streamer before they try to be a live streamer. Therefore, they must try and experience it before they are sure." "However, regardless of whether you are trying or practicing a profession in live streaming, the most important thing is you must understand the laws and regulations related to the industry and profession. Do not think that the online world is unregulated and falls into the legal net."*

Although these experienced practitioners provided young aspirants with some training options, they strongly recommended these individuals to learn by doing. Furthermore, the respondents were more concerned about whether the young aspirants found themselves suitable to be live streamers through training. As such, the sixth question explores the live streaming platforms that are available for young aspirants in Hong Kong to pursue their business/career.

4.6 In Hong Kong, what live streaming platforms are available for young aspirants to pursue their business/career?

All the interviewees have had the same opinion that the most popular platforms in Hong Kong are Facebook, Instagram, and YouTube. They reflected, *"There are three different types of audiences on Facebook, YouTube, and Instagram. YouTube is the easiest to understand. The audience comprises young people in their teens to twenties, who are very active. If you start a live chat, they will type furiously and chat with you. However, when they are in their thirties, they just look at it and don't even bother to click like, share, or follow. This is the performance of YouTube's age group. Facebook is different. Now, the trend of young people has receded, leaving only a group of people in their twenties to fifties. They are divided into two groups. Members of one group purely regard themselves as brand building and put all their lives on it. They may promote their own companies or their own lives. The second group is just for shopping. Instagram is divided into two types of audiences, who are young and under 40 years old. The first group mainly looks at pretty girls and boys, follows trends, and buys some DIY handicrafts. Another group of people are very active on Instagram. When you post something, they will leave comments, like, share, and follow everything."*

In addition to the above market segmentation of the three online platforms, some interviews showed that Facebook is the main effective channel to do live streaming in Hong Kong. *"YouTube's live streaming service has not received a good response because people who watch YouTube come to watch entertainment programs. Selling goods on it is very difficult for you. If you attract people, they are just looking at you. Instagram has more traffic, but people on Instagram are just there to see photos. On Instagram , everyone takes beautiful photos, shoots some short videos spanning tens of seconds, watches, and laughs. However, Facebook can sell products and has many target customers. Contact, interaction, and connection can occur. Only Facebook can do that. Indeed, young people may not know how to use Facebook. Only people in their thirties, twenties, or working people probably use Facebook. However, what we want to attract when doing sales are people with spending power, so I think Facebook is appropriate."*

Certainly, recently, with the emergence of live broadcast platforms, such as BuyLive and Taobao Tmall Hong Kong Station, Hong Kong young individuals have many choices besides Facebook. Moreover, these platforms designed for live streaming e-commerce to sell goods will provide multiple functions, thus allowing live streamers and viewers to have effective interaction.

Young aspirants have access to effective live streaming platforms in Hong Kong to start their live- streaming businesses with low industry entrance barriers. Hence, the seventh question explores the strategies that can be used to operate live streaming e-commerce effectively.

4.7 What kind of strategies to operate live streaming e-commerce will be effective?

The interviewees of the senior management personnel in online platforms engaging in live streaming operations concluded that four strategies were important. *"Engagement strategy to interact with the audiences to build immediacy is most important. It helps to develop the viewers' trust in you and improve their frequency and volume of buying. Second is the content strategy for which you need to prepare meaningful and attractive content to increase the viewers watching intention. In every live broadcast, you should prepare all the information about the products to answer properly all the questions about the products you are selling raised by the viewers to reduce their uncertainty and increase your authenticity. Lastly, the rewards and pricing strategies are also important. Given that Hong Kong people are concerned with gaining benefits, small gifts and discounts are the motivators for them to stay in the live broadcast and increase their buying intention."*

Therefore, by implementing proper strategies, live streamers will be able to develop a stable and profitable fan group. To ensure that strategies can be implemented smoothly, the eighth question enquires about the difficulties that live streamers will face when they enter the industry.

4.8 What difficulties will live streamers face when they enter the industry?

The practicing live streamers disclosed, *"The main problem is that the market size of the live streaming e-commerce in Hong Kong is small. The number of audiences watching live streaming in Hong Kong is very small, and the sales converted from live streaming are even lower. The online consumption culture of Hong Kong people places emphasis on discounts in addition to the high costs of product matching and inventory control, which makes the profit margin of live streaming smaller. Thus, regardless of whether you are a full-time or part-time streamer, no stable income is guaranteed. Moreover, most live streamers are self-employed, and they will bear legal and reputational risks by themselves without any lawyers' support."*

Facing these difficulties, the last question examines the career prospects of live streamers.

4.9 What will the career prospects of live streamers be like?

One senior management suggested, *"To a certain extent, live streamers are self-employed individuals. Most of their career development can be divided into three categories. In the first category, they may have some reputation, and they look for the right products to do their own branding for their long-term income. The second type is treating live streaming as their side business, a part-time job. These live streamers have full-time jobs, and live streaming is purely a side job to make extra money. The third category is about becoming a star by being a live streamer. Last year, I met a young female live streamer, and her IG had tens of thousands of followers. Therefore, I started doing something with her, such as shooting some commercial short videos. Now, she is participating in some TV productions and jumping from being a live streamer to becoming a star. I think this path is the third direction of live streamers' career development that has been seen in recent years."*

5 Conclusion

This study developed nine questions to investigate whether live streaming e-commerce is a viable start-up option for Hong Kong young aspirants. Based on the interview results, we can conclude that externally, live- streaming e-commerce in Hong Kong is a developing industry. Although the industry entry barrier is low, the market is yet to be fully developed. With the available live streaming platforms, facilities, and technology, Hong Kong offers growing market opportunities to young individuals to pursue this start-up option. Internally, the interview results show that although learning and training are important factors in enabling young individuals to become successful live streamers, live streamer–product character fit is the most critical success factor. Therefore, the interviewees congruously advised young aspirants to learn by doing to verify whether they have the capability and suitability to become successful live streamers. If the answer is positive, live streaming e-commerce is a viable start-up option for them.

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Online Shopping and E-Commerce

Negative customer engagement in e-commerce: A literature review and conceptualisation[1]

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Abstract. The negative valence of customer engagement (CE) has become increasingly evident in contemporary research and practice. However, no integrative analysis of this phenomenon has been conducted previously. This study reviews the development of literature on the valence of CE, conceptualises negative CE, and examines its implications for research and practice. A systematic literature review from a multiple-database search contributes to the framework of valence in CE, the conceptualisation of negative CE, and the propositions related to the antecedents and outcomes of negative CE. A conceptualisation is developed for negative CE, and multiple dimensions of the concept are identified. This study offers an overview of the status of research in the field of CE and the main topics that have been studied in the emerging field of negative CE. Hence, this work has the potential to orient researchers towards finding new topics and possible gaps that need further investigation. This analysis demonstrates the complexity of CE and provides insights into the aspects that should be monitored and facilitated. As the first integrative analysis and conceptualisation of negative CE, this study advances the current understanding of the topic and argues for its wider relevance, thereby paving the way for its future development.

Keywords. Determinants, Negative affections, Negative cognitions, Negative customer engagement, Valence of customer engagement

1 Introduction

Hollebeek (2011) defined customer engagement (CE) as "the level of a customer's motivational, brand-related, and context-dependent state of mind characterised by specific levels of cognitive, emotional, and behavioral activity in brand interactions" (p. 6). CE has evolved into an important construct in brand management, thus attracting considerable attention from academics and practitioners in recent years (Hollebeek et al., 2016). Hollebeek et al. (2022) conducted a bibliometric network analysis of CE research by outlining the landscape of this topic in the past 15 years. CE is recognised as a strategic and powerful tool that positively affects firms' financial performance (Ho et al., 2020), firm value (Kumar & Pansari, 2015), customer trust (Carvalho & Fernandes, 2018), the spread of positive word of mouth (WOM) (Maree & van Heerden, 2021), and brand loyalty (Hollebeek, 2011; Naumann & Bowden, 2015). CE plays an important role in various contexts, including social media (Mishra, 2019), online brand communities (Dessart et al., 2015), hospitality and tourism management (Chen et al., 2021), luxury brand management (Prentice & Loureiro, 2018), electronic games (Abbasi et al., 2021), and social commerce (Molinillo et al., 2020).

van Doorn et al. (2010) first defined the dimension of valence in engagement to reflect the range of positive and negative engagement. Valence is a key dimension of engagement and is important for understanding and applying the concept of CE (Li et al., 2018). CE can be positive or negative (Heinonen, 2018). Positive CE is defined as "a consumer's positively valenced brand-related cognitive, emotional, and behavioral activity during or related to focal consumer/brand interactions" (Hollebeek et al., 2014, p. 154). In other words, positive CE is associated with absorption and immersion, positive experiences, pleasant feelings, and identification with the brand (Hollebeek, 2011). It can lead to different engagement behaviours, including repurchases (Mishra, 2019), value cocreation (Behnam et al., 2021), advocacy (Harrigan et al., 2021), and consumer citizenship behaviours (Li & Wei, 2021).

By contrast, negative CE refers to "unfavorable brand-related thoughts, feelings, and behaviors" (Hollebeek & Chen, 2014, p. 62). Negative CE is associated with disappointing experiences, unpleasant feelings, and negative evaluations of the engagement object (Juric et al., 2016), which may lead to various negative consequences, including complaints (Naumann et al., 2017), negative WOM (Naumann et al., 2020), boycotts and reduced patronage (Azer & Alexander, 2018), and service codestruction (Siddique et al., 2021). An examination of negative CE is crucial because negative events have been found to have a stronger impact on customers than positive events (Sinclair et al., 2016). Although negative CE is as influential as positive CE, the literature continues to focus heavily on positive CE (Dessart et al., 2016; Do & Bowden, 2023; Hollebeek et al., 2022).

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A thorough understanding of negative CE must be developed given the lack of consistency in the conceptualisation of valence and negative CE and the limited discussion on the determinants of negative CE. Thus, the primary aim of this study is to conceptualise how negative CE operates in brand management. This study proposes a framework for negative CE and its determinants. The exploration conducted in this work has three central contributions: 1) expanding the valence of CE to include negative manifestations, 2) exploring the multidimensionality of negative CE, and 3) examining the key determinants of negative CE.

This paper is organised as follows. Firstly, a brief review of the literature that involves conceptualising CE is presented. Secondly, different views on the valence of CE, conceptualisation of negative CE, and key antecedents of negative CE are discussed. Finally, the theoretical and managerial implications are examined along with the scope for future research in this area.

2 Theoretical Background: Conceptual Development of Customer Engagement

The concept of engagement has been examined in various academic disciplines, including sociology, psychology, and organisational behaviour. Positioned within relationship marketing (Vivek et al., 2012) and service-dominant (S-D) logic perspectives (Brodie et al., 2011), CE has received significant attention from marketing scholars. Extant research on CE offers numerous strategies for enhancing customer engagement and marketing performance (Brodie et al., 2011; Kumar & Pansari, 2015; Venkatesan, 2017). Furthermore, CE research has diversified in different directions, including conceptual studies (Kumar et al., 2019), scale development (Hollebeek et al., 2014), context-specific exploration (Li & Wei, 2021), and CE with brands and social media (Peeroo et al., 2019).

Many CE conceptualisations focus on customer brand interactions and connections (Harmeling et al., 2017; Li et al., 2018). However, its conceptualisation remains inconsistent, which includes an ongoing debate regarding its operationalisation, focus, and dimensionality. The major conceptualisations of CE include customer engagement (Bowden, 2009; Kumar & Pansari, 2015), customer engagement behaviour (Zhang et al., 2021), customer brand engagement (Dwivedi, 2015), and customer brand engagement behaviour (Leckie et al., 2016). With the rise of brand communities and social media, researchers have extended engagement concepts to digital marketing by proposing several terms, such as brand community engagement (Kumar & Nayak, 2018), social media brand engagement (Gómez et al., 2019), and social commerce engagement (Xue et al., 2020). Researchers have also explored CE in various contexts, such as tourism brands (Harrigan et al., 2017), tourism destinations (Rather, 2019), video games (Abbasi et al., 2021), and mobile user engagement (Kim et al., 2013).

The nature and dimensionality of CE have resulted in diverse views. Generally, CE definitions fall into three categories: behaviours or behavioural manifestations (Dolan et al., 2019; van Doorn et al., 2010), psychological states or processes (Brodie et al., 2011; Li et al., 2023), and commitment or connection to the object (Bowden et al., 2015; So et al., 2014). Although CE has been operationalised as a unidimensional construct that focuses on either psychological state or behavioural dimension, it is often seen as a multidimensional construct that encompasses cognitive, emotional, and behavioural dimensions (Dessart et al., 2016; Do et al., 2021; Hollebeek et al., 2014; Naumann et al., 2017).

Despite the general agreement on the multidimensional nature of CE, the expression of specific dimensions and subdimensions may vary across contexts. For example, van Doorn et al. (2010) suggested that CE behaviours include valence, scope, nature, and customer goals. In addition, Dwivedi (2015) proposed that consumer brand engagement is reflected by vigour, dedication, and absorption. So et al. (2016) identified five CE subcomponents: enthusiasm, attention, absorption, interaction, and identification.

The prominence of social media and digital marketing has increased the complexity of the service landscape and brands' connection with customers, thus introducing new issues in engagement research (Brodie et al., 2019). For example, Mishra (2019) proposed measuring social media engagement through consumption, contribution, and creation. Meanwhile, Ho et al. (2021) suggested eight dimensions of CE behaviours on Facebook, including influencing, participation, and information sharing.

The development of various forms of CE aligns with the broadening of the conceptual domain from CE to actor engagement (Brodie et al., 2019; Li et al., 2018). Different actors within social networks, such as employees and other customers, engage in diverse contexts and influence CE through brands or businesses (Kumar & Pansari, 2015). For example, customer participation and engagement in online brand communities can influence not only their own CE but also the value cocreation process and outcomes of other customers (Brodie et al., 2013). Additionally, customer WOM and product reviews may exert a stronger influence on the perceptions and decisions of customers than traditional marketing activities, thereby affecting engagement relationships (Li et al., 2018).

In conclusion, the concept and operationalisation of CE are still evolving. While earlier studies focused on specific interactions between customers and particular brands, recent research has extended the concept of CE to various contexts and broadened its domain to include different actors and objects. According to Hollebeek et al. (2022), CE research primarily focuses on CE conceptualisation and measurement, online CE, CE, and value cocreation, as well as the determinants and outcomes of positive-valence CE. Recently, the conceptualisation of negative CE and the determinants and effects of negative-valence engagement on brands has received growing attention (Bowden et al., 2017; Do & Bowden, 2023).

3 Research Method

Despite the conceptual significance of CE among scholars and practitioners, comprehensive reviews on the valence of CE and negative CE are lacking. Therefore, a review is essential to summarise the existing knowledge and gaps in this area and develop a research blueprint for negative CE. This study synthesises findings from the marketing and customer engagement literature, identifies themes that inform propositions, and builds conceptual foundations for negative CE. The review period examined in this study spans 2009 to 2023 to capture prevailing ideas and gain insights into knowledge development.

The first step involved identifying databases for data retrieval. The articles published between January 2009 and December 2023 were sourced from Emerald, ScienceDirect, and ProQuest. Key search terms included "customer engagement", "consumer engagement", "engagement", "valence", "disengagement", and "negative engagement." These terms were used to search article titles, abstracts, and keywords to identify relevant articles published in major scholarly journals. After collecting more than 500 referred papers, the abstracts and keywords of each publication were analysed. A total of 32 articles were deemed relevant to the valence of CE. Papers that passed the selection process were reviewed to gain insights into how the current literature discusses the valence of CE, conceptualisation of negative CE, and determinants of negative CE. This comprehensive review aims to provide a robust foundation for future research in this emerging field.

4 Customer Engagement Valence: Relationship between Positive and Negative CE

The valence of CE refers to the positive or negative nature of customers' emotions, behaviours, and thoughts associated with a brand (Hollebeek & Chen, 2014). Initially, negative-valence CE was viewed as merely the reverse of positive CE. Positive CE behaviours include actions that have favourable consequences for the firm, whereas negative engagement involves actions with adverse outcomes (van Doorn et al., 2010). Brodie et al. (2011) further clarified valence by identifying positive

engagement as actions such as bonding and attraction to a brand, whereas negative engagement involves dissociation from the brand. Hollebeek and Chen (2014) defined negative CE as "consumers' unfavorable brand-related thoughts, feelings, and behaviors during focal brand interactions" (p. 69).

de Villiers (2015) suggested that the valence of CE depends on the status of the service experience or brand interaction at a given time, thus allowing positive and negative engagement to occur simultaneously. Furthermore, Juric et al. (2016) defined negative CE as psychological states and processes that are triggered by perceived threats, including emotions, thoughts, and behaviours. Naumann et al. (2017) proposed that engagement can have multiple valences, such as positive, disengaged, and negative, where negative CE may involve passive or dormant negative feelings rather than active negativity. Different perspectives on valence in CE highlight its complexity (Table 1).

Subsequent studies take similar positions when conceptualising valence. However, these studies have different views on the relationship between positive and negative valence. Bowden et al. (2015) suggested that "customer engagement and customer disengagement processes are interdependent and are influenced by the nature of the service context" (p. 795). They argued that disengagement is not simply the reverse of relationship formation but a psychological process of relationship termination that involves various events. Juric et al. (2016) distinguished negative CE from negative-valence CE and suggested that the drivers of negative CE include negative critical events and perceived threats. They argued that negative engagement differs from positive engagement in its processes and nomological network.

Naumann et al. (2017) further suggested that CE is not measured on a positive–negative spectrum but may lie between positive CE and the state of detachment (customer disengagement). By contrast, negative CE refers to customers' extreme expressions of negativity within a service relationship. The subcomponents, including cognitive, emotional, and behavioural intentions, differ across positive CE, disengagement, and negative CE. Naumann et al. (2020) strengthened this view by establishing a model that illustrates that "negative CE may share the same drivers and

dimensions (affect, cognition, and behaviour) as positive CE, but how these dimensions are measured and operate are ultimately distinct" (p. 1472). They argued that positive and negative CE should be treated as unique concepts that require different drivers and outcomes.

Dolan et al. (2016) proposed a typology of seven types of social media engagement behaviour based on two major dimensions: positive/negative valence and active/passive engagement behaviour. Active engagement behaviours include cocreation, positive contributions, negative contributions, and codestruction, whereas passive/individualised forms of engagement behaviours include consumption, dormancy, and detachment. Engagement behaviours may occur at varying levels, which may lead to different engagement behaviours. Rissanen and Luoma-Aho (2016) proposed a framework by analysing the degree, tone, and motives of CE for young consumers. The proposed model includes three established forms of engagement: positive engagement, negative engagement, and disengagement.

The relationship between positive and negative CE is more complicated because some studies indicate that actors may be positively and negatively engaged simultaneously. For example, de Villiers (2015) argued that the valence of CE depends on the pivotal impact point of the service experience or brand interaction. Consumers may positively engage with some aspects of the brand while simultaneously being disengaged or having negative affective engagement with other brand attributes or brand community activities (Bowden et al., 2017). A customer may have negative emotions and cognitions towards actors in the brand community but remain actively engaged with the brand by posting and commenting (Juric et al., 2016). Li et al. (2018) proposed that valence resides in an actor's psychological disposition, which can shift among positive, negative, and ambivalent. Valence is triggered by an object with meaning or significance and the relevant value propositions of other actors in the network. The relationship between engagement behaviours is determined by the net balance of actor engagement valence.

In conclusion, CE valence encompasses the positive and negative nature of customer interactions with a brand, including emotions, behaviours, and thoughts. Different perspectives highlight the complexity of valence. Notably, some of these interpretations suggest that engagement can occur simultaneously in positive and negative forms. Many researchers have conceptualised and classified CE valence and examined the relationship between positive and negative CE. However, many of these studies are conceptual and exploratory. Additional empirical studies are required to confirm the proposed typology and identify the managerial challenges associated with avoiding negative CE.

Table 1. Literature on engagement valence

Source	Research type	Views on engagement valence
van Doorn et al. (2010)	Conceptual	Valence (positive or negative) is one of the key dimensions of engagement, and the valence of CE behaviours is closely associated with engagement consequences.
Brodie et al. (2011)	Conceptual	Valence of engagement: Positive expressions of engagement (e.g., bonding; i.e. by virtue of being attracted to the object), and negative expressions of the concept (e.g., dissociating from an object) exist.
Wei et al. (2013)	Empirical (Experiment)	Positive or negative CEBs are described as behavioural expressions whose content has positive or negative impact on firms.
Hollebeek and Chen (2014)	Exploratory	Positive (negative) CE refers to favourable (unfavourable) emotions, cognitions, and behaviours within customer-brand interactions. It is triggered by things that are associated with the focal engagement brand, which leads to positive (negative) engagement behaviours and outcomes.
Bowden et al. (2015)	Exploratory	Engagement and disengagement are highly connected. Prior levels of engagement significantly influence customers' subsequent propensities to disengage.
de Villiers (2015)	Conceptual	The valence of CE depends on the salience of the service experience or brand interface at a point in time. Thus, consumers may express positive engagement with a brand while simultaneously being disengaged and/or negatively engaged.
Dolan et al. (2016)	Conceptual	Seven types of positive and negative social media engagement behaviour are proposed.
Dutot and Mosconi (2016)	Empirical	Disengagement refers to a person ending their involvement or interest in the community or being restrained by something.

Juric et al. (2016)	Exploratory	Negative CE refers to the psychological states and processes (including emotions, cognitions and behaviours). It is triggered by perceived threats to self.
Rissanen and Luoma-Aho (2016)	Conceptual	Consumers may move from engagement to disengagement in cases where the costs of engagement become too high or a consumer has a disappointing experience or just loses interest.
Bowden et al. (2017)	Exploratory	Co-existence of positive-/negative-valence engagement is found in online brand communities.
Li et al. (2018)	Conceptual	The structure of the network influences the actor's positive, negative, or ambivalent psychological dispositions in engagement. Net balance of valence determines the actor's engagement behaviours.
Naumann et al. (2017)	Exploratory	Engagement can have multiple forms of valence (positive, disengaged, and negative) and objects. Negative CE may not always involve dedicated expressions of negativity but may also encompass a customer's passive and dormant negative disposition (disengagement).
Azer and Alexander (2020)	Empirical (Experiment)	Negative-valence-influencing behaviours refers to customer contributions of their knowledge, skills, experience, and time to affect other actors' knowledge, expectations and perceptions about service providers negatively.
Heinonen (2018)	Conceptual	Engagement is influenced by positive and negative factors. Engagement is dynamic and intertwined with disengagement.
Li et al. (2018)	Exploratory	The valence of an actor's dispositions can shift among positive, negative, and ambivalent.
Mittal et al. (2018)	Conceptual	The nature and magnitude of the antecedents and consequences of negative engagement are likely to differ from those associated with positive engagement.
Brodie et al. (2019)	Conceptual	Actor engagement is dynamic in nature, which is influenced by the evolving institutional context of that service ecosystem. An actor's institutional context provides norms and values that affect actor dispositions, thus explaining the different intensities and valence of actor engagement across various contexts.
Peeroo et al. (2019)	Conceptual	Online customer engagement includes positive customer engagement and negative customer engagement (enragement).
Nguyen et al. (2020)	Empirical (Survey)	Disengagement refers to "a permanent disconnection measured by a low or idle level of interaction with the brand's social media platforms" (p. 157). Meanwhile, negative engagement refers to negative interaction with the brand or its social media pages.

Katsifaraki and Theodosiou (2020)	Empirical	Relevant customer activities that may have a positive or negative influence on firms include engaging in electronic WOM, making referrals, writing reviews, helping others, participating in online communities, and codesigning products.
Naumann et al. (2020)	Empirical (Survey)	Service relationships may contain the existence of positive and negative manifestations of engagement (Hollebeek & Macky, 2019). This interplay of forms of valence may result in customer relationships fading or consequently terminating (Bowden et al., 2015).
Do et al. (2021)	Exploratory	Negative CE refers to a customer's unfavourable thoughts, feelings, and behaviours towards a service brand resulting from negative critical events, including disengagement and negative engagement.
Hua et al. (2021)	Empirical (Netnographic)	By studying corporate misconduct, the authors classified CE behaviours into the expression of positive (concern, comfort, trust, love, gratitude, encouragement, and blessings) and negative (contempt, anger, distrust, disappointment, and schadenfreude) emotions.
Siddique et al. (2021)	Conceptual	CE valence shifts among positive, negative, and ambivalent based on the symmetric or asymmetric knowledge sharing or service exchange.
Rahman et al. (2022)	Empirical (Modelling with secondary data)	Positive or negative behavioural manifestations of consumers
Li et al. (2023)	Empirical	Negative actor engagement dispositions refer to actors' negative emotions and thoughts during their interactive experience with other actors in the service ecosystem.
Lievonen et al. (2023)	Empirical	Negative engagement shares the same drivers and dimensions as positive engagement, but the operation of the dimensions is ultimately context specific and distinct.

5 Conceptualisation of Negative Customer Engagement

In line with the conceptualisation of positive CE, some researchers have focused on examining the negatively engaged behaviours of consumers (Azer & Alexander, 2020; Azer & Alexander, 2018). Meanwhile, many scholars have conceptualised negative CE as a multidimensional construct, including unfavourable cognitive, emotional, and behavioural manifestations towards a service brand or provider (Hollebeek & Chen, 2014; Naumann et al., 2017). Negative engagement may have dimensions that are similar to positive engagement; however, their subdimensions differ and are more contextual (Juric et al., 2016; Lievonen et al., 2023). Table 2 summarises the major dimensions and subdimensions of negative CE. Although researchers generally use the tridimensional model to conceptualise negative CE, limited discussion and agreement has been made on the subdimensions of these three dimensions (Do & Bowden, 2023). For example, Hollebeek and Chen (2014) proposed the three subdimensions of immersion, passion, and activation, which focused on the intensity of consumers' negative-valence thoughts, affects, and efforts exhibited in their brand interactions. Meanwhile, Naumann et al. (2017) examined disengagement and negative engagement in social service contexts and proposed a framework to differentiate between them and their subdimensions. For example, disengaged consumers tend to neglect (behaviourally) the brand, while negatively engaged customers may take aggressive actions involving value codestruction. In the following sections, I discuss the major studies on the different dimensions of negative CE.

5.1 Cognitive dimension

Hollebeek and Chen (2014) defined CE as "consumers' favorable/unfavorable brand-related thoughts during focal brand interactions" (p. 69) and proposed using immersion to assess the cognitive dimension of CE. Immersion refers to "the level of a consumer's positively/negatively valenced brand-related thoughts, concentration, and reflection in specific brand interactions" (Hollebeek & Chen, 2014, p. 66). This definition leads to two major lines for the conceptualisation of the cognitive subdimensions.

The first line of research emphasises the intensity of concentration and reflection in defining the cognitive dimensions of CE. For example, Dessart et al. (2016) proposed attention and absorption as subdimensions of CE. Attention refers to the cognitive efforts that are dedicated to interacting with a brand, whereas absorption refers to the level of consumer immersion in the brand. Bowden et al. (2017) defined cognitive engagement as consumers' level of brand activity-related thought processing and elaboration. Consistent with these studies, Naumann et al. (2020) defined the cognitive dimension of negative CE as the degree to which consumers pay attention to and show interest in negative brand information.

The second line of conceptualisation focuses on negative thoughts about the focal brand or service provider. According to Naumann et al. (2017), negative CE includes disengagement and negative engagement, which differ in terms of intensity and behaviour. They suggested that distrust is associated with the cognitive dimension of disengagement, while cynicism is associated with negative engagement. Do et al. (2021) examined negative incidents in commercial contexts and proposed three additional interrelated cognitive subdimensions: injustice, incompetence, and irresponsibility. They argued that perceived injustice serves as the basis for establishing perceived incompetence or irresponsibility, which may lead to distrust and cynicism towards the service provider.

5.2 Affective dimension

Hollebeek and Chen (2014) used the term passion to assess the affective dimension of CE. Passion refers to the "degree of a consumers' positively/negatively valenced brand-related affect exhibited in particular brand interactions" (Hollebeek & Chen, 2014, p. 66). Subsequent researchers have defined the affective dimension of negative CE as customers' negative feelings toward a service relationship (Naumann et al., 2020). Customers experience different negative emotions in various service settings and contexts.

In a study of engagement in the social service context, Naumann et al. (2017) conceptualised two types of negative-valence engagement: disengagement and negative CE. They suggested that the affective dimension of disengagement should

not involve a strong emotional component and that frustration and rejection are negative emotions associated with disengagement. By contrast, the affective dimension of negative CE should be captured by strong feelings, such as anger and hatred, because it involves intensive and dedicated expressions of negativity. Li et al. (2023) identified two affective subdimensions of negative engagement in an online knowledge-sharing platform: annoyance and social anxiety. Annoyance refers to users' negative feelings derived from their interaction with the platform, whereas social anxiety refers to their levels of anxiety and stress when using the platform.

Do (2020) extended these studies to the social service context by investigating negative affective dimensions in commercial service settings in Vietnam. She highlighted that customers experience negative emotions in a detrimental brand relationship, including rage, irritation, surprise, powerlessness, despair, resignation, and confusion. In a study on corporate misconduct, Hua et al. (2021) suggested that customers express contempt, anger, distrust, disappointment, and schadenfreude towards negatively engaged companies.

5.3 Behavioural dimension

Hollebeek and Chen (2014) use activation to represent the behavioural dimension of CE. Activation refers to the intensity of effort and time spent on a brand in a particular brand interaction. Subsequent studies are likely to measure the behavioural dimension of negative CE by encompassing various behavioural responses that convey a sense of negativity, such as criticism or indifference (Lievonen et al., 2023). Researchers have examined these behaviours in various contexts and proposed different measurement methods. For example, Dolan et al. (2016) categorised negative CE behaviours as detachment, negative contribution, and codestruction. Azer and Alexander (2020) identified six forms of negative-valence influencing behaviour: discrediting, expressing regret, deriding, dissuading, warning, and endorsing competitors. Additionally, Lievonen et al. (2023) analysed negative engagement behaviour on social media based on the orientation and intensity of cognitive and affective engagement. Their analysis resulted in four categories: negative review writing, justice-seeking complaining, retaliatory acts, and fire storming.

Consistent with Naumann et al. (2017), Do and Bowden (2023) examined consumers' negative behaviours in terms of disengagement and negative engagement. They suggested that these behaviours include disengaged behaviours, such as neglect, and negatively engaged behaviours, such as complaining, switching, and spreading negative WOM. Disengaged consumers tend to distance themselves from brands and service providers and exhibit neglect. Negative engagement behaviours include three primary types: complaining, switching, and negative WOM. Complaining behaviours were further divided into vindictive, online, and third-party complaints. In summary, these detailed classifications and insights into negative engagement behaviours provide us with an understanding of the various ways in which customers express disengagement and negative engagement in different contexts. Moreover, Yadav et al. (2023) found that negatively engaged customers may display three types of behaviour: public complaining, brand switching, and brand revenge.

Table 2. Dimensions and subdimensions of negative CE

Authors	Dimensions	Subdimensions
Hollebeek and Chen (2014)	Cognitive Affective Behavioural	Immersion Passion Activation
de Villiers (2015)	Cognitive Affective Conative	Three dimensions combined as nine different types of negative CE, e.g., positive engagement with some negative cognitive or negative affective engagement towards other brand aspects
Dolan et al. (2016)	Behavioural	Detachment, negative contribution, codestruction
Naumann et al. (2017)	Disengagement Cognitive Affective Behavioural	 Distrust Frustration, rejection Neglect
	Negative CE Cognitive Affective Behavioural	 Cynicism Anger Collective complaining, value codestruction
Naumann et al. (2020)	Cognitive Affective Behavioural	Interest and attention paid to negative information Anger and dislike Collective actions, negative WOM, boycotting

Azer and Alexander (2018) Azer and Alexander (2020)	Indirect Behaviour Direct Behaviour	Discrediting, regretting, and deriding Dissuading, endorsing competitors, warning
Peeroo et al. (2019)	Emotion Behavioural	Sarcasm and scepticism Complaint, criticism, information about competitors, negative customer referral, and retaliation
Do (2020) Do et al. (2021)	Cognitive Affective Behavioural	Injustice (distributive injustice, procedural injustice, and interactional injustice), incompetence, irresponsibility, distrust, cynicism Rage, anger, irritation, surprise, frustration, Switching, negative WOM, complaining, aggression, neglect
Hua et al. (2021)	Cognitive Emotional Behavioural	Suspicion (distrust) Contempt, anger, distrust, disappointment, and schadenfreude. Expressing negative emotions, Engaging in verbal aggression Spreading negative WOM Complaining to the organisation Reducing patronage or boycotting the organisation
Li et al. (2023)	Psychological Cognitive Affective	 Failed expectations, futility Anxiety, annoyance
Lievonen et al. (2023)	Behavioural	Negative review writing, justice-seeking complaining, retaliation acts, and firestorming Disengaged behaviour: Neglect
Do & Bowden (2023)	Behavioural	Negatively engaged behaviour: Complaining, vindictive complaining, online complaining, third-party complaining, negative WOM, switching

6 Determinants of Negative CE

Several scholars have proposed that critical events initiate negative engagement (Do & Bowden, 2023; Do et al., 2020; Juric et al., 2016). Different determinants of negative engagement have been identified as consequences of various critical events and their contexts. van Doorn et al. (2010) proposed three groups of factors that determine a firm's CE behaviours: customer-, firm-, and context-based factors.

Customer-based factors are key factors that are related to consumers' attitudes towards a brand, such as their level of satisfaction, brand commitment, brand trust, and brand performance perceptions. Firm-based factors refer to the actual and/or perceived characteristics of a brand, such as brand reputation, service design, and information availability. Context-based factors refer to the actions of major stakeholders and major environmental changes, such as publicity. Similarly, Alexander et al. (2018) proposed four levels of factors that are related to negatively engaged behaviours: dyadic relationship, context around the object, industrial context, and a coexisting service ecosystem.

Brand/service performance factors, including perceived brand actions, perceived brand performance, perceived brand value, perceived brand innovativeness, perceived brand responsiveness, and fulfilment of promises, are key determinants of customer engagement (Hollebeek & Chen, 2014). Many empirical studies on positive CE support this view. For example, brand trust (Martínez-López et al., 2017), customer experience (Huang & Chen, 2022), customer involvement (Harrigan et al., 2018), value congruity (Kumar, 2021), perceived value (Huang & Chen, 2018), and service quality (Harman & Porter, 2021) are the key determinants of positive CE. Although these factors may also be related to the development of a negative brand relationship, few empirical studies have been conducted on the determinants of negative CE. Azer and Alexander (2018) proposed two groups of triggers that are directly related to customer experiences: cognitive triggers, including service failure, overpricing, and deception, and emotional triggers, including disappointment and insecurity. Customers' negative responses are frequently caused by negative experiences with a service provider, low service quality or perceived value, and dissatisfaction (de Matos & Rossi, 2008).

Some researchers have argued that negative CE is triggered by negative critical events that cause perceived threats to oneself (Bowden et al., 2015; Juric et al., 2016). They have attempted to clarify the psychological mechanisms that lead to threats to the self and identify the different kinds of experiences that may trigger negative engagement. For example, Do et al. (2020) argued that violating customers' fundamental needs, such as self-esteem and justice, may have a stronger impact on negative CE than dissatisfaction with product performance. Based on expectation disconfirmation theory and justice theory, they proposed a conceptual framework that highlights the key roles of expectation disconfirmation and perceived injustice in triggering negative CE. In addition, Yadav et al. (2023) identified key triggers for negative CE, including service failures (e.g., delivery issues and unresponsive customer service), information failures (e.g., incorrect or overwhelming information), and system failures (e.g., technical glitches and security concerns). These failures disconfirm consumer expectations and lead to perceived unfairness, thus encouraging customers to restore equity by engaging negatively.

Research has examined how customers' psychological properties are related to CE development. For example, Islam et al. (2017) examined how the Big Five personality traits relate to CE in online brand communities. Personality traits such as assertiveness and self-esteem may have direct effects on the choice of negative engagement behaviours (Souiden et al., 2019). Consumer involvement is recognised as a key antecedent of positive and negative CE (Harrigan et al., 2018; Naumann et al., 2020). Highly involved brand relationships often lead to strong negative reactions to service failures because of elevated expectations and emotional bonds (Leckie et al., 2016; Naumann et al., 2020). Highly involved customers may seek and endorse negative information about the service organisation (Harrigan et al., 2018). Involvement can lead to negative behaviours, such as spreading negative WOM and public complaints (Dolan et al., 2019).

Several studies have discussed the factors that lead to negative CE in various contexts. For example, Creevey et al. (2019) explored the influence of a hotel brand's social media content and user characteristics on the development of negative CE. Hua et al. (2021) investigated the impact of corporate misconduct on customer relationships with firms. Meanwhile, Siddique et al. (2021) applied signal theory to examine how customers develop positive and negative engagement with webstores. They argued that negative CE arises from the adverse interpretations of signals during customer–webstore interactions, such as comments, reviews, ratings, and prices. These findings highlight the complexity of negative CE and the importance of addressing the triggers of negative CE under different contexts.

7 Emerging Future Research Topics and Research Agenda

Customer engagement is a key marketing component. Over the past decade, studies have acknowledged the importance of CE for the success of marketing and brand management. This study reviewed the literature on the valence of engagement and negative CE and the conceptualisation and determination of negative CE. Although CE has been widely examined in marketing studies, a literature review of its valence indicates significant semantic and definitional confusion surrounding the valence of engagement and the operationalisation of negative CE. This study contributes to the CE research by reviewing the development of studies on negative CE over the past decade. This study summarises the major conceptualisations of negative CE and identifies four or five related factors to negative CE. Thus, this work provides new insights into measuring negative CE and analysing its triggers. I now discuss the areas that appear to be gaining attention in the relevant literature and highlight the key areas for future research. A summary of these areas is provided along with a research agenda for an improved understanding of negative CE.

Research area 1: Relationship between positive and negative CE

The CE literature appears to be disconnected from the literature on negative CE, thus leading to an incomplete understanding of changes in customer relationships. Few studies have investigated the changes between positive and negative engagements and how these engagements occur within individual consumers simultaneously. Future research should gain new insights and developments into ambivalent engagement. Many studies in this field have been devoted to theoretical analyses of this relationship. Thus, future empirical research is needed to explore this subject.

Research area 2: Conceptualisation of negative CE

Researchers have analysed the conceptualisation of negative CE by offering different viewpoints on its cognitive, affective, and behavioural aspects. Therefore, measurement scales that capture the cognitive, affective, and behavioural aspects of negative CE must be developed. Researchers can enhance the validity of the measurement by ensuring the theoretical rigor of the proposed conceptualisation of negative CE (Hollebeek et al., 2023). Additional empirical studies are required to examine the nature of negative CE because a significant portion of this study is conceptual and exploratory. The negative CE of customers should also be examined from diverse cultural backgrounds because they may have varied ways of expressing their negative relationship with brands.

Research area 3: Determinants of positive and negative CE

Research on negative CE processes must consider the existence of several antecedents of different natures. These antecedents involve various levels of analysis, including consumer, firm, and contextual factors. Further empirical studies are required to examine the key antecedents of negative CE. Given that some antecedents may have moderating effects on others, further studies should investigate how these factors interact with one another. The actual process of shifting engagement may vary across contexts. Further empirical studies are required to examine this process and validate the determinants across different industries and contexts. In addition, exploring the psychological mechanisms behind negative CE can provide deep insights into consumer behaviour. Insufficient focus has been given to examining the processes and reasons behind customer disengagement and the transition between positive and negative CE. Future research should examine the mechanisms through which this disengagement transforms into a positive CE. An advanced understanding in this domain can assist companies in better managing customer relationships by addressing the factors that lead to negative CE.

8 Conclusion

This study aimed to investigate the emerging field of negative CE in the digital marketing era. Given that the rapid development of social media has strongly enhanced frequent contact between customers and brands, the probability of negative customer behaviour is likely to increase. This study reviewed a decade of research on consumer engagement with a particular focus on the literature related to the negative valence of CE. This study reviewed the existing literature on negative CE, proposed a conceptualisation framework for negative CE, and offered future research agenda. A systematic literature review was conducted to achieve these aims, thus leading to an integrated overview of prior research findings on the conceptualisation and determinants of negative CE. This study also highlights emerging future research topics and agendas. Several research areas are underlined. Researchers should focus on empirical research on the conceptualisation of negative CE, its relationship with positive CE, and the antecedents of negative CE that involve consumers, firms, and contextual factors, which may directly influence CE.

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Exploring key factors influencing Chinese consumers' behavioural intention and purchase behaviour on Taobao

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Abstract. This study investigates the factors influencing Chinese consumers' behavioural intention and purchase behaviour on Taobao, China's largest online shopping platform, in the current new normal. The proposed model includes seven constructs: perceived ease of use, perceived usefulness, subjective norm, security risk, hedonic motivation, behavioural intention, and purchase behaviour. Questionnaires were used to measure each construct, and data were collected through a random sample survey of 203 adult Chinese customers aged 21–60. The findings show that subjective norm, perceived ease of use, and perceived usefulness significantly impact behavioural intention. Hedonic motivation and behavioural intention are key predictors of purchase behaviour. Gender also moderates the effect of subjective norm on behavioural intention with female shoppers being more influenced than men. These findings have practical implications for researchers, online retailers, and platform operators targeting Chinese online shoppers by helping them understand the target group and develop effective online strategies.

Keywords. Hedonic motivation, Perceived ease of use, Perceived usefulness, Purchase behaviour, Purchase intention, Subjective norm

1 Introduction

The rapid global expansion of smartphone sales and improved internet connectivity have led to widespread internet access through personal computers and mobile devices. As of December 2021, approximately 5.25 billion people use the internet worldwide with Asia accounting for over 53.4% and China alone representing 35.7% of the total. China's internet penetration rate of 68.5% still has significant growth potential compared with developed Asian countries. The rise of the internet and mobile devices has transformed industries, including the emergence of online shopping as a daily necessity. The COVID-19 pandemic further accelerated the importance of online shopping in China with approximately 842 million people making online purchases by December 2021. In 2021, China's online retail sales reached RMB 13.1 trillion, thus accounting for 24.5% of total retail sales. This shift towards online shopping is driven by several factors, such as the increasing percentage of retail sales occurring online, the impact of lockdowns and travel restrictions on offline consumption, and the advantages for vendors in terms of cost savings and market reach. Consequently, a growing number of vendors are transitioning from offline to online channels, thus leading to a shift in marketing focus and expenditure. Taobao, China's largest online shopping platform, has experienced remarkable growth with over 925 million monthly active users as of March 2021. In the financial year 2021, the gross merchandise volume traded through Taobao reached RMB 8.119 trillion. The ongoing new normal of the pandemic has significantly impacted offline shopping behaviour, thereby making online shopping platforms the preferred alternative.

In the current new normal of pandemics, online vendors, marketers, and Taobao platform operators face important questions. What factors influence Chinese adult customers' online behavioural intention and purchase behaviour on Taobao? Does a difference exist in impact between male and female shoppers? This research aims to address these questions with two objectives. Firstly, a new model that expands on the technology acceptance model (TAM) will be proposed to identify key factors that influence behavioural intention and behaviour. Secondly, a quantitative analysis will test the reliability and validity of the proposed model by focusing on determining statistically significant factors shaping Chinese adult consumers' purchase intentions and behaviour on Taobao.

2 Theoretical Background and Hypothesis Development

2.1 Theoretical background

TAM, which was originally proposed by Davis (1989), further developed by Venkatesh and Davis (2000), and derived from the theory of reasoned action (TRA), seeks to explain user behaviour by examining the perceived ease of use (PEOU) and perceived usefulness (PU) of technological innovations and their impact on behavioural intention (BI).

The theory of planned behaviour (TPB), which was developed by Ajzen (1985, 1991), extends the TRA by introducing the concept of intention as an indicator of individuals' willingness to approach a certain behaviour and their efforts to perform that behaviour. TPB also incorporates subjective norm, which reflects consumers' perception of social pressure to conform to certain behaviours. By enriching the TAM model, TPB provides a comprehensive explanation of behavioural intention by considering additional factors, such as social influence. In the context of online purchase behaviour, TPB has been applied to enhance the TAM model. Researchers have found that subjective norm, as a construct in TPB, plays a significant role in predicting online purchase intention (Davis, 1989).

By considering the social pressure and expectations faced by Chinese consumers, this study will incorporate the factors used in TPB and extend the TAM model to provide a comprehensive understanding of behavioural intention and purchase behaviour on Taobao.

2.2 Research model and hypothesis development

The proposed conceptual model (Figure 1) is an adaptation of TAM, which has been widely supported in information technology (IT) research. However, given that TAM was originally developed for explaining IT acceptance in general, modifications are necessary to address the behavioural intentions of online purchasing. In this study, TAM serves as the foundation with PEOU and PU included as fundamental factors based on the established literature (Davis, 1989; Venkatesh & Davis, 2000).

Additional factors have been incorporated to enhance the model's applicability to the context of Chinese consumers' behavioural intentions and purchase behaviour on Taobao. These factors include subjective norm (SN), hedonic motivation (HM), and security risk (SEC), which have been identified in previous research on consumers' online behaviour (Cai et al., 2018; Chiu et al., 2005; Park & Kim, 2003; Schepers & Wetzels, 2007; Venkatesh et al., 2012). By integrating these factors into the TAM model, the proposed model for this research (Figure 1) provides a comprehensive framework for understanding the key factors that influence Chinese consumers' behavioural intention and purchase behaviour on Taobao in the new normal.

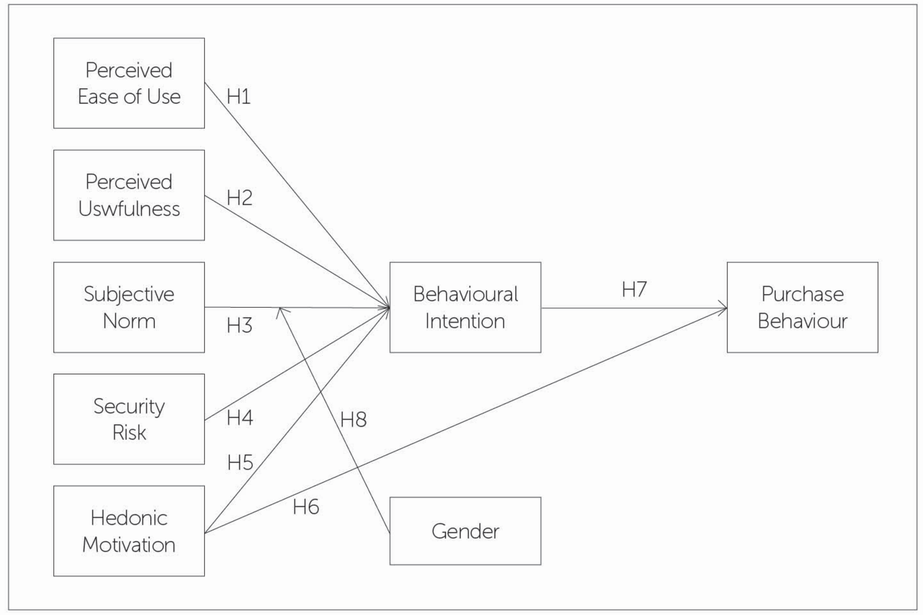

Fig. 1. Proposed model

PEOU refers to the extent to which a user perceives a particular technology as being easy to use (Davis, 1989). It has been established as an important factor that influences behavioural intention. When a system is perceived as easy to use, users are likely to have a high intention to accept and use it. Several studies have found a positive relationship between perceived ease of use and online purchase intention (Childers et al., 2001; Mortazavi et al., 2014).

Ajzen (1991) suggested that intention is an indicator of the extent to which people are willing to approach certain behaviours and how many attempts they are willing to make to perform a certain behaviour. The behavioural intention has originally been used as a construct to explain new technology acceptance. In the context of e-commerce, Pavlou (2003) defined online purchase intention as the degree to which a consumer is willing to buy a product through an online store. Many studies have been done to explain factors affecting online behavioural intentions. For example, Cai et al. (2018) suggested that hedonic motivation is positively related to online purchase

intention using the example of live streaming. Han et al. (2010) found that subjective norm is positively related to hotel booking intention. Additionally, Kim et al. (2009) demonstrated that PU is a significant factor in predicting online purchase intention. Thus, behavioural intention is an essential construct in this research.

Many studies have shown that users are likely to have a high intention to accept and use technology when it is straightforward and requires little effort. The same concept applies to online shopping. For example, Childers et al. (2001) indicated that clear and understandable online shopping sites that require minimal mental effort to purchase are attractive to potential users than complicated ones. Furthermore, Mortazavi et al. (2014) suggested that clients with PEOU tend to have a high intention of buying goods from virtual stores. Therefore, consumers will have a high purchase intention to shop from Taobao when the Taobao application is easy to use. Thus, we propose the following:

H1: A positive relationship exists between perceived ease of use and behavioural intention through Taobao.

PU is one of major factors in determining the acceptance of new technology according to TAM (Davis, 1989). People will adopt IT if they perceive that this technology will improve their performance. In the context of e-commerce, Perea et al. (2004) defined usefulness as the perception of consumers that purchasing through online stores will improve the outcome of their shopping experience. Koufaris (2002) described PU as a consumer's perception that the internet will improve the efficiency of online purchases compared with in-person shopping. If an online store improves the efficiency and outcome of the shopping experience, then the consumer will prefer to shop online. Several studies have indicated that people's behavioural intentions are affected by PU. For example, Kim et al. (2009) demonstrated that PU is a significant factor in predicting online purchase intention. Koufaris (2002) validated the construct of PU to influence the intention of potential internet shoppers. Pavlou (2003) also predicted that PU is related to the behavioural intention of online shopping.

According to Koufaris (2002), PU refers to a consumer's perception that an online platform will enhance the efficiency of online shopping compared with in-

person shopping. Therefore, if an online store improves the efficiency and outcomes of the shopping experience, consumers will prefer to shop online. This study focuses on Taobao, which is a platform that consists of numerous online stores that greatly enhance the efficiency for all its users. As a result, we propose the following:

H2: A positive relationship exists between perceived usefulness and behavioural intention through Taobao.

Subjective norm originated from TPB (Ajzen, 1985). It describes consumers' perceived social pressure that forces them to behave in a certain way to meet social expectations. According to Kim et al. (2013), subjective norm refers to the motivation that a consumer receives from friends, family, and colleagues to make purchases through online stores. Venkatesh et al. (2003) described it as the extent to which consumers perceive that important people, such as family and friends, believe that they should use a particular technology. The study has shown that if a particular behaviour meets social expectations, consumers are likely to perform the behaviour (Alam & Sayuti, 2011). Furthermore, people inclined to act if their role models think that they should do so (Schepers & Wetzels, 2007). Numerous other studies have indicated that people's behavioural intentions are positively affected by subjective norms. Nor and Pearson (2008) found that subjective norms from friends, family, and colleagues positively influence buying online. In addition, Venkatesh et al. (2012) found that social influences directly affect consumers' purchase intention through mobile internet. Han et al. (2010) found that subjective norm is positively related to hotel booking intention. Moreover, Dean et al. (2012) found that subjective norms positively affect organic food purchase intention. Therefore, this study proposed that subjective norms positively affect consumers' online behavioural intentions.

Venkatesh et al. (2012) and Schepers and Wetzels (2007) have shown that subjective norm has an important effect on behavioural intention. If consumers receive support from their peers, close friends, and their families when purchasing from online platforms, they are more likely to make their purchase decisions. Thus, we propose that:

H3: A positive relationship exists between subjective norms and behavioural intention through Taobao.

Security risk is a significant concern for online shoppers, as highlighted in various previous studies (Chang & Chen, 2008; Salisbury et al., 2001; Tariq & Addoudi, 2009). Salisbury et al. (2001) emphasised that security risk becomes a prominent issue when sensitive personal information, such as credit card details, is being transferred. This concern has a significant impact on consumers' online purchase intention compared with PU and PEOU. Chang and Chen (2008) demonstrated the importance of security measures implemented by online websites to protect customers' data. Security concerns have been identified as a factor that influences online purchase intention (Belanger et al., 2002; Kim & Shim, 2002; Park & Kim, 2003). However, the extent of influence may vary among other factors. If consumers believe that their personal information may be compromised because of security issues with the Taobao platform, they will have decreased willingness to make purchases from it. When an online platform is perceived as safe and secure, Chinese shoppers are likely to make purchases from that platform. Therefore, this study proposes that security risk is a significant predictor of consumers' behavioural intention towards online shopping. Thus, we propose the following:

H4: A positive relationship exists between security risk and behavioural intention through Taobao.

Hedonic motivation, which refers to the pleasure derived from using a technology, has been found to be a significant factor in determining technology acceptance and actual use (Brown & Venkatesh, 2005). By using the example of live streaming, Cai et al. (2018) demonstrated a positive relationship between hedonic motivation and online purchase intention. O'Brien (2010) highlighted the importance of hedonic motivation in predicting user engagement in online shopping. Shang et al. (2005) suggested that intrinsic motivations, such as entertainment, directly impact online shopping behaviour. Kim and Eastin (2011) found that hedonic shopping motivation is a strong predictor of online shopping behaviour. Furthermore, Venkatesh et al. (2012) indicated that hedonic motivation is a significant determinant of behavioural intention and actual behaviour. Therefore, this study proposes that hedonic motivation can predict consumers' behavioural intention towards online shopping and actual behaviour.

Many studies have demonstrated that hedonic motivation significantly influences behavioural intention and actual behaviour (Brown & Venkatesh, 2005; Cai et al., 2018; Venkatesh et al., 2012). Some studies have shown that hedonic motivation is positively associated with online purchase intention (Cai et al., 2018), which predicts actual online purchase behaviour (Kim & Eastin, 2011; Shang et al., 2005). If consumers find the shopping experience on the Taobao platform enjoyable, they become likely to use Taobao for their online purchases. Thus, we propose the following:

H5: A positive relationship exists between hedonic motivation and behavioural intention through Taobao.

H6: A positive relationship exists between hedonic motivation and online shopping behaviour through Taobao.

Based on George (2004), purchase behaviour refers to the frequency at which consumers make purchases through online platforms. Purchase behaviour has been extensively studied in various marketing fields, including offline stores with green marketing (Nguyen et al., 2016), luxury goods (Beuckels & Hudders, 2016), and online purchases (He et al., 2008; Laohapensang, 2009; Pavlou, 2003). Additionally, behavioural intention and purchase behaviour have been closely examined together in previous literature because they are highly correlated. For instance, Sheppard et al. (1988) found a correlation between behavioural intention and actual behaviour. Montano and Kasprzyk (2015) also identified purchase intentions as a key predictor of actual behaviour. Other studies have also demonstrated the impact of behavioural intention on predicting actual behaviour (He et al., 2008; Pavlou, 2003). Thus, we propose the following:

H7: A positive relationship exists between behavioural intention through Taobao and online shopping behaviour through Taobao.

Previous research has shown that subjective norms have a greater impact on the online behavioural intention of female shoppers than male shoppers. Studies on gender differences have found that females are more influenced by social conformity when making purchase decisions (Chen-Yu & Seock, 2002). Additionally, Noble et al. (2006) demonstrated that women are more motivated by social interactions, while men are more influenced by information attainment and convenience seeking in their

purchase behaviours. Lee (2009) also suggested that women are more motivated by peer influences than males when making purchases. In addition, Nysveen et al. (2005) found that social norms and intrinsic motives, such as enjoyment, are important determinants of behavioural intention among females.

Considering these findings, the effect of perceived subjective norms on behavioural intention is hypothesised to be stronger for female shoppers than male shoppers. Women may be more influenced by social norms and peer opinions, while men may prioritize factors such as PEOU and PU in their purchase decisions. Thus, we propose the following:

H8: Gender moderates the effect of perceived subjective norms on behavioural intention.

3 Methodology

3.1 Sampling and procedure

This research focused on Chinese online consumers. The survey questionnaire was designed on the Chinese Wenjuanxing platform and distributed to participants through major Chinese online social platforms, such as WeChat and QQ. The questionnaire was originally designed in English and then translated into Chinese to ensure equivalence. A cover letter was included to explain the survey's purpose and assure confidentiality. The study included adult Chinese consumers aged 21–60 with online shopping experience from major cities in China. The questionnaire was distributed to chat groups in different locations and to people of various ages and income distributions. After validating the measurement items, 300 questionnaires were distributed, of which 218 were filled and returned. A total of 13 questionnaires were dropped because the respondents did meet the criteria or had deliberate bias. A total

of 203 samples remained, thus resulting in a response rate of 67.7%. Table 1 presents the demographic statistics of the respondents, including gender, age, education level, monthly disposable income, and familiarity with Taobao. The majority of respondents were male (58.62%) and in the 31–40 age group (58.62%). Most of them had undergraduate degrees (48.28%) and monthly disposable incomes between ¥10,000 and ¥20,000 (30.05%). All respondents were familiar with the Taobao platform.

Table 1. Demographic statistics of respondents (n = 203)

Item	Categories	Frequency	%
Gender	Male	119	58.62
	Female	84	41.38
Age	21–30	54	26.60
	31–40	119	58.62
	41–50	19	9.36
	51–60	11	5.42
Education	High school or below	17	8.37
	College	45	22.17
	Undergraduate Degree	98	48.28
	Postgraduate or above	43	21.18
Monthly disposable income	<¥5,000	30	14.78
	¥5,000–¥10,000	58	28.57
	¥10,000–¥20,000	61	30.05
	¥20,000–¥50,000	39	19.21
	>¥50,000	15	7.39
Do you know Taobao?	Yes	203	100.00
	No	0	0.00

3.2 Item measurements

The questionnaire consisted of four sections. The first section had three questions about online purchase behaviour. The second section included 15 questions about perceived ease of use, perceived usefulness, subjective norm, hedonic motivation, and security risk. The third section had three questions about behavioural intention of online shopping. The fourth section contained four questions about demographic information. All items, except two on purchase behaviour, were measured using a five-point Likert scale. The purchase behaviour was measured using

a five-point self-reported scale that indicated the participants' time spent per month on Taobao and shopping frequency. All constructs were measured using reflective indicators with some wording adjusted for this specific research topic. The measures used in this study are summarised in Table 2.

Table 2. Measurements of constructs

Construct		Items	Source
Purchase Behaviour	PB1	How many hours do you shop on Taobao every month?	George (2004)
	PB2	How often per month do you purchase from Taobao?	
	PB3	I prefer to purchase goods on Taobao instead of other websites.	
Perceived ease of use	PEOU1	Purchase on Taobao would not require a lot of my mental effort.	Chiu et al. (2005)
	PEOU2	I think purchase on Taobao is an easy task.	
	PEOU3	Whenever I want to purchase on Taobao, I find it easy.	
Perceived usefulness	PU1	Buying products on Taobao is more convenient.	Chiu et al. (2005)
	PU2	Using Taobao to purchase goods saves my time.	
	PU3	Buying goods on Taobao allows me to shop more efficiently.	
Hedonic motivation	HM1	I enjoy buying products on Taobao.	Venkatesh et al. (2012)
	HM2	Using Taobao to shop is enjoyable.	
	HM3	Buying on Taobao is entertaining.	
Subjective norm	SN1	People who are important to me support shopping on Taobao	Venkatesh et al. (2012)
	SN2	Most of my friends think that I should shop on Taobao	
	SN3	People close to me also use Taobao for shopping.	
Security Risk	SEC1	I would feel secure in providing sensitive information for purchasing on Taobao.	Chiu et al. (2005)
	SEC2	There would be no security problem in transmitting sensitive information for Taobao.	
	SEC3	I feel the risk associated with purchase on Taobao was low.	
Behavioural intention	BI1	I intend to purchase goods through Taobao.	Chiu et al. (2005)
	BI2	If there is a product that I want to purchase, I would like to use Taobao.	
	BI3	I will continue to use Taobao for online shopping.	

4 Data Analysis and Results

4.1 Measurement model

The measurement model was assessed using the PLS algorithm. Factor loadings, Cronbach's alpha, composite reliability, and average variance extracted (AVE) were calculated to test reliability and convergent validity. Table 3 summarises the results, which shows factor loadings above 0.7 and AVE values above 0.5, thus indicating satisfactory convergent validity. Cronbach's alpha and composite reliabilities also exceeded 0.70, thus indicating good internal consistency reliability. Discriminant validity was tested using the cross-loading table (Table 4) and the Fornell-Larcker criterion (Table 5). The factor loadings of each construct were higher than their cross-loadings with other constructs, thus supporting discriminant validity. The Fornell-Larcker criterion showed that the square root of AVE for each construct was higher than their intercorrelations with other constructs. Overall, the measurement model demonstrated a good fit.

Table 3. Reliability and convergent validity analysis

Constructs	Items	Mean	Factor Loadings	CA	CR	AVE
Hedonic Motivations	HM2	3.40	0.940	0.854	0.932	0.872
	HM3	3.46	0.928			
Perceived Usefulness	PU1	3.89	0.885	0.870	0.920	0.793
	PU2	3.73	0.906			
	PU3	3.69	0.881			
Perceived Ease of Use	PEOU2	3.77	0.939	0.869	0.938	0.884
	PEOU3	3.95	0.942			
Subjective Norm	SN1	3.59	0.822	0.771	0.867	0.686
	SN2	3.69	0.851			
	SN3	3.88	0.811			
Security Risk	SEC1	3.03	0.893	0.894	0.933	0.824
	SEC2	2.85	0.876			
	SEC3	2.98	0.953			
Behavioural intention	BI1	3.73	0.882	0.846	0.907	0.765
	BI2	3.57	0.836			
	BI3	3.85	0.905			
Purchase Behaviour	PB1	2.57	0.821	0.691	0.863	0.759
	PB2	3.29	0.919			

Note: Recommended criteria of acceptance of CR and CA are 0.7, and AVE is 0.5.

Table 4. Discriminant validity (cross-loadings vs. factor loadings.)

	HM	PU	PEOU	SN	SEC	BI	PB
HM2	**0.940**	0.576	0.455	0.561	0.369	0.587	0.443
HM3	**0.928**	0.526	0.421	0.568	0.376	0.559	0.370
PU1	0.575	**0.885**	0.671	0.592	0.209	0.676	0.396
PU2	0.511	**0.906**	0.536	0.602	0.314	0.651	0.333
PU3	0.488	**0.881**	0.483	0.582	0.230	0.588	0.269
PEOU2	0.445	0.616	**0.939**	0.518	0.182	0.589	0.343
PEOU3	0.439	0.583	**0.942**	0.576	0.182	0.605	0.362
SN1	0.548	0.522	0.398	**0.822**	0.264	0.609	0.322
SN2	0.545	0.561	0.545	**0.851**	0.332	0.613	0.256
SN3	0.408	0.569	0.503	**0.811**	0.213	0.608	0.337
SEC1	0.317	0.245	0.161	0.307	**0.893**	0.310	0.183
SEC2	0.352	0.172	0.124	0.230	**0.876**	0.257	0.137
SEC3	0.409	0.324	0.225	0.335	**0.953**	0.380	0.175
BI1	0.540	0.636	0.537	0.676	0.326	**0.882**	0.397
BI2	0.557	0.585	0.502	0.560	0.369	**0.836**	0.463
BI3	0.519	0.662	0.622	0.692	0.244	**0.905**	0.504
PB1	0.275	0.258	0.239	0.285	0.118	0.375	**0.821**
PB2	0.458	0.381	0.391	0.350	0.191	0.515	**0.919**

Note: Bold numbers indicate item loadings on the assigned constructs.

Table 5. Discriminant validity (Fornell-Larcker criterion)

	BI	HM	PEOU	PU	PB	SEC	SN
BI	**0.875**						
HM	0.614	**0.934**					
PEOU	0.635	0.470	**0.940**				
PU	0.719	0.591	0.637	**0.891**			
PB	0.521	0.437	0.375	0.377	**0.871**		
SEC	0.355	0.398	0.194	0.282	0.183	**0.908**	
SN	0.737	0.605	0.582	0.665	0.368	0.326	**0.828**

Note: Bold numbers in diagonal elements are square roots of average variance extracted (AVE), while the off-diagonals are correlations.

4.2 Structural model

After confirming the reliability and validity of the measurement model, the quality of the structural model was assessed using a systematic approach recommended by Hair et al. (2021). This involved three steps: assessing collinearity using variance inflation factor (VIF), checking the significance and relevance of the structural model relationships through bootstrapping, and evaluating the predictive power, effect size, and predictive relevance of the model.

The VIF values for the predictors of purchase behaviour (i.e., hedonic motivations (HM), perceived ease of use (PEOU), perceived usefulness (PU), subjective norm (SN), security risk (SEC), and behavioral intention (BI)) were all below the threshold of 5, thus indicating no collinearity issues. Bootstrapping was used to estimate the structural model relationships, and the results showed that five out of seven hypotheses were significant at $p < 0.01$ or $p < 0.001$ (Table 6). Constructs PEOU, PU, and subjective norm (SN) were significantly positively correlated with behavioural intention (BI), while HM and BI were significantly positively correlated with purchase behaviour (PB). However, constructs SEC and HM were not significantly correlated with BI.

This study assessed the in-sample predictive power, effect size, and predictive relevance of the structure model. The R^2 values for BI and PB were 0.674 and 0.293 respectively, thus indicating moderate and weak to moderate predictive power. The effect sizes (f^2) for various paths ranged from weak to medium with the highest effect size observed for the path between SN and BI. The study also calculated Q^2 values, which were above 0 for BI and PB, thus indicating sufficient support for predictive relevance.

Table 6. Structural model path coefficients and testing results

	Hypothesis	Path Coefficient	t-value	P-Value	f^2	Results
H1	PEOU→BI	0.185	2.650	**	0.057	Supported
H2	PU→BI	0.276	3.385	**	0.100	Supported
H3	SN→BI	0.345	4.044	***	0.166	Supported
H4	SEC→BI	0.079	1.771	n.s.		Unsupported
H5	HM→BI	0.124	1.727	n.s.	0.025	Unsupported
H6	HM→PB	0.188	2.674	**	0.031	Supported
H7	BI→PB	0.406	6.458	***	0.145	Supported
	R^2 for BI	0.674				
	R^2 for PB	0.293				
	Q^2 for BI	0.496				
	Q^2 for PB	0.210				

Note: **P < 0.01,***P < 0.001, n.s. = not significant

4.3 Moderating effect of gender

We ran smart-PLS to examine the moderating effects of the gender on the path SN→BI to analyse if statistically significant differences exist in the path coefficients between the male and female groups. The p-value was 0.027, which indicated a statistically significant. This result demonstrated that that effect of subjective norm on behavioural intention differs significantly between male and female groups. Subjective norm has a larger effect on females' purchase intention than males' purchase intention. The results of hypotheses testing are summarised in Table 7.

Table 7. Hypotheses results

	Hypothesis	Results
H1:	PEOU→BI	Supported
H2:	PU→BI	Supported
H3:	SN→BI	Supported
H4:	SEC→BI	Unsupported
H5:	HM→BI	Unsupported
H6:	HM→PB	Supported
H7:	BI→PB	Supported
H8:	SN→BI (gender moderating)	Supported

5 Discussion and Implications

5.1 Discussions

The results showed that subjective norm and PU are influential predictors of online purchase intention. Customers are influenced by comment reviews and the opinions of friends, thus leading them to buy products recommended by friends. The new normal of the pandemic has increased reliance on friends' opinions for online purchases, especially for electronic appliances and food. PU is also a strong predictor because online channels offer convenience, time saving, easy price comparison, and a wide range of product choices. The pandemic has reinforced the advantages of online shopping over offline channels. Additionally, PEOU is positively related to the behavioural intention of online shopping. Online shopping apps are now user friendly and smart, thus facilitating customers when searching for and purchasing items.

This research has several differences from previous studies. Firstly, security risk is not significantly related to behavioural intention through Taobao, which contradicts earlier findings (Belanger et al., 2002; Kim & Shim, 2002; Park & Kim, 2003). This outcome may be due to improvements in the security services provided by Taobao platform operators over the past two decades. Chinese adult users now have increased confidence in the platform's security measures, such as using nicknames instead of real names and hiding personal information. As a result, the perceived benefits of shopping on Taobao outweigh the minimal security risks. Consumers' behavioural intention is not significantly affected.

Additionally, hedonic motivation only directly affects purchase behaviour through Taobao. Chinese adult consumers are likely to make direct purchases when they find the online shopping experience enjoyable and stress relieving. They prefer to convert their earnings into actual goods rather than saving them in the shopping basket. Another reason may be the presence of games on the Taobao platform, where purchasing goods directly can earn them points or prizes. Therefore, if Chinese adult consumers find the Taobao game fun and want to increase their points, they are inclined to make direct purchases.

Finally, gender moderates the effect of subjective norm on behavioural intentions. Female Chinese online shoppers are more influenced by subjective norm than male Chinese online shoppers in terms of online purchase intentions. This finding is consistent with previous studies (Chen-Yu & Seock, 2002; Lee, 2009; Noble et al., 2006; Nysveen et al., 2005). Female shoppers are more likely to be influenced by their friends' opinions, make purchases based on recommendations, and seek their friends' opinions when making decisions. Meanwhile, male shoppers tend to be more goal oriented and already know what they need before shopping online. This outcome suggests that female shoppers value their friends' opinions more when making decisions, while male shoppers have a clearer idea of their needs.

5.2 Practical implications

In the current new normal, intercity travel and offline shopping may be hindered by unexpected restrictions. As a result, online shopping has become a popular alternative for Chinese consumers. Chinese consumers aged 20–60 are the main driving force behind China's online shopping market. With the increasing shift from offline to online channels and the significant growth of online retail sales, the key factors that influence Chinese consumers' online shopping behaviour must be understood. This study focuses on identifying the statistically significant factors that predict Chinese male and female online shoppers' behaviour. The findings suggest that subjective norm, PU, and PEOU are still important factors in predicting Chinese adult shoppers' intention to shop online. Additionally, hedonic motivation is positively associated with direct online purchase behaviour. The study indicates that behavioural intentions are positively correlated with the actual purchase behaviour of male and female shoppers.

Vendors and marketers should prioritise making their products easily searchable through simple keyword searches on online platforms to attract Chinese online shoppers. Additionally, generating positive comments, posts, and recommendations through various online channels can be beneficial. Male and female adult shoppers rely on advice from their close friends and online channels to form opinions about different products. Offering incentives, such as prizes, for peer-to-peer recommendations that result in direct sales can effectively link marketing expenses with sales particularly

for Chinese female online shoppers who are more influenced by subjective norms. Notably, hiring key opinion leaders or celebrities to promote products through live broadcasts or online short videos has become a growing trend.

Moreover, platform operators should prioritise PU to cater to the needs of online shoppers. Enhancing logistics capabilities and ensuring quick and convenient deliveries are crucial for driving sales growth especially in the current new normal. Additionally, our study highlights the positive relationship between hedonic motivation and direct online purchase behaviour. Therefore, online shopping must be enjoyable to boost sales. One effective approach is to offer game points instead of direct monetary rewards for purchases, which can encourage users to engage in games and spend additional time on the platform. This outcome increases the likelihood of consumers to make purchases on the platform. Another effective strategy is to employ brand ambassadors who exude happiness through music or acting because they can influence the subjective norm and hedonic motivations of online shoppers when making purchase decisions.

6 Limitations and Suggestions for Future Research

This study has limitations that can be addressed in future research. Firstly, the study focuses on Chinese consumers aged 21–60 who have made online purchases with a sample size of 203 valid responses. However, the sample may not be representative of the overall population of Chinese online shoppers aged 20–60. Future research should aim to replicate these findings with a random national sample. Secondly, the sample slightly underrepresents female users with only around 41.38% being female. Further research should expand the sample to ensure the results are validated among a broad population.

Future research should also investigate the impact of each construct in more depth. Factors influencing purchase behaviour may differ for high involvement products, low involvement products, and expensive items among Chinese online consumers. Additionally, the proposed model in this study only includes five predictive

variables. Future research could incorporate other constructs, such as online shopping atmosphere during festivals or individual shoppers' personality traits, to gain an enhanced understanding of Chinese online consumers' purchase behaviour. Furthermore, researchers could explore whether a similar model is applicable to other online shopping platforms, such as Jingdong, Pinduoduo, and Meituan, to assess whether the effects of different constructs on Chinese online users vary across platforms.

7 Conclusions

This study proposed a new model that combines TAM with subjective norm, hedonic motivation, and perceived risk. The findings showed that subjective norm, PEOU, and PU still have a significantly positive impact on online purchase intention in the current new normal. Additionally, hedonic motivation directly influences the online purchase behaviour of Chinese adults aged 20–60. Gender differences were also observed, with female shoppers being more influenced by subjective norm on purchase intention. Despite facing competition and a slowdown in sales growth, China's largest online shopping platform, Taobao, and its vendors and marketers can still seize sales growth opportunities. Practical suggestions include improving logistics efficiency, enhancing the fun of online shopping through gamification, using brand ambassadors to evoke positive emotions, and linking marketing incentives to friend recommendations.

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A study on AI chatbots in online shopping and online banking

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Abstract. This study investigates how customers perceive artificial intelligence (AI) chatbots by focusing on the application of AI chatbots in online shopping and online banking. It seeks to understand customer attitudes towards AI chatbots and analyse whether AI chatbots can replace human customer service in the future. The study collects data from an online questionnaire and analyses data through chi-square test, t-test, and regression. The results indicate customers have different types of usage and attitudes towards AI chatbots in online shopping and in online banking. Moreover, perceived effectiveness, user experiences, and demographic factors affect customers' acceptance towards AI chatbots. This research extends the understanding of the online customer experience with chatbots in retail and finance industries and shed light on the future development of AI chatbots.

Keywords. AI chatbots, Online banking, Online shopping

1 Introduction

Artificial intelligence (AI) is becoming increasingly integrated into our daily lives. In particular, AI chatbots have become popular in recent years. These chatbots assist customers with their problems through conversation and text. The primary function of AI chatbots is to handle repetitive customer issues. AI chatbots have many advantages, including the fact that customers can access them at any time. Many companies hope to replace human customer services with AI chatbots to reduce operating costs. However, no company uses AI chatbots to replace human customer services fully at present. This technology has several disadvantages. For instance, chatbots do not express emotions and are only capable of solving simple, repetitive customer problems.

AI chatbots have increasingly been applied in online shopping and online banking industries. Chatbots in the shopping field often serve a search or decision support function, thus providing convenient, personal, unique, interactive, and engaging customer service interactions or encounters (Chen et al., 2021). In the banking domain, they can tackle various tasks, such as accessing mini statements, transfers, and balance enquiries and providing financial advice (Cîmpeanu et al., 2023).

A substantial number of studies have discussed the use of chatbots in business. However most existing studies focus on one industry, thus failing to investigate the different attitudes towards AI chatbots in various industries. This study intends to fill in this research gap by studying the customers' perception difference in online shopping and online banking. Moreover, this study aims to discuss whether AI chatbots can replace human customer service in the future.

This study has selected Hong Kong as the research venue. Existing literature studied AI chatbots in India (Bhattacharya1 & Sinha, 2022), Australia (Kelly et al., 2022), and the US (Cheng & Jiang, 2021). Meanwhile, no evidence from Hong Kong is currently available. Hong Kong is the world's premier international financial centre. It is also one of the world's leading digital cities with internet penetration rates of 93%. The e-commerce industry in Hong Kong is experiencing rapid growth especially after COVID-19. The findings from this study may benefit the development of AI chatbots in online shopping and online banking in Hong Kong. The results may also shed light on the development of this innovation in other industries and regions. The findings will provide valuable insights for AI chatbots providers, AI chatbots users, and policy makers.

2 Theoretical Background and Hypothesis Development

2.1 AI chatbots in online shopping and in online banking

Nicolescu and Tudorache (2022) found that the financial domain (banking and financial investment) is the most researched field for the topic of customer experience with AI chatbots. This predominance reflects the reality that AI chatbots are contributing increasingly to the development of the banking sector. AI chatbots benefit the banking sector through advanced communication, 24/7 support, increased speed of transactions, and improved customer satisfaction. The adoption of AI chatbots will greatly increase banks' competitiveness.

Customers think that chatbots provide ease of use and usefulness with regard to speed and accuracy (Patil & Kulkarni, 2019). Customers perceive that chatbots are faster and more convenient than calling. Besides handling regular issues, such as passwords

or pin resets, wrong debit/credit numbers, and other technical support, AI chatbots also act as financial advisors, which can cater large number of investors, in a cost-effective manner. Furthermore, they can overcome the irrationalities and erroneous decisions caused by human behaviour. Especially for low budget customers, AI is the best alternative because they cannot hire a financial advisor because of the cost.

AI chatbots are also being increasingly applied in online shopping. COVID-19 has accelerated the adoption of AI chatbots particularly in e-retail and e-commerce (Rana, et al., 2024). In the e-commence sector, AI chatbots provide search support for information retrieval, navigational support for product discovery, and essential decision support for recommendations (Agichtein et al., 2020). They typically capture users' historical data, predict their current needs, and support complex consumer decision-making processes (Ma & Sun, 2020). Kelly et al. (2022) found that the acceptance of AI-based chatbots in online shopping seems to be more favourable than in other industries.

Currently, no research has directly compared AI chatbots in online banking and online shopping. Based on the above discussions, AI chatbots are applied differently in online banking and online shopping, Therefore, we propose the first hypothesis:
H1: A difference exists between the usage and attitudes towards AI chatbots in online shopping and online banking.

2.2 Acceptance towards AI chatbots

A vital question in AI chatbots research is whether customers accept AI chatbots and even willing to use it instead of human customer service. According to Boustani (2021), AI can help with interactions between customers and bank employees. However, it cannot replace humans handling bank customer service.

Li et al. (2020) examined customers' perspectives on AI in customer service. More than 70% of interviewees like AI customer service because customers can use it anytime and anywhere. Moreover, AI customer service can provide objective opinions and predict future trends. However, 20% of interviewees have a negative attitude

towards AI customer service. They prefer human customer service because its AI counterpart cannot handle complex problems. The interviewees also believe that AI customer service is inefficient.

Existing research has explored factors that affect consumers' acceptance of AI chatbots, such as chatbot design, consumption contexts, and consumer characteristics (Zhu et al., 2022). We propose focusing on several factors to investigate customers' acceptance. In the technology acceptance model (Davis, 1989), perceived usefulness will affect users' intention to adopt innovative information systems. Goli et al. (2023) found that perceived usefulness positively affects the intention to use Chatbots. We use the term perceived effectiveness, which is similar to the term of perceived usefulness.

Kelly et al. (2022) proposed that preexisting knowledge has a positive impact on consumers' behavioural intentions to use AI chatbots. Similarly, we propose user experience as a predictive factor because AI-related knowledge is usually gained by using the technology.

Studies have also found that personal characteristics, such as age and gender, significantly influence behavioural intentions. Li et al. (2020) noted that age and education differences influence customers' perception of AI customer service.

Based on the above discussion, we propose the second hypothesis:
H2: Perceived effectiveness, user experiences, and demographic factors affect customers' acceptance towards AI chatbots.

3 Methodology

3.1 Data collection

A structured questionnaire was developed in line with the literature and the use of chatbots. Upon designing the questionnaire, the researchers sent the first draft to five undergraduate students who were studying digital marketing to obtain their feedback. This process ensured that the questionnaire was well designed. After

revisions with the feedback, the researchers conducted a pilot study. Then, the online questionnaire link was distributed primarily via WhatsApp and Instagram. Finally, a sample of 101 valid responses were collected.

Table 1 shows the demographic profile of the respondents, which included 61 women and 40 men. A total of 32.7% of respondents were between the ages of 18 and 25; 25.7% were between the ages of 26 and 35; 21.8% were between the ages of 36 and 45; 19.8% were above the age of 46. Their education attainment ranged from junior high school to a master's degree. More than half of the respondents possessed a bachelor's degree (53.5%).

Table 1. Demographic Profile

Gender	Count (%)
Female	61 (60.4%)
Male	40 (39.6%)
Age	**Count (%)**
18–25 years old	33 (32.7%)
26–35 years old	26 (25.7%)
36–45 years old	22 (21.8%)
46 or above	20 (19.8%)
Education	**Count (%)**
Junior high school	4 (4%)
High school	15 (14.9%)
College	18 (17.8%)
Bachelor	54 (53.5%)
Master	10 (9.9%)

3.2 Variables

Regression was adopted to test hypothesis 2. The dependent variable was ACCEPT, which came from one item: "I think AI chatbots will replace human customer service in the future." The respondents replied using a Likert scale. The reply was coded into a score of 1–5: 5 represented strongly agree, while 1 represented strongly disagree. EFFEC measured customers' perceived effectiveness of AI chatbots, which

came from one item: "When I have questions, AI chatbot can effectively help me." The respondents reply using a Likert scale and the reply was coded into a scale of 1–5. EXPE measured customers' experiences with AI chatbots, which came from one item: "How often do you use AI chatbots?" According to the frequency of usage, the answers were coded into 0–6 with higher value presenting frequent usage. To separate users' experiences in online shopping and online banking, we introduced two dummy variables, namely, SHOP and BANK, with 1 representing having experiences and 0 denoting no experiences. Demographic factors included GENDER, where 1 represents male while 2 represents female. AGE with a higher value represents older age, and EDU with a higher value represents higher education.

4 Data analysis and results

4.1 Test on H1

We first explored the difference on the usage of AI chatbots in online shopping and online banking. Table 2 presents the results. The usage of AI chatbots are more popular in online shopping than in online banking. The chi-square test shows that the difference is significant.

Table 2. Usage of AI chatbots

	Used AI chatbots in online shopping	Used AI chatbots in online banking	Chi-square test
Yes	61 (60.4%)	42 (41.6%)	7.1513***
No	40 (39.6%)	59 (58.4%)	

Note: ***Significant at 0.01

Then, we explored the difference on customers' perceptions towards AI chatbots in online shopping and online banking. Table 3 presents the results. We used a Likert scale to measure customers' attitude. Then, we coded the scores as follows: 1 = strongly disagree. 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

Table 3. Perceptions towards AI chatbots

	In online shopping	In online banking	T-test
AI chatbots are important.	3.396	3.505	-1.241*
AI chatbots bring convenience.	3.614	3.525	1.054
AI chatbots bring positive impacts on customer experiences.	3.594	3.554	0.454
AI chatbots bring positive impacts on customer decisions.	3.654	3.574	0.929
AI chatbots make me continue to use that platform.	3.495	3.445	0.660

Note: *Significant at 0.1

Overall, customers' attitudes towards AI chatbots are positive with all statements receiving scores ranging 3.4–3.6. Moreover, we can see that for most statements, customers have slightly more positive views towards online shopping than online banking. However, the difference is not significant. Only in the statements of "AI chatbots are important in online shopping" and "AI chatbots are important in online banking" were the customers' attitudes significantly different. They perceive AI chatbots as more important in online banking than online shopping.

4.2 Test on H2

We conducted OLS regression to test the second hypothesis. The dependent variable was ACCEPT, and the explanatory variables were EXPE, EFFEC, GENDER, AGE, EDU, SHOP and BANK. Table 4 presents the results.

Table 4. Regression results

	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	.553	.697		.794	.430
EXPE	.214	.077	.298	2.773	.007
EFFEC	.349	.116	.335	3.010	.004
GENDER	.037	.211	.017	.176	.860
AGE	.249	.104	.223	2.409	.018
EDU	.151	.141	.103	1.069	.289
SHOP	-.399	.249	-.165	-1.604	.113
BANK	.438	.199	.205	2.200	.031

From the coefficient table, we can see that user experience significantly and positively affect customers' acceptance towards AI chatbots, that is, customers who use AI chatbots frequently are likely to regard that AI chatbots can replace human customer service. It shows that AI chatbots have matured and their performance is satisfactory.

Perceived effectiveness significantly and positively affects the acceptance towards AI chatbots. The result is consistent with existing research.

For demographic factors, only AGE is significant. This outcome shows that older individuals are more likely than younger individuals to regard that AI chatbots can replace humans.

As to the difference between online shopping and online banking, customers with experiences of AI chatbots in banking have higher acceptance towards AI chatbots. The results may be due to the perceived privacy issue. AI online shopping chatbots are predicted to be able to retain user information, autonomously upsell products, and deliver real-time analytics. By contrast, online banking chatbots cannot

retain user information once the session is complete (Kelly et al., 2022). Customers perceive better privacy protection in online banking. Therefore, they are accepting of AI chatbots.

5 Discussion and conclusion

Based on the data collected from an online questionnaire, this study investigates customers' attitudes towards AI chatbots in online shopping and online banking. The usage of AI chatbots in online shopping is more popular than in online banking. The perception that AI chatbots are important differs for online shopping and online banking. Other perceptions are similar for both industries. As to whether AI chatbots will replace human customer service, perceived effectiveness and user experiences play a positive driving force. Age will affect the acceptance positively. Customers with online banking experiences are more likely to accept AI replacing human than customers with online shopping experiences.

The study has several limitations, including the small sample size. This study only focuses on online shopping and online banking platforms. Future study of AI chatbots are expected to extend to a wide range of industries. This study only uses online questionnaire to collect data. Future study can adopt other approaches, such as experiments (Zhu et al., 2022)

Despite the limitation, the study contributes to literature and has practical implications. This study further supports the need to conduct industry-specific analysis because the specific application of the AI chatbot plays a role in its acceptance (Kelly et al., 2022). Banks are usually early adopters of IT opportunities, and the financial services industry is leading in the use of AI technology. Although the popularity of AI chatbots are not as high as in online shopping, customers hold a very positive view towards AI chatbot for online banking. The banking industry should increase investments on AI chatbots. Meanwhile, the e-commerce industry should further develop AI chatbots to enhance user experiences. Research found that the service quality of AI chatbots will also positively affect customer loyalty (Chen et al., 2023)

Consumers usually demand immediate responses and tailored recommendations. Cheng and Jiang (2021) showed that interaction, information, accessibility, entertainment, and customisation are important in chatbots' marketing efforts. Sidlauskiene et al. (2023) found that consumers are willing to pay a high product price for the anthropomorphism of AI chatbots. Different industries and various companies should follow different strategies for implementing AI chatbots within their business processes.

Li et al. (2020) recommended slowing down the pace of replacing human customer service with AI. However, the AI chatbots are developing exponentially. The market needs to promote AI customer service to enhance customer perception and increase acceptance. AI chatbots lead to the transformation of the workforce and the rethinking of the interaction between customers and the company. The future is already here.

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Investigating the impact of platform attributes on purchase intention in the online shopping context

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Abstract. Given the rapid expansion of online shopping, businesses have had to comprehend the factors that impact consumers' intention to make purchases. This study aims to examine the influence of the various attributes of online platforms, such as interface quality, product quality, service quality, platform security, and platform reputation, on consumer perceptions. Specifically, this work focuses on information satisfaction and relational benefit and how these perceptions subsequently affect purchase intention. An online survey was conducted by gathering responses from 192 individuals who had previously made purchases on JD.com in China. The collected data were analysed using partial least squares structural equation modelling to assess the measurement model and test the research hypotheses. By investigating these relationships, this research not only enhances our understanding of consumer behaviour in online shopping but also provides valuable insights for businesses to improve their online platforms.

Keywords. Information satisfaction, Online shopping, Platform attributes, Purchase intention, Relational benefit

1 Introduction

The emergence of the internet and advancements in technology have revolutionised the way consumers engage in shopping activities. In particular, online shopping has gained significant popularity because of its convenience, accessibility, and extensive product offerings. As a result, businesses operating in the e-commerce industry are continuously striving to improve their online platforms to attract and retain customers. E-commerce has revolutionised the way people shop. As such, it has become a pervasive part of daily life across the world. As of 2023, e-commerce's average penetration rate (i.e., the share of sales made online) was around 20% globally and is expected to be 25% by 2027 (Coppola, 2024). In terms of e-commerce prominence, China is in a league of its own. The middle kingdom boasts an impressive 47% share of e-commerce sales (Statista, 2024), surpassing the nearest runner-up (Singapore) by almost 15 percentage points. Furthermore, approximately 80% of e-commerce transactions in China occur in e-commerce marketplaces,

where merchants are provided with user-friendly tools to manage their stores, while customers benefit from a convenient and secure shopping experience.

Given the above considerations, the online shopping platform investigated in this study is JD.com. The primary objective is to explore and analyse the relationships among interface quality, product quality, service quality, platform security, platform reputation, information satisfaction, relational benefit, and purchase intention. By comprehensively examining these interconnections, the study aims to contribute to the existing body of knowledge on online shopping behaviour and provide practical recommendations for businesses. Specifically, this work emphasises how these relationships can enhance online platforms and effectively engage consumers to drive purchase intention.

The subsequent sections of this paper present the theoretical background, hypothesis development, research methodology, findings, and discussions followed by conclusions and implications for theory and practice.

2 Theoretical Background and Hypothesis Development

2.1 JD.com

JD.com, a major player in the Chinese market, has a history of nearly three decades. It initially operated as a seller of computer equipment. However, during the SARS epidemic in 2003, the company faced substantial losses, thus leading to a shift in its business model towards online operations, which ultimately defined its current success. Over time, JD.com expanded its offerings from CDs, DVDs, and electronic appliances to a diverse range of products, thereby establishing itself as one of the largest retail platforms today. Showing a strong commitment to innovation, JD.com is actively exploring new technologies, including autonomous vehicles and AI-driven drones, with a focus on enhancing its delivery infrastructure. In fact, JD.com currently possesses the largest drone delivery network globally. Furthermore, the company has been expanding its logistics capabilities and investing in technology to enhance its delivery services. To provide Chinese consumers with a wide range of imported products, JD.com has actively pursued partnerships with international brands.

2.2 Research model

This study introduces a unique research model designed to investigate the relationship between online platform attributes, consumer perceptions, and purchase intention (see Figure 1). The proposed model expands upon the framework developed by Park and Kim (2004), which incorporates the theory of user information satisfaction and consumer purchase behaviour. Our model specifically emphasises the impact of five platform attributes (interface quality, product quality, service quality, platform security, and platform reputation) on consumer perceptions (information satisfaction and relational benefit). Furthermore, this study examines whether purchase intention is influenced by these two consumer perceptions (relational benefit and information satisfaction). Table 1 displays the definitions of the eight constructs illustrated in Figure 1.

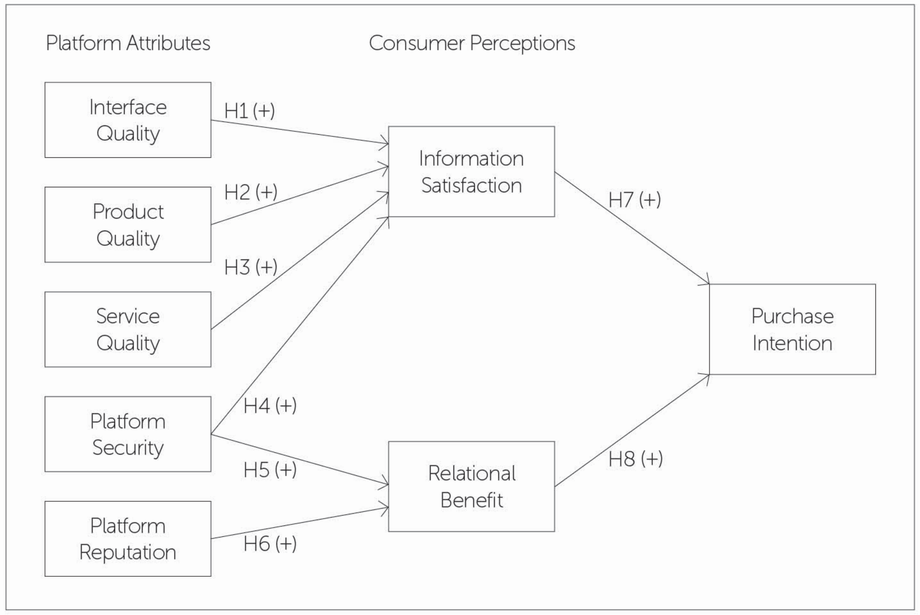

Fig. 1 Research model

Table 1. Definitions of constructs

Constructs	Definition
Purchase Intention	The likelihood of engaging in future purchases, the intent to continue using JD.com, and a preference for JD.com when making buying decisions.
Information Satisfaction	The satisfaction with provided information, availability of user and expert reviews, and the option for price comparison.
Relational Benefit	The ability to shop privately from home, saved effort compared with offline stores, reliability, and consideration of interests and benefits.
Interface Quality	The user's satisfaction with the visual presentation, usability, and navigation of a digital interface. It includes factors such as legible display pages, clear website labels, a simple ordering process, and effortless product discovery.
Product Quality	The provision of pertinent product information, assurance in JD.com's commitments, and the level of uncertainty regarding product quality.
Service Quality	The level of satisfaction with the offered service, the prompt handling of inquiries, and the timely delivery of purchased products.
Platform Security	The assurance of safe financial transactions, protection of financial information, use of digital certificates for security, and perception of reduced risk when buying from JD.com.
Platform Reputation	A consistently positive impression, positive reputation in customers' minds, and a known focus on customer satisfaction.

2.3 Hypotheses

The perception of platform attributes holds immense importance in shaping consumers' perceptions of online shopping. These attributes encompass various critical factors, such as interface quality, product quality, service quality, platform security, and platform reputation. These elements significantly contribute to consumers' perceptions of information satisfaction and relational benefits. Additionally, the purchase intention, which is a vital aspect of consumer behaviour, is influenced by consumers' perceptions. When users perceive that a platform is offering relational benefits and fulfilling their information requirements, their inclination to make a purchase is heightened.

2.3.1 Relationship between interface quality and information satisfaction

Previous studies (Alhendawi & Baharudin, 2014; Maditinos & Theodioridis, 2010) have conducted surveys in Palestine with 384 respondents and Greece with 359 respondents, respectively. Results support a positive relationship between interface quality and information satisfaction in the context of online shopping. Based on these findings, we propose the following hypotheses:

H1: Interface quality has a positive relationship with information satisfaction.

2.3.2 Relationship between product quality and information satisfaction

Previous research conducted by Maditinos and Theodioridis (2010) in Greece, which involved 359 respondents, revealed a positive correlation between user-perceived product quality and customer satisfaction in the context of e-commerce. Similarly, a study conducted by Tsiotsou (2006) in Greece, which involved 197 respondents, found a positive association between product quality and information satisfaction in the context of web-based information system. Building upon these findings, the present study proposes the following:

H2: Product quality has a positive relationship with information satisfaction.

2.3.3 Relationship between service quality and information satisfaction

Previous research conducted by Wang et al. (2016) in Taiwan, which examined physical shopping and online shopping with a sample of 191 respondents, and by Udo et al. (2010) in the US, which involved 211 respondents, found a positive association between service quality and information satisfaction. Building upon these findings, the present study proposes the following:

H3: Service quality has a positive relationship with information satisfaction.

2.3.4 Relationship between platform security and information satisfaction

Previous research conducted by Chang and Chen (2009) in Taiwan, which focused on e-commerce with a sample size of 314 respondents, as well as by Almugari et al. (2022) in India, which involved 497 respondents in the context of online shopping, has revealed a positive correlation between online security and

information satisfaction. Building upon these noteworthy findings, the present study proposes the following:

H4: Platform security has a positive relationship with information satisfaction.

2.3.5 Relationship between platform security and relational benefit

Previous research conducted by Park and Kim (2003) in Korea, which focused on online shopping with a sample size of 602 respondents, revealed a positive correlation between online security and relational benefit. Building upon these noteworthy findings, the present study proposes the following:

H5: Platform security has a positive relationship with relational benefit.

2.3.6 Relationship between platform reputation and relational benefit

The study conducted by Ju Rebaecca Yen and Gwinner (2003) in Taiwan, which had a sample size of 459 respondents, and the study by Maduku and Mathaba (2022) in South Africa, which involved 580 respondents, found evidence supporting a positive connection between platform reputation and relational benefit in the context of online purchase and online shopping. Based on these findings, this study suggests the following:

H6: Platform reputation has a positive relationship with relational benefit.

2.3.7 Relationship between information satisfaction and purchase intention

Previous research conducted by Kim et al. (2004) in Korea, which focused on online shopping and included a sample size of 222 respondents, as well as by Abd Aziz et al. (2018) in Malaysia, which involved 280 respondents in the context of online shopping, demonstrated a positive association between satisfaction with information and the intention to make a purchase. Based on these significant findings, the current study puts forward the following proposal:

H7: Information satisfaction has a positive relationship with purchase intention.

2.3.8 Relationship between relational benefit and purchase intention

The study conducted by Chandra and Wirapraja (2020) in Indonesia, which had a sample size of 130 respondents, and the study by Lo et al. (2020) in Taiwan,

which involved 464 respondents in the context of the sharing economy, revealed a positive relationship between relational benefit and purchase intention. Based on these significant findings, the current study suggests the following:

H8: Relational benefit has a positive relationship with purchase intention.

3 Method

3.1.1 Data collection

Data were collected by conducting a web-based survey, which was made available in Chinese and English. Convenience sampling was employed to gather the data by utilising the Wenjuanxing Platform. The survey invitation was distributed through social networks to individuals residing in Mainland China. Upon accepting the invitation and agreeing to participate, respondents were able to commence and complete the online questionnaire. Participation in the survey was voluntary, and no incentives were provided to avoid potential biases. The sample comprised of 192 participants who had previous purchasing experience on JD.com. The sample characteristics indicated that 40.1% of the respondents were male, 59.9% were female, 69.3% were aged between 19 and 30 years, 57.3% fell into the income range of RMB 6,000–10,000, and 86.5% had attained a university education.

3.1.2 Measures

A five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) was utilised to assess the model's variables. Interface quality was evaluated using four items adapted from Cronin et al. (2000) and Constantinides et al. (2010). Product quality was measured with three items sourced from Eid (2011), Azam (2015), and Munnukka and Jarvi (2015). Service quality was assessed using four items from Camarero and Jose Garrido (2011) and Da Silva and Alwi (2008). Platform security was measured through four items from Constantinides et al. (2010). Platform reputation was evaluated using three items adopted from Alam and Noor (2020) and Ganesan (1994). Relational benefit was assessed with four items from Forsythe et al. (2006), Camarero and Jose Garrido (2011), and Chuang et al. (2011). Information satisfaction

was measured using four items from Camarero and Jose Garrido (2011), Eid (2011), and Rehman et al. (2019). Purchase intention was evaluated with three items from Beitelspacher et al. (2012), Chih et al. (2015), and Eid (2011). The measurements for these constructs are shown in Table 2.

Table 2. Measures of constructs

Construct	Code	Item
Interface Quality (IQ)	IQ1	The display pages on JD.com are easy to read.
	IQ2	The website labels on JD.com are easy to understand.
	IQ3	The ordering process on JD.com is simple.
	IQ4	Finding the needed product on JD.com requires minimal search effort.
Product Quality (PQ)	PQ1	JD.com provides relevant product information.
	PQ2	I have confidence in the promises that JD.com makes.
	PQ3	I am uncertain about the quality of the products on JD.com (Reserved code).
Service Quality (SQ)	SQ1	I am satisfied with the service offered by JD.com.
	SQ2	When I have a problem, JD.com does not show sincere interest in solving it (Reserved code).
	SQ3	Inquiries are promptly answered at JD.com.
	SQ4	The product I purchased was delivered within the promised time by JD.com.
Platform Security (PS)	PS1	It is safe to pay and perform financial transactions on JD.com.
	PS2	JD.com will protect my financial information from being leaked or hacked.
	PS3	JD.com provides security through the use of digital certificates.
	PS4	I believe there is less risk of something going wrong when buying from JD.com.
Platform Reputation (PR)	PR1	I have always had a good impression of JD.com.
	PR2	In my opinion, JD.com has a positive reputation in the minds of customers.
	PR3	JD.com is known to prioritise customer satisfaction.
Relational Benefit (RB)	RB1	By using JD.com, I can shop in the privacy of my home.
	RB2	Buying from JD.com can save me more effort compared to other offline stores.
	RB3	JD.com is reliable and fulfils its commitments.
	RB4	JD.com takes my interests and benefits seriously.
Information Satisfaction (IS)	IS1	I am satisfied with the information provided by JD.com.
	IS2	JD.com lacks sufficient marketing information about the products and services it offers (Reserved code).
	IS3	Online shopping on JD.com provides me with user and expert reviews of the products.
	IS4	Online shopping at JD.com offers the facility of price comparison.
Purchase Intention (PI)	PI1	I am likely to make another purchase from JD.com in the near future.
	PI2	I plan to continue using JD.com in the future.
	PI3	I will choose JD.com whenever I need to make a purchase.

3.1.3 Analysis of the data

This study employed partial least squares path modelling (PLS-SEM) to test the proposed model using SmartPLS 3.0 software. PLS-SEM is a technique that is less restrictive than SEM and is suitable for analysing small sample sizes (Hair et al., 2016).

4 Findings

The data analysis followed a two-stage approach. Firstly, the reliability and validity of the measurement model were assessed. Secondly, the hypothesised model was estimated. Then, a bootstrapping procedure was employed with 5,000 subsamples to ensure data stability (Roldan and Sanchez-Franco, 2012).

4.1.1 Reliability and validity assessment

Three criteria were employed to assess the reliability of the model: factor loadings, Cronbach's alpha, and composite reliability. Firstly, the factor loadings of each item on its respective variable should ideally be higher, or at least close to, 0.7 (Barclay et al., 1995). The results indicate that all item factor loadings surpassed the 0.7 threshold (Cronbach, 1951; Nunnally & Bernstein, 1994). Convergent validity was evaluated using the average variance extracted (AVE), and the AVE values exceeded the recommended minimum of 0.5 (Fornell & Larcker, 1981) (see Table 3). Hence, the results confirm the reliability and convergent validity of the measurement model.

Table 3. Quality criteria of the constructs.

Latent Variable	Item	Standardised outer loading	Cronbach's alpha	Composite reliability	AVE
Interface Quality (IQ)	IQ1	0.909	0.920	0.944	0.807
	IQ2	0.891			
	IQ3	0.905			
	IQ4	0.889			
Product Quality (PQ)	PQ1	0.832	0.831	0.899	0.748
	PQ2	0.895			
	PQ3	0.866			
Service Quality (SQ)	SQ1	0.868	0.872	0.912	0.723
	SQ2	0.826			
	SQ3	0.825			
	SQ4	0.879			
Platform Security (PS)	PS1	0.928	0.922	0.945	0.811
	PS2	0.928			
	PS3	0.875			
	PS4	0.869			
Platform Reputation (PR)	PR1	0.853	0.86	0.915	0.782
	PR2	0.909			
	PR3	0.889			
Relational Benefit (RB)	RB1	0.880	0.896	0.928	0.762
	RB2	0.846			
	RB3	0.868			
	RB4	0.897			
Information Satisfaction (IS)	IS1	0.841	0.873	0.913	0.724
	IS2	0.857			
	IS3	0.891			
	IS4	0.813			
Purchase Intention (PI)	PI1	0.867	0.845	0.906	0.764
	PI2	0.863			
	PI3	0.892			

Two methods were employed to assess the discriminant validity. Firstly, the interconstruct correlations should be lower than the square root of AVE (Fornell & Larcker, 1981). Secondly, the heterotrait-monotrait (HTMT) ratio between any two reflective constructs should be significantly less than 1 (Henseler et al., 2016). All values in Table 4 and Table 5 adhere to the recommended thresholds, thus confirming that the measurement model exhibits discriminant validity.

Table 4. Square root of AVE (diagonal elements) and interconstruct correlations

Latent Variable	IQ	PQ	SQ	PS	PR	RB	IS	PI
Interface Quality (IQ)	**0.899**							
Product Quality (PQ)	0.547	**0.865**						
Service Quality (SQ)	0.644	0.593	**0.850**					
Platform Security (PS)	0.440	0.366	0.677	**0.900**				
Platform Reputation (PR)	0.456	0.475	0.256	0.351	**0.884**			
Relational Benefit (RB)	0.655	0.617	0.738	0.677	0.670	**0.873**		
Information Satisfaction (IS)	0.811	0.635	0.763	0.695	0.432	0.757	**0.851**	
Purchase Intention (PI)	0.652	0.584	0.658	0.585	0.599	0.755	0.706	**0.874**

Note: The diagonal italic and bold elements in the matrix represent the square roots of the AVE for each reflective construct. The Fornell-Larcker criterion suggests comparing these square roots with the correlations between the constructs.

Table 5. Heterotrait-monotrait ratio of correlations

Latent Variable	IQ	PQ	SQ	PS	PR	RB	IS	PI
Interface Quality (IQ)								
Product Quality (PQ)	0.620							
Service Quality (SQ)	0.718	0.693						
Platform Security (PS)	0.476	0.415	0.753					
Platform Reputation (PR)	0.513	0.563	0.298	0.397				
Relational Benefit (RB)	0.719	0.709	0.834	0.744	0.763			
Information Satisfaction (IS)	0.903	0.739	0.872	0.774	0.500	0.852		
Purchase Intention (PI)	0.740	0.696	0.768	0.660	0.701	0.861	0.817	

4.1.2 Structural model and hypothesis test

Prior to assessing the structural model, the variance inflation factor (VIF) values of the constructs were examined to assess the presence of multicollinearity. The VIF values were found to be lower than the suggested maximum of 5 (IQ→IS = 1.842; PQ→IS = 1.668; SQ→IS = 2.893; PS→IS = 1.853; PS→RB = 1.141; PR→RB = 1.141; RB→PI = 2.341; IS→PI = 2.341). Additionally, the R-square values of each dependent variable (IS, PI, and RB) were examined, thus resulting in values of 0.828, 0.608, and 0.667, respectively. All of these values exceeded the recommended minimum of 0.1 (Falk and Miller, 1992).

The significance of the ß coefficients for each path and their corresponding p-values were assessed to test hypotheses 1 to 8 (see Table 5). IQ (ß = 0.494, p-value = 0.000), PQ (ß = 0.175, p-value = 0.000), and PS (ß = 0.338, p-value = 0.000) had positive and significant effects on IS (<0.001). Hence, H1, H2, and H4 were supported. However, the effect of SQ on IS was not significant. Therefore, H3 was not supported (p-value = 0.091 > 0.05). The effects of PS (ß = 0.504, p-value = 0.000) and PR (ß = 0.493, p-value = 0.000) on RB were positive and significant, thus supporting H5 and H6. Lastly, the effects of RB on PI (ß = 0.516, p-value = 0.000) and IS on PI (ß = 0.316, p-value = 0.000) were positive and significant. Thus, H6 and H7 were supported.

The f-square values were utilised to assess the effect size (Henseler et al., 2016) (see Table 6). The results indicate that the impacts of PS on IS, PS on RB, PR on RB, and IQ on IS are strong (>0.35), the effect of RB on PI is moderate (>0.15), and the effects of IS on PI, PQ on IS, and SQ on IS are weak (>0.02). The Q-square test was utilised to assess the predictive ability of the model. Results indicate that the model has predictive capacity for the dependent variables, as evidenced by Q-square values exceeding 0 (IS: 0.593, PI: 0.46, RB: 0.507).

Table 6. Significance testing results of the structural model path coefficients

	Path	Estimate	t-value	Significant	f^2	Remark
H1	IQ→IS	0.494	11.216	***	0.788	Supported
H2	PQ→IS	0.175	3.942	***	0.109	Supported
H3	SQ→IS	0.111	1.692	n.s.	0.026	Unsupported
H4	PS→IS	0.338	6.687	***	0.366	Supported
H5	PS→RB	0.504	11.027	***	0.676	Supported
H6	RP→RB	0.493	10.834	***	0.647	Supported
H7	RB→PI	0.516	6.442	***	0.293	Supported
H8	IS→PI	0.316	4.013	***	0.110	Supported

Note: Significant (***$p < 0.001$; n.s. = not significant)

5 Conclusions

This study examined the influence of platform attributes on consumers' intention to purchase in online shopping. We focused on interface quality, product quality, service quality, platform security, and platform reputation. Our findings revealed that interface quality and product quality positively affected information satisfaction. However, no significantly positive relationship existed between service quality and information satisfaction. Platform security had a positive relationship with information satisfaction and relational benefit, while platform reputation positively influenced relational benefit. Information satisfaction and relational benefit influenced purchase intention. Understanding and managing these attributes can enhance consumers' satisfaction, trust, and intention to make purchases. This study contributes to the existing literature on online consumer behaviour and provides valuable insights for e-service providers to improve their platforms and enhance the online shopping experience. Future research should consider larger and more diverse samples and explore additional factors influencing online shopping behaviour.

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Interactive E-Business and Industry Case Studies

E-commerce: A dynamic case study on transforming the passenger experience in the airline industry

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Abstract. This study aims to analyse airline e-commerce platforms comprehensively by focusing on their development, evolution, and impact on the airline industry. By examining their adaptations, this study seeks to gain insight into how these platforms have effectively responded to the industry's dynamic nature and its customers' evolving preferences. The transformative journey of Singapore Airlines serves as a prominent case study because it showcases the significance of digital transformation in redefining customer experiences and achieving remarkable success. Analysing Singapore Airlines' innovative approach shows that the company has demonstrated the importance of attaining technological advancements and leveraging digital platforms to drive growth and set new industry standards. This study provides valuable insights for businesses across sectors by emphasising the need to adapt and harness the power of e-commerce to thrive in the modern airline business environment.

Keywords. Airlines, Competitive landscape, Digital transformation, E-commerce, Technological advancement

1 Introduction

Since the air deregulation of the industry, airlines have become increasingly competitive, thus prompting companies to leverage e-commerce platforms for selling tickets, managing reservations, and providing ancillary services, which has been a long-standing practice in the industry (Hanke, 2016). This trend has been further amplified by the emergence of low-cost airlines, which has compelled many airlines to adopt e-commerce platforms to remain competitive in the market (Moreno et al., 2015).

In the highly competitive airline industry, reducing operating costs is crucial for airlines to remain competitive and achieve profitability. Airlines have invested in technological solutions to automate processes, enhance operational efficiency, and achieve cost reductions. A notable investment made by airlines is the implementation of an e-commerce platform that is seamlessly linked to their advanced reservation systems, thus incorporating integration with inventory management systems and data analytics tools (Lubbe & Potgieter, 2018). This integration enables airlines to optimise resource allocation, enhance operational efficiency, and improve overall performance.

Airline e-commerce platforms are specifically designed to offer a user-friendly interface that enables airlines to sell tickets directly to customers, thereby eliminating the need for third-party intermediaries (Colangelo & Zeno, 2016). By having e-commerce platforms, airlines can establish a direct connection with customers, thus providing a seamless booking experience and taking full control over the ticketing process. Customers may use the platform to search for flights, compare prices, view flight schedules, and make secure online payments. These platforms often incorporate various features, such as real-time availability, flexible fare options, and personalised recommendations based on customer preferences and browsing history (Hammoud et al., 2018). The airline e-commerce platform serves as a valuable tool for promoting ancillary services, such as seat upgrades, prepaid baggage allowances, access to airport lounges, and duty-free sales (Morosan, 2014). In addition to these services, e-commerce platforms can integrate live streaming as part of the airline's marketing initiatives. Live streaming provides a unique and engaging avenue for companies to connect with their customers, enhance the overall customer experience, and generate additional revenue (Xie et al., 2022)

By incorporating live streaming into their e-commerce platforms, airlines can host virtual events that promote their operations, products, services, and destinations. This interactive approach creates a sense of excitement and exclusivity, thus capturing the attention of potential customers and generating interest in the airline brand. Furthermore, live streaming enables airlines to showcase the unique features of their offerings, such as onboard experiences or destination highlights, thereby motivating customers to choose their services (Brooks, 2017). The integration of live streaming with the e-commerce platform not only enhances the customer experience but also drives demand for travel to specific destinations. By hosting virtual events and showcasing destinations through live streaming, airlines can inspire customers to explore new places and plan their trips accordingly (Zhang et al., 2021). As a result, the goal of an airline e-commerce platform is to provide a convenient and efficient online booking experience for customers by enabling these individuals to plan and manage

their travel arrangements easily while offering airlines a direct channel to reach and engage with their target audience, which spans a large population.

The main objective of this study is to conduct a comprehensive analysis of airline e-commerce platforms. It aims to explore the development and evolution of these platforms by examining how they have evolved over time to meet the changing needs of the airline industry and its customers. Furthermore, the study seeks to assess the impact of airline e-commerce platforms on the airline industry. This research includes examining how these platforms have influenced customer behaviour, altered industry dynamics, and shaped the competitive landscape. It will explore the advantages that are associated with adopting e-commerce platforms, as well as the strategies employed by airlines to leverage these platforms effectively.

2 Historical Perspective on the Development of Airline E-Commerce

2.1 Early development of ticket distribution

For decades, airlines have sold tickets either through their own airline reservation centres or by utilising third-party intermediaries, specifically travel agencies, when the computerised reservation system was introduced. Customers traditionally contacted the airline reservation offices to inquire about their travel plans and make seat reservations via phone. They also had to visit the airline office to obtain their tickets. Alternatively, customers had the option of visiting a travel agency that served as a representative for the airlines. They could make seat reservations for flights and receive physical tickets through this agency. These travel agencies were granted permission to access the computerised reservation systems of the airlines. This approach necessitated airlines to operate their reservation call centres and establish offices in town and airport locations to cater to customers (Copeland & McKenney, 1988; Law & Doerflein, 2014). In cases where customers purchased tickets through travel agencies, airlines were obligated to pay commissions to these agencies (Alamdari, 2002). In the 1990s, with the advent of the internet becoming accessible to the public, airlines began to explore the potential of this new technology and how it could benefit

them. In 1994, Canadian Airlines made history as the first airline to launch a website worldwide (Carroll & Broadhead, 1994; Lindner, 2017). The website primarily provided marketing materials and content related to the airline's services, destination details, fare information, and flight schedules. By 1999, the airlines have expanded the website to become multilingual (Japanese and Chinese) to cater to different customers from various markets (Breaking Travel News, 1999). To expand the technology further, airlines were expanding the website to the ticket distribution. Alaska Airlines holds the distinction of being the first airline to offer customers the ability to book and pay for their tickets online (Lindsey, 2016). This milestone occurred in 1995, thus marking a significant shift in the way airline tickets were purchased. In its inaugural year of introducing this new purchasing channel, Alaska Airlines successfully sold approximately $1 billion worth of tickets, thereby accounting for an impressive 40% of its total bookings (The Anchorage Daily News, 2006). This remarkable achievement clearly demonstrated the popularity and acceptance of this innovative online platform among customers. Digital travel sales experienced a remarkable growth rate of over 200% between 2010 and 2022 (Figure 1) (eMarketer, 2018; Statista, 2024). Moreover, projections indicate that this upward trend is set to continue in the future.

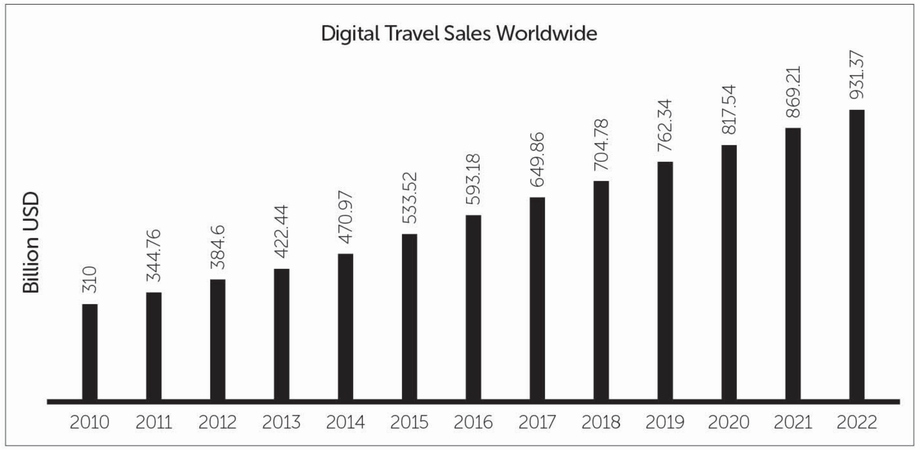

Fig. 1. Statistic of digital travel sales worldwide. (Source: eMarketer and Statista)

2.2 Airline e-commerce

Airline e-commerce has emerged as a vital avenue for airlines to sell tickets directly to customers, thus significantly impacting their operations. This approach enables airlines to establish direct communication with customers, thus fostering strong relationships and enhancing customer loyalty (Jarach, 2002). The advent of e-commerce has also facilitated efficient inventory management and the formulation of new pricing strategies aimed at maximising profits. This strategy has been particularly embraced by low-cost carriers, who are diligently striving to maintain their competitiveness by offering affordable fares to customers (Ginannesch & Pui, 2018). Direct distribution has greatly reduced the cost of airline distribution. By utilising e-commerce to sell tickets directly to customers, airlines have been able to minimise expenses associated with Global Distribution System (GDS) booking fees and reduce agent commissions (Lu, 2007). Figure 2 illustrates the statistics concerning sales and reservation expenses of US airlines, along with their corresponding percentage in relation to the total operational expenses based on the data provided by Bureau of Transportation Statistics (2024). The sales and reservation costs of US airlines have significantly reduced over the past decades. The airline industry remained relatively stable with minor fluctuations from 1990 to 1999. During this period, the percentage of operation expenses in relation to sales and reservation costs ranged from 11.91% to 17.10%. In 2000, a slight decrease occurred in sales and reservation figures, thus reaching 11.37 billion. The percentage of operation expenses also declined to 10.15%, thereby indicating a relatively efficient cost structure. From 2000 to 2003, distribution costs experienced a notable decrease, which can be attributed to several factors. One significant factor was the financial impact of the terrorist attacks in 2001, which had a significant effect on the airline industry (Ito & Lee, 2005). In response, airlines were compelled to reduce their operating costs, including distribution expenses. Additionally, advancements in technology and changes in distribution methods played a role in cost reduction during this period. Airlines incentivised customers to use internet-based applications for ticket purchases, bypassing the GDS, and reducing sales commissions to travel agents (GAO, 2003). These combined factors led to a substantial decrease in distribution costs from 2000 to 2003. In 2001, a noticeable drop was observed in sales and reservation figures, thus reaching USD 9.91 billion. The percentage of operation

expenses decreased to 8.58%, thereby suggesting a cost-effective operation. From 2002 to 2003, a significant decrease was observed in sales and reservation expenses figures, thus reaching 6.84 billion in 2003. The percentage of operation expenses also declined to 6.41%, which indicated efficient cost management during this period. From 2004 to 2019, sales and reservation figures remained relatively stable, which ranged from 6.17 billion to 8.51 billion. The percentage of operation expenses varied between 3.89% and 4.65%, thus indicating consistent cost management efficiency. However, in 2020, the COVID-19 pandemic had a significant impact on the airline industry, thus resulting in a sharp decrease in sales and reservation expenses figures, thereby reaching 3.93 billion. The percentage of operation expenses decreased to 2.36%, thus reflecting the cost-cutting measures implemented in response to the crisis. In 2021 and 2022, slight recoveries occurred in sales and reservation expenses, with a slight increase in the percentage of operation expenses. The COVID-19 pandemic also had a significant impact on distribution costs, thus causing a sharp drop in 2020.

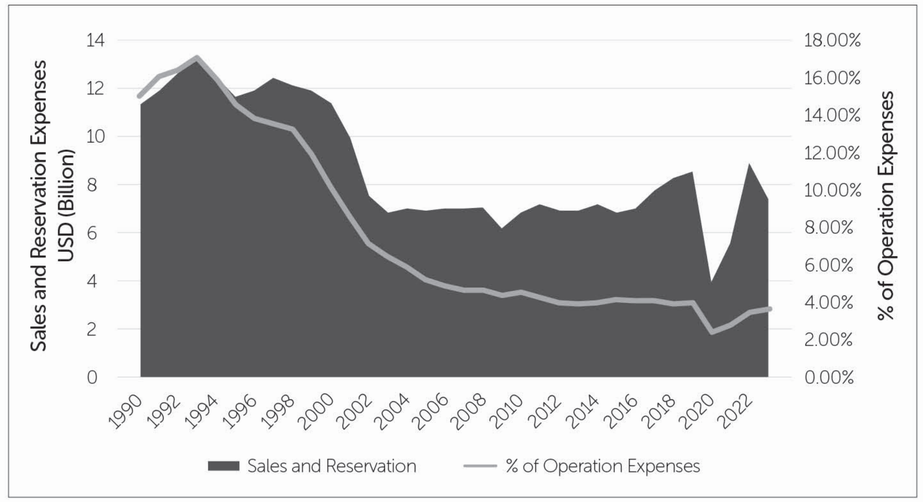

Fig. 2. Statistic of US airlines' sales and reservation expenses and its percentage of operation. (Source: Bureau of Transportation Statistics)

2.3 Live streaming

Live streaming has become another effective marketing tool for airlines, which has allowed these companies to engage with their audience in real time and showcase their services and destinations. Live streaming serves as a strategic approach to grant the audience exclusive access behind the scenes of events that are typically inaccessible to them, thereby enhancing their understanding of a business and fostering trust and reliability (Guo et al., 2021). Turkish Airlines led the way as the first airline to introduce in-flight live streaming. In July 2015, the company organised several live streaming sessions during a flight from Istanbul to New York. These sessions provided a behind-the-scenes glance into the flight crew's activities and captured the actual flight in real time. The events served as a showcase of the airline's exceptional hospitality and professionalism, thus attracting over 25,000 live views, gaining 5,000 new followers, and accumulating more than 290,000 likes (Davis, 2015). Following this successful initiative, Spring Airlines in China also utilised the live streaming platform to promote various travel destinations, boost ticket sales, and enhance the airline's overall visibility (Cook, 2020).

2.4 Digital Airline Score (DAS)

Skaiblu (2018) released the annual Digital Airline Score (DAS) as a means of evaluating the digital capabilities of airlines to compare the airlines' digital performance. The report compares airlines' performance in the digital domain to that of their competitors, thus focusing on two key attributes: fundamental attributes and differentiator attributes. The fundamental attributes encompass various aspects, such as digital data privacy, digital performance, digital properties and features, and digital brand appearance and protection. These factors are used to gauge the airlines' performance in terms of their digital presence and functionalities. Meanwhile, the differentiator attributes measure specific areas, including web customer service, e-sales and distribution, and online advertising and promotion. These attributes help differentiate airlines based on their effectiveness in these particular digital domains. Based on their performance, airlines are assigned one of four grades: constrained, emerging, transitional, or advanced. The constrained category represents airlines that

have yet to embrace e-commerce fully on a large scale. Emerging airlines have made significant progress in adopting e-commerce practices. Transitional airlines have a solid and experienced grasp of e-commerce. Finally, advanced airlines are considered the most mature in terms of their digital capabilities. According to the DAS 2018 report, a comprehensive study was conducted on 90 airlines to examine their digital capabilities. Table 1 shows that the airline industry leaders in advanced e-commerce operations were American Airlines, Alaska Airlines, and KLM. United Airlines closely followed, with Qantas trailing closely behind. Air New Zealand took the next spot, followed by Delta Air Lines and Virgin Australia. British Airways and JetBlue were closely followed by AirAsia and Southwest Airlines. Jetstar completed the list of the advanced e-commerce operating airlines. Not only traditional full-service airlines but also several low-cost carriers made significant investments in digital platforms, as observed in the study. Among the 33 airlines classified as transitional e-commerce carriers, which represented full-service and low-cost carriers, the majority were from Europe and Asia. This category included notable airlines, such as Ryanair and easyJet, the latest European LCC additions. The report identified 27 airlines as emerging e-commerce carriers, which comprised five low-cost carriers and 22 full-service carriers. Additionally, 17 full-service airlines were categorised as constrained e-commerce carriers (Skaiblu, 2018). These findings showcase the varying levels of digital capabilities and investments across different airline business model, thus highlighting the increasing importance of digital platforms in the aviation industry. In the realm of airline e-commerce today, the focus extends beyond ticket sales. The platform now serves as a comprehensive tool, thus enabling airlines to provide customers with a diverse array of services. These services encompass predeparture duty-free sales, the option to purchase additional baggage, and opportunities for purchasing cabin class upgrades (Babić et al., 2019). By diversifying their revenue streams and improving inventory management, airlines can tap into greater profit potential. Furthermore, the platform also contributes to enhanced customer satisfaction, thus fostering a positive experience for travellers.

Table 1. Ranking of the Digital Airline Score 2018.

Constrained E-commerce Carrer			Emerging E-commerce Carrier		
Airline	Region	Type	Airline	Region	Type
Aegean Airlines	Europe	FSC	Kulua	Africa	LCC
Air India	Asia	FSC	COPA	Latin America	FSC
Middle East Airlines	Middle East	FSC	South African Airways	Africa	FSC
Vietnam airlines	Asia	FSC	Malaysia Airlines	Asia	FSC
Sri Lankan Airlines	Asia	FSC	Air Calin	Southwest Pacific	FSC
S7	Europe	FSC	Pegasus	Europe	LCC
China Southern	Asia	FSC	Korean Air	Asia	FSC
Avianca Brazil	Latin America	FSC	Alitalia	Europe	FSC
CSA Czech	Europe	FSC	Saudia	Middle East	FSC
China Eastern	Asia	FSC	THAI	Asia	FSC
China Airlines	Asia	FSC	LATAM	Latin America	FSC
Adria	Europe	FSC	Croatia Airlines	Europe	FSC
TAROM	Europe	FSC	Oman Air	Middle East	FSC
Shenzhen	Asia	FSC	Air Europa	Europe	FSC
Ethiopian Airlines	Africa	FSC	Air China	Asia	FSC
Rwandair	Africa	FSC	Aeroflot	Europe	FSC
IranAir	Middle East	FSC	Fastjet	Africa	LCC
			Air Arabia	Middle East	LCC
			LOT Polish airlines	Europe	FSC
			EVA Air	Asia	FSC
			Spring Airlines	Asia	LCC
			Garuda Indonesia	Asia	FSC
			Royal Jordanian	Middle East	FSC
			Xiamen	Asia	FSC
			EgyptAir	Africa	FSC
			Air Niugini	Southwest Pacific	FSC
			Aerolineas Argentinas	Latin America	FSC

Transitional E-commerce Carriers			Advanced E-Commerce Carriers		
Airline	Region	Type	Airline	Region	Type
Finnair	Europe	FSC	American	North America	FSC
Emirates	Middle East	FSC	KLM	Europe	FSC
Lufthansa	Europe	FSC	Alaska Airlines	North America	FSC
Qatar	Middle East	FSC	United Airlines	North America	FSC
Virgin Atlantic	Europe	FSC	Qantas Airways	Southwest Pacific	FSC
Singapore Airlines	Asia	FSC	Air New Zealand	Southwest Pacific	FSC
easyjet	Europe	LCC	Virgin Australia	Southwest Pacific	FSC
Austrian	Europe	FSC	Delta Airlines	North America	FSC
ANA	Asia	FSC	JetBlue	North America	LCC
Air France	Europe	FSC	British Airways	Europe	FSC
Air Canada	North America	FSC	Southwest Airlines	North America	LCC
Transavia	Europe	LCC	Air Asia	Asia	LCC
Swiss	Europe	FSC	Jetstar Airways	Southwest Pacific	LCC
Norwegian	Europe	LCC			
Eurowings	Europe	LCC			
AeroMexico	Latin America	FSC			
Ryanair	Europe	LCC			
Iberia	Europe	FSC			
Frontier Airlines	North America	LCC			
Turkish Airlines	Europe	FSC			
Aer Lingus	Europe	FSC			
Japan Airlines	Asia	FSC			
Cathay Pacific	Asia	FSC			
Brussels Airlines	Europe	FSC			
Vueling	Europe	LCC			
Avianca	Latin America	FSC			
Wizz	Europe	LCC			
Volaris	Latin America	LCC			
Kenya Airways	Africa	FSC			
Etihad	Middle East	FSC			
TAP Air Portugal	Europe	FSC			
Asiana	Asia	FSC			
Scandinavian Airlines	Europe	FSC			

Remark: FSC – Full service carriers, LCC – Low cost carriers Source: (Skaiblu, 2018)

3 A Case Study on Singapore Airlines: Successful Implementation of E-Commerce Strategies

Singapore Airlines is the flag carrier of Singapore and one of the world's leading airlines. The airline has been known for its commitment to excellence and exceptional customer service. It has continually striven to provide a premium travel experience to its passengers, earning a reputation for its high standards and attention to detail. The airline has consistently ranked among the top airlines globally and has received numerous awards and accolades for its service, inflight amenities, and operational efficiency. With a strong focus on innovation, technology, customer satisfaction, and operational excellence, Singapore Airlines has become a symbol of quality and reliability in the global aviation industry (Wirtz et al., 2008). It continues to evolve and adapt to the changing landscape of air travel to ensure that it remains at the forefront of the industry.

Singapore Airlines has successfully implemented e-commerce strategies to enhance its business and customer experience over the decades. The company recognised the growing importance of e-commerce in the aviation industry and the need to adapt to changing customer preferences. The airline was graded as a Transitional E-commerce Carrier by Skaiblu (2018) in the 2018 Digital Airlines Score. With the increasing popularity of online bookings and digital interactions, Singapore Airlines embarked on a comprehensive e-commerce transformation to remain competitive in the market. The company first introduced its official website in 1998 (Heracleous & Wirtz, 2010). The launch of the website marked a significant milestone for the airline because it embraced the emerging digital era and recognised the potential of the internet for reaching and serving customers more effectively. In 2001, the company further invested 100 million Singaporean dollars to develop the company's e-commerce platform over the next three years. In the same year, the airlines also launched a new website that supported multiple languages (Singapore Airlines, 2002).

3.1 Seamless online booking experience

Singapore Airlines prioritised delivering a seamless online booking experience to its customers by investing in user-friendly interfaces and intuitive booking platforms. As an early adopter, the airline established a website that enabled customers to manage their bookings (Heracleous & Wirtz, 2010). It redesigned its website with a user-friendly interface, simplified navigation, and personalised content to enhance the user experience. The booking process was streamlined, thus allowing customers to select flights, choose seats, and add additional services easily. According to Similarweb (2024a), Singapore Airlines' website had an average of 8.6 million visits a month in 2023. Most visitors were from Singapore, Australia, the United States, and India.

3.2 SingaporeAir mobile app

In response to the growing prevalence of mobile usage, Singapore Airlines introduced a mobile application in 2012, thus expanding its range of services for customers on the go. Initially, the mobile app, called SIA Mobile, only facilitated flight check-ins (Singapore Airlines, 2009). However, with the new mobile application, users gained the ability to book flights, manage bookings, check flight status, access digital boarding passes, and receive real-time notifications. This development significantly improved convenience, accessibility, and customer engagement, this increasing customer satisfaction. In 2023, the application was downloaded an average of 96.4 thousand times per month globally (Similarweb, 2024b).

3.3 Duty free shopping

Krishop, which was initially established in 1974 as a duty-free shop on Singapore Airlines, was rebranded in 2019 to align with the evolving landscape and became a travel retail e-commerce platform (Future Travel Experience, 2019). In addition to catering to air travellers, the revamped Krishop expanded its focus to include the nontraveller market after recognising the potential for growth and diversification in this segment. The enhanced shopping experience now enables customers to shop well in advance, thus offering the convenience of having their selected items delivered either onboard the flight or to their designated home address (Steward, 2021). This flexibility

ensures that customers can enjoy a seamless shopping experience regardless of their location. Based on data from Similarweb (2024c), Krishop.com was visited an average of 557,000 times per month in 2023. The website attracted the highest number of visitors from Singapore, followed by the United States, Taiwan, Indonesia, and Australia. Table 2 provides a summary of the visitation and download statistics for Singapore Airlines' e-commerce platforms.

Table 2. Summary of the visitation and download statistics for Singapore Airlines' e-commerce platforms.

	Singaporeair.com	Singapore App	Krishop.com
Average Visit/download in 2023	8.6 million visits	96.4k downloads	557,000 visits

Source: Similarweb (2024abc)

3.4 Multiple linear regression

An analysis was conducted using a multiple linear regression model to understand the influence of e-commerce on Singapore Airlines. This approach allowed for the examination of various factors and their correlations with the airline's performance and operational metrics. By incorporating multiple independent variables, the model aimed to predict the outcome of a dependent variable. The method has been widely used in airlines' performance studies (Peetawan, 2018; Xu et al., 2021). The objective of this analysis was to examine the influence of e-commerce activities on the airline's performance. The panel data utilised in the case study were obtained from Singapore Airlines' annual reports, which encompassed 19 years from 2001 to 2019. The number of passengers (PAX) served was considered the dependent variable, while independent variables included airline revenue (REV), sales cost (SALECOST), and communication and information technology costs (ITCOST). The following equation on multiple linear regression was generated.

$$PAX = ß_0 + ß_1REV + ß_2SALECOST + ß_3ITCOST + Ø,$$

where
ß – The standardised regression coefficients
PAX – Number of passengers
REV – Revenue
SALECOST – Sale cost
ITCOST – Communication and information technology cost
Ø – The random error terms

Table 3 shows the descriptive statistics of the variables used.

Table 3. Descriptive statistics.

Variables	Mean	Standard Deviation	Years
PAX	17664165.47	1984232.28	19
REV	1392871578.94	228090513.59	19
SALECOST	58945263.16	6845531.684	19
ITCOST	10616842.10	1878587.09	19

Source: Singapore Airlines annual reports 2001–2019.

3.5 Results

By using ordinary least squares estimation with a 95% confidence level, Table 4 shows the multiple regression results.

Table 4. Multiple linear regression results

Regression Statistics	
Multiple R	0.965907
R Square	0.932977
Adjusted R Square	0.919573
Standard Error	0.032960

	Coefficients	Standard Error	t Stat	P-value	R Squared	VIF
Constant	-2.4063250	2.044271937	-1.17710615	0.588661		
REV	0.7259723	0.104167	6.969285	4.51E-06	0.204175	1.256558
SALECOST	-0.01354960	0.147147	-0.09208	0.038138	0.199114	1.248616
ITCOST	0.250882	0.118833053	2.111218599	0.015348	0.318224	1.466757

The regression results presented in Table 4 offer valuable insights into the relationship between the independent variables (REV, SALECOST, and ITCOST) and the dependent variable (PAX). These results shed light on how changes in the independent variables impact the number of passengers. The analysis reveals that a one-unit increase in revenue corresponds to an approximate increase of 0.7259 passengers. This outcome suggests that a high revenue is associated with a high number of passengers. Furthermore, a 0.0135 increase in the number of passengers is linked to a decrease of approximately one unit in sales cost. This result implies that the airlines' passengers were increased while reducing sales costs. Additionally, the results indicate that a one-unit increase in communication and information technology costs is associated with an increase of roughly 0.2508 passengers. This outcome suggests that investing in communication and information technology can potentially attract passengers. The Variance inflation factor (VIF) is a measure used to assess

multicollinearity among independent variables in a regression model. It quantifies the extent to which the variance of the estimated coefficients is inflated because of correlations among the predictors. The VIF values for all three variables are relatively close to 1. A VIF of 1 suggests no multicollinearity, thus indicating that the variables are not strongly correlated with each other (Shrestha, 2020).

Table 5. Information about the variance

	df	SS	MS	F	Significance F
Regression	3	0.226835	0.075612	69.60151	4.95E-09
Residual	15	0.016295	0.001086		
Total	18	0.24313			

Table 5 provides information about the variance explained by the regression model and the residual variance. The F-statistic is 69.60151, thus indicating that the regression model is statistically significant. The significance F (p-value) is 4.95E-09, which is less than the conventional significance level of 0.05. This value suggests that at least one of the independent variables has a significant impact on the dependent variable.

3.6 Empowering impact on Singapore Airlines

The effective implementation of e-commerce strategies by Singapore Airlines has positioned the airline as a leader in the aviation industry particularly in light of the ongoing digital transformation (Heracleous & Wirtz, 2009). The airline's commitment to enhance online experiences, provide services to individual preferences, optimise mobile platforms, and utilise data-driven insights has yielded notable outcomes.

Singapore Airlines' e-commerce proficiency has yielded a notable achievement in the form of substantial revenue growth. This success can be attributed to several factors, including the optimisation of the booking process, the implementation of user-friendly interfaces, and the provision of personalised recommendations. As a result of these initiatives, the airline has not only expanded its customer base but also experienced increases in sales. These outcomes highlight the positive impact

of strategies, such as revenue enhancement, sales cost reduction, and information technology investments on passenger volume. The revenue growth serves as compelling evidence of the effectiveness of Singapore Airlines' e-commerce strategies and underscores the significance of prioritising seamless digital experiences. Effective financial management and strategic investments in technology emerge as crucial factors for airlines aiming to attract and retain passengers in a fiercely competitive industry (BusinessTraveller, 2023).

Through the establishment of KrisLab, Singapore Airlines has showcased its unwavering dedication to e-commerce. This pioneering initiative serves as a dynamic platform for collaboration and experimentation, thus empowering innovators within the company to stay abreast of the latest advancements and drive innovation forward. (Pereira et al., 2021). This strategic undertaking has enabled the airline to address the preferences of customers effectively in an era where digital technology holds significant influence. Through the provision of a seamless and user-friendly online experience, Singapore Airlines has effectively attracted and retained tech-savvy travellers who greatly value convenience and accessibility (Taneja, 2014). This unwavering commitment to optimising mobile platforms has not only strengthened the airline's standing as an industry leader but has also ensured its ability to promptly respond to the dynamic and evolving needs and preferences of its customer base. The company has integrated an embedded in-flight entertainment system into its mobile app. This functionality empowers passengers to have direct control over a diverse selection of entertainment choices on their personal communication devices while onboard, thus resulting in increased customer satisfaction (Singapore Airlines, 2016). Singapore Airlines' effective utilisation of e-commerce tactics has solidified its position as a prominent player in the aviation sector, thus revolutionising the way customers interact with the airline and establishing new benchmarks for exceptional service. This case study serves as a compelling reminder of the significance of embracing digital advancements to meet customer demands and maintain competitiveness in the dynamic e-commerce scope. As the aviation industry continues to adapt to the digital age, Singapore Airlines stands as a remarkable exemplar by demonstrating how innovation and leveraging technology can lead to unparalleled achievements in today's air transport business landscape.

4 Conclusions

This study has delved into the development and evolution of airline e-commerce platforms by providing a comprehensive understanding of their significance in meeting the changing needs of the airline industry and its customers. The evolution of airline e-commerce platforms has been driven by the growing demand for convenient and personalised services from customers. As technology advancements and online platforms became increasingly accessible, airlines recognised the need to adapt and leverage these digital channels to enhance their customer experience and streamline their operations. The development of user-friendly interfaces and mobile applications has transformed the way customers interact with airlines, thus making the booking, check-in, and ancillary service processes seamless and efficient. In addition, this study explores how airlines use innovative technology to establish a strong connection with their audience. Specifically, it examines the utilisation of live streaming as a powerful tool for promoting services and elevating brand image in the airline industry. The analysis of the successful implementation of the e-commerce strategies of Singapore Airlines allowed us to recognise the importance of an e-commerce platform and how it can transform an airline's operations and customer experience. Singapore Airlines has been at the forefront of leveraging e-commerce platforms to enhance its competitiveness and meet the evolving needs of its customers. The success of Singapore Airlines in implementing e-commerce strategies highlights the importance of a holistic approach that encompasses not only the technological aspects but also the customer experience, marketing, and operational optimisation. By investing in cutting-edge technology, fostering a customer-centric culture, and continuously innovating, Singapore Airlines has positioned itself as a leader in the industry, thus setting the benchmark for other airlines to follow.

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The business ecosystem of the esports industry in Hong Kong[2]

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Abstract. The esports industry has experienced remarkable growth driven by technological advancements and growing recognition by global institutions, such as the International Olympic Committee. This study explores the development of esports by distinguishing it from casual gaming and highlighting its transformation into a professional, competitive activity. This study uses the business ecosystem (BE) framework, which examines how various stakeholders coevolve through collaboration and competition, to analyse the development of the esports industry in Hong Kong. The discussion highlights key factors that drive or hinder industry growth, including policy, regulation, and the collaboration of local government, media, and industrial conglomerates. Through a focus on Hong Kong's unique environment, the study provides insights into the role of public policy and industry relationships in fostering a sustainable esports ecosystem. The BE framework proves essential in understanding the dynamics between industry stakeholders and assessing the potential for innovation and growth within Hong Kong's esports market.

Keywords. Business ecosystem, Discourse analysis, Esports industry, Policy analysis

1 Introduction

The development of the esports industry has been marked by rapid growth and increasing recognition, thus positioning it as a significant player within the global sports ecosystem. This expansion has been fuelled by technological advancements, the engagement of diverse stakeholders, and the increasing public and institutional acceptance. Initially, esports emerged from grassroots video gaming communities. Its development toward becoming a professional sector can be traced to several key developments. The recognition of esports as a legitimate competitive activity by influential bodies, such as the International Olympic Committee and its inclusion as a medal event in prominent regional competitions, such as the 2022 Hangzhou Asian Games, highlights the growing legitimacy of esports on a global scale (Pack & Hedlund, 2020). This movement toward institutional acceptance has enabled esports to integrate further into mainstream sports culture (Zhao et al., 2023).

The increasing popularity of esports has also attracted major industry players, including game developers, hardware manufacturers, live streaming platforms, and video-sharing services, all of which have contributed to the sector's exponential growth. These stakeholders have played pivotal roles in building the esports infrastructure, from tournament organisation to providing the necessary technological support (Lam & Wong, 2024). The development of famous esports titles and the proliferation of associated merchandise, which range from team-branded goods to esports-themed TV series, reflect the commercialisation of esports and its potential to generate significant revenue streams through direct competition and ancillary products.

Research in the esports industry is important for several reasons. Firstly, as esports grows and becomes increasingly institutionalised, understanding the dynamics of the industry, from market trends to governance issues, becomes critical for stakeholders, such as sponsors, advertisers, and media platforms. Research helps to identify opportunities for monetisation, market segmentation, and consumer behaviour patterns, thus enabling marketers to target the esports audience effectively (Macey et al., 2022). Secondly, research in esports is essential for addressing emerging challenges within the industry, such as doping and integrity issues. As esports gains legitimacy, its regulatory frameworks must evolve particularly in areas such as fair competition and ethical behaviour. Understanding these barriers is crucial for developing policies that ensure the sustainable and credible growth of esports as a competitive sport (Pack & Hedlund, 2020). Finally, esports research is critical for its broad societal and cultural implications. Esports has cultivated a global community that extends beyond the players themselves to include fans, influencers, and content creators. Studying the impact of esports on youth culture, media consumption habits, and even social identity is essential for understanding how this industry will shape future generations of consumers and sports fans.

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The present study employed the concept of the business ecosystem drawn from research by Moore (1993). This concept describes the dynamics of actors who coevolve toward new innovations by cooperating and competing to generate new products and meet customer needs. I use this framework to map how various factors provide a stimulation in the development of esports industry in Hong Kong. This study focuses on the involvement of various key stakeholders, such as local government, media, industrial conglomerates, in the esports industry to explore the major facilitators and barriers of Hong Kong esports industry.

2 What Are the Differences between Gaming and Esports?

In its broadest sense, gaming refers to the casual or recreational engagement with video games for entertainment or social interaction (Lu, 2016). By contrast, esports represents the professionalised, competitive facet of video gaming, which is often governed by a structured set of rules, with participants engaging in organised tournaments that require high levels of skill, teamwork, and cognitive coordination (Xia et al., 2019).

One of the primary differences between gaming and esports lies in the professionalisation of the activity. Esports is characterised by operational skills, tactical awareness, and team coordination (Reeves et al., 2009). These attributes are similar to those found in physical sports, where the performance of athletes is critical to their success. Esports is recognised as a sporting initiative, which emphasises the need for cognitive abilities, reaction speed, and eye–limb coordination (Cyma-Wejchenig et al., 2024).

Furthermore, esports integrates itself into a broad value chain. The economic and cultural dimensions of esports expand beyond the act of playing the game, thus encompassing upstream and downstream activities, such as tournament organisation, media rights, sponsorship, and viewership (Zhao et al., 2023). This economic potential is highlighted by the viewership dynamics, which mirror those seen in traditional sports, such as the Olympic Games (Jenny et al., 2017). The commercial recognition

of esports has redefined its participants as public figures, which are akin to athletes, who garner national and international fame (Zhao & Zhu, 2021). By contrast, traditional gaming lacks this layered economic structure and cultural validation, thus often being viewed as a personal or private leisure activity.

The debate regarding whether esports qualifies as a sport in the traditional sense further deepens this distinction (Hallmann & Giel, 2018). Some scholars argue that sports require physical athleticism and are conventionally structured within institutional frameworks (Cunningham et al., 2018). The institutionalisation of esports, including its tournament regulations and athlete-like treatment of participants, positions it within the broad domain of modern sports (Irwin & Naweed, 2020). Gaming does not typically undergo this level of scrutiny or classification within sports management discussions.

The major differences between gaming and esports are rooted in the professionalisation and institutionalisation of esports as a competitive, sport-like activity, while gaming remains a casual, entertainment-driven pursuit. Esports encompasses not only the gameplay but also the economic and cultural dynamics associated with a professional sport, thus attracting commercial interest and societal recognition (Szablewicz, 2020). Although gaming is popular, it does not extend into these domains and remains more aligned with personal leisure than with organised competition.

3 Esports Industry of Hong Kong

The development of the esports industry in Hong Kong is relatively recent compared with established esports hubs, such as South Korea and China. However, it has grown rapidly since the early 2010s. One of the key moments in Hong Kong's esports history was in 2012, when Lau Wai Kin (known as 'Toyz') helped his team, the Taipei Assassins, won a prestigious international competition. This victory drew attention from the media and public in Hong Kong. Furthermore, it sparked widespread discussion on the viability of esports as a professional career, thus marking the beginning of heightened interest in the industry. In response, Hong Kong's first esports

team, Hong Kong Esports (HKES), was formed in 2013. Since then, various teams and tournaments have emerged, thus helping to lay the foundation for the industry.

Recognising the potential of esports, the Hong Kong Special Administrative Region (HKSAR) government took a proactive role in promoting the industry. In the 2017/18 budget, the government allocated HK$100 million through Cyberport to support the development of esports.[3] This funding was directed toward organising esports events, empowering the gaming industry, nurturing local talent, and enhancing the public image of esports. The government's involvement has been crucial in fostering the growth of the industry, and several esports venues have been established, including the Cyberport Esports Venue and other privately funded arenas. These venues provide spaces for professional and casual gamers, thus enhancing the infrastructure for esports competitions.

Despite these advances, the esports industry in Hong Kong still faces challenges. One major issue is the public perception of esports, particularly concerns from parents and educators about the career prospects of young esports players. While a 2021 survey by Hong Kong Baptist University found that over 70% of respondents supported the development of esports, which continues to carry a social stigma especially among older generations.[4] Additionally, the HKSAR government has yet to classify esports as a formal sporting activity, which limits the career development opportunities for professional players who are not eligible for the same support and recognition as athletes in traditional sports.

Educational institutions in Hong Kong have started to offer esports-related programs. However, comprehensive training pathways for aspiring esports professionals must be developed. Although some tertiary institutions and vocational schools offer programs focused on esports management and technology, no

[3] HKSAR (2018). The 2017-18 Budget. https://www.budget.gov.hk/2017/eng/pdf/e_budgetspeech201718.pdf.

[4] Hong Kong Baptist University (2021). HKBU Survey finds over 70% of respondents support development of Esports in Hong Kong. https://cpro.hkbu.edu.hk/en/press_release/detail/HKBU-survey-finds- over-70-of-respondents-support–the-development-of-Esports-in-Hong-Kong/

dedicated training schools for esports players have been established, thus limiting the development of local talent. Overall, Hong Kong's esports industry is growing; however, additional government support, public education, and infrastructure development are needed to realise its full potential (Lam & Wong, 2024).

4 Business Ecosystem (BE) Framework

The BE framework is a conceptual structure used to analyse industries by examining the coevolution and interdependencies of various stakeholders within a dynamic environment (Zhao et al., 2023). This framework has been extended and applied to many sectors, including the esports industry. The BE framework views industries as modular, interconnected communities that continuously interact with each other and their environment, thus fostering innovation and development (Hou & Shi, 2021). The BE framework applied to esports industry includes several key elements: policy analysis, industrial analysis, and discourse analysis. These dimensions help in understanding how various actors, such as government, media conglomerates, platforms, and players, contribute to the coevolution and development of the esports ecosystem. For instance, policy analysis involves examining how governments regulate and promote the esports industry by shaping its growth and governance (Zhao et al., 2023). Industrial analysis looks at how businesses within the esports value chain, such as game developers, tournament organisers, and media outlets, interact to sustain the industry's growth and innovation (Lam & Wong, 2024). Finally, discourse analysis assesses the cultural and communicative dimensions of esports by focusing on how stakeholders define and discuss the industry's identity and potential (Zhao et al., 2023).

The BE framework provides a comprehensive tool for analysing the development of the esports industry in Hong Kong by focusing on the interplay among policy, industry stakeholders, and cultural dimensions. By examining these interconnected elements, researchers can enhance their understanding of the challenges and opportunities within Hong Kong's esports ecosystem and guide its future growth and sustainability (Lam & Wong, 2024).

5 Research Method

The study data were gathered through semi-structured interviews with stakeholders from different backgrounds. Given the exploratory nature of the study objectives, a qualitative approach was deemed most appropriate to conduct the research. One-on-one depth interviews were conducted to allow for an extensive exploration of the individual in depth. A total of 25 interviewees recruited through judgment sampling. Table 1 summarises the profile of interviewees.

The interview process began by gathering demographic information, including participants' preferred form of address, gender, age range, and experience within the esports or related industries. They were asked to outline their roles and responsibilities by detailing the games on which they had worked and the notable esports events they had participated or organised. Participants were also encouraged to summarise their identity within the esports industry using a single word.

Next, the interview explored their early experiences with video games by focusing on the time, circumstances, and factors that influenced their engagement. It also examined their perceptions of what makes a game enjoyable or unenjoyable. Then, the conversation shifted to their involvement in esports by addressing how and when they entered the field, the nature of their participation, and the criteria they used to select games for promotion or competition. Further questions delved into whether esports or gaming served as a primary source of income, their current career trajectory, and the reasons behind their involvement in organising or sponsoring events in Hong Kong despite the associated high costs.

The interview also prompted participants to reflect on the development of esports in Hong Kong by discussing the challenges and opportunities at various levels, including family, educational institutions, service providers, industry stakeholders, and government policies. Additionally, the interview addressed audience engagement by distinguishing between core and noncore players while also gathering insights on professional player training, lifestyle, emotional regulation, and the psychological attributes needed for success in the esports industry.

Table 1. Profile of interviewees

	Gender	Age	Current role and relationship with esports	Date of Interview
1	M	26–35	Event organiser	5 Jan 2022
2	M	26–35	Event organiser	5 Jan 2022
3	M	26–35	Marketing of esports	7 Jan 2022
4	F	26–35	Marketing of esports	7 Jan 2022
5	M	36–45	Trainer and event organiser	10 Jan 2022
6	M	26–35	Former esports player, currently event organiser and anchor	10 Jan 2022
7	M	36–45	Marketing of esports (event organiser), instructor	28 Jan 2022
8	M	26–35	Video-game seller	8 Feb 2022
9	M	26–35	Former esports player, currently event organiser and anchor	24 Feb 2022
10	M	46–55	Publisher of game magazines, event organiser	26 Feb 2022
11	M	26–35	Director of esports enterprise	4 Mar 2022
12	M	36–45	Retro game expo organiser	4 Mar 2022
13	M	36–45	Former esports player	28 Mar 2022
14	M	26–35	Former esports player, currently coach and trainer	29 Mar 2022
15	M	26–35	Former esports player, currently coach and trainer	29 Mar 2022
16	M	18–25	Esports player	29 Mar 2022
17	M	18–25	Esports player	31 Mar 2022
18	M	18–25	Esports player	31 Mar 2022
19	M	18–25	Esports player	31 Mar 2022
20	M	18–25	Esports player	1 Apr 2022
21	M	18–25	Esports player	1 Apr 2022
22	M	36–45	Event organiser	5 Apr 2022
23	M	36–45	Director of esports association	28 Jun 2022
24	M	26–35	Esports trainer, former esports player	27 Mar 2023
25	M	26–35	Former esports player	17 Jul 2023

6 Findings and Discussion

6.1 Policy analysis

Li et al. (2024) reviewed the development of the esports industry in China and highlighted the key roles of government policies in the development of esports industry. In this study, I also highlighted several facilitators and barriers to the development of esports industry of Hong Kong (Table 2).

- *Inadequate support to the industry*
  The Hong Kong government has shown interest in promoting the esports industry, with a notable initiative being the allocation of HK$100 million in the 2017/18 budget to Cyberport for promoting esports. This funding was aimed at enhancing esports events, nurturing talent, and improving the industry's image. Despite these efforts, Hong Kong still lags behind countries such as South Korea and China, which have established dedicated task forces or departments to manage esports development. Hong Kong has no independent department handling esports, which limits the ability to coordinate promotion, address industry challenges, and plan for the development of venues and talent.

- *Inadequate support to esports players*
  The classification of esports as a legitimate sporting activity remains a significant policy gap. Without official recognition, esports players in Hong Kong are not eligible for the benefits available to traditional athletes, such as financial support and career development pathways provided by schemes such as the Individual Athletes Support Scheme (Lam & Wong, 2024). This lack of recognition hinders the professionalisation of esports players.

- *Education policy for vocational development*
  No comprehensive educational policies for esports talent development have been implemented at the secondary or higher education levels. Although some vocational and applied learning programs have been introduced at the tertiary level, no schools or training programs have been established to cultivate esports talent systematically in their formative years.

- *Lack of infrastructure and regulations*
  The government has simplified the licensing process for esports venues by issuing guidelines to facilitate the development of esports infrastructure. Some interviewees suggested that the development of the esports industry in Hong Kong has been significantly hindered by outdated regulations. The regulation related to video games, which was originally designed to address concerns related to traditional arcade gaming, now places unnecessary restrictions on modern esports venues. The complex and outdated licensing procedures for esports events, venues, and even equipment hinder the industry's growth by discouraging potential investors and organisers.

While the Hong Kong government has made initial strides towards supporting the esports industry, significant gaps in the policy particularly in recognising esports as a sport, providing educational frameworks, and establishing a dedicated governmental body to oversee the industry's development. Addressing these gaps is crucial for fostering a sustainable and competitive esports ecosystem in Hong Kong.

Table 2. Interview responses – policy analysis

Key issues	Quotes
Inadequate support to the industry	"In terms of Hong Kong's policies, I honestly haven't seen the government putting much effort into this area. The government seems to want to do everything, but whether their actions align with what is needed—so far, I haven't really seen anything particularly effective or coordinated that matches what is required." (Interviewee 1)
	"Organising one or two competitions isn't enough. If the government truly wants to help, they need to establish long-term leagues and provide the necessary resources and support." (Interviewee 18)
Inadequate support to esports players	"They only see the surface-level events without genuinely taking action to help. In terms of policies, there's basically no support for the development of companies and players." (Interviewee 9)
	"The most critical issue is that the government still hasn't officially recognised this industry... Without policy support, very few people will enter the field... There's no support for reaching the professional level." (Interviewee 23)
Education policy for vocational development	"If Hong Kong really wants to become an esports hub, the government, schools, and private institutions need to collaborate to provide a comprehensive support system for the development of players and the industry." (Interviewee 9)
	"Esports players in Hong Kong often have to teach themselves because there are no professional training facilities or coaches to guide them on how to become professional players." (Interviewee 10)
Lack of infrastructure and regulations	"I think it really comes down to talent development, like how to do commentary, how to make the program engaging to watch... and then the environment and venues... if they can support these venues with good equipment and other things, it would be great." (Interviewee 1)
	"We found that in other countries, including Japan and Taiwan, there aren't many special requirements for running your own shop, and organising competitions isn't a big deal. But in Hong Kong, if you just buy a PlayStation 4, you're already violating the Amusement Game Centres Ordinance, which hasn't been updated for over thirty years." (Interviewee 23)

6.2 Industrial analysis

Hong Kong's esports industry is smaller than other leading countries in the region, such as China, South Korea, and Taiwan. As of 2021, Hong Kong had only 21 esports teams and 45 professional players, which is considerably fewer than other countries. Hong Kong esports teams and players have had relatively modest earnings from international competitions. The top five teams in Hong Kong have won a combined total of around US$468,133 in prize money, which is much lower than the earnings of teams from countries such as Taiwan or Malaysia (Lam & Wong, 2024). The major drives and barriers behind the development are as follows:

- *Difficult to attract young talents*
  Despite some standout individual successes, the overall talent pool remains small partly because of the lack of financial security for players and unattractive salaries compared with global standards. Many promising esports players from Hong Kong are moving to countries with better support for esports, such as South Korea and mainland China, which offer higher salaries, better infrastructure, and more robust industry development. The lack of financial incentives and career development pathways in Hong Kong contributes to this talent drain.

- *Absence of systematic talent recruitment and development*
  The absence of structured, government-supported programs to cultivate esports talent from a young age is a significant challenge. No certified esports training schools or systematic programs have been established to develop young players, which limits the ability of local teams to recruit new talent and grow the player base. Although some vocational programs have been introduced, no structured path is available for young players to develop professional skills from an early age. This absence increases the difficulty of fulfilling the growing demand for esports talent.

- *Local esports competitions and leagues*
  A strong local competitive scene is necessary to help Hong Kong players gain experience and exposure domestically and internationally. However, the limited popularity of local events and the lack of sufficient competitive opportunities hinder this growth.

In summary, although Hong Kong has produced some notable esports players, the overall industry is still underdeveloped, with a small talent pool, limited local competitions, and low financial support. The lack of systematic talent development and financial security are major challenges that hinder the growth of industry players in Hong Kong's esports sector.

Table 3. Interview responses – industrial analysis

Key issues	Quotes
Difficult to attract young talents	"Nowadays, more young people are accepting esports, and they believe that gaming can be developed into a career. However, the older generation still thinks that this is not a long-term profession." (Interviewee 10)
	"There aren't enough local esports companies, and there isn't a clear development path for us to follow." (Interviewee 18)
Absence of systematic talent recruitment and development	"Hong Kong doesn't have a clear development path for esports. It's very difficult to become a professional player because there aren't enough opportunities for you to improve yourself." (Interviewee 10)
	"Currently, there are no professional esports schools or courses in Hong Kong to train young players. Becoming a professional player is mostly reliant on self-learning and figuring things out on your own." (Interviewee 11)
	"There's no open recruitment or public tryouts... everything is based on your ranking on Korean servers, and they just find you themselves." (Interviewee 17)
Local esports competition and league	"Many outstanding players from Hong Kong choose to develop their careers abroad because the resources and opportunities for competitions in Hong Kong are limited, and the room for growth is not large." (Interviewee 11)
	"There are only one or two competitions a year... even if you win, no team will recruit you just because of that competition." (Interviewee 17)

6.3 Discourse analysis

The analysis of key elements related to cultural and communicative dimensions can examine how stakeholders define and frame the identity of the esports industry in Hong Kong especially in relation to the social recognition of the industry. Social recognition is crucial for the development of the esports industry for several reasons because it influences public perception, policy support, investment, and overall growth in industry.

- *Negative stereotypes and family opposition*
  Esports is often viewed negatively by certain segments of society, especially parents and educators. Surveys revealed that many young people face opposition from their families regarding their involvement in esports. Parents and schools often see esports as a hobby rather than a legitimate career, thus reflecting deep cultural tensions regarding the role of video games in society.

- *Inadequate media coverage and poor public image*
  Despite negative perceptions, esports has gained considerable media attention with coverage growing from 257 media articles in 2012 to 20,812 articles in 2020. The rise of media discussions indicates a shift in the public discourse toward esports, which highlights its potential and growing importance in Hong Kong's entertainment and digital culture. According to a survey, the esports industry has gained growing social acceptance, thus framing esports as a legitimate industry with potential economic benefits.

- *Unclear image: Esports as a sport versus entertainment*
  One of the central discourses in the esports industry is whether it should be classified as a sport or remain within the domain of entertainment. The lack of official classification of esports as a sport in Hong Kong influences how esports players and the industry as a whole are perceived. Without recognition as a sport, esports players miss benefits available to athletes. Furthermore, the industry struggles to establish itself within the broad sports ecosystem.

- *Professionalism and financial stability*
  The discourse around esports often revolves around the tension between esports as a professional career and the financial instability it currently presents in Hong Kong. The low salaries and lack of career development opportunities frame esports as a precarious profession. This narrative contrasts with the more developed esports industries in countries such as South Korea and China, where professionalism is more established.

The development of the esports industry in Hong Kong is deeply influenced by cultural perceptions, media portrayal, and the ongoing debate over its classification as a sport. Social recognition remains a significant barrier because esports is still viewed by many, particularly parents and educators, as a hobby rather than a legitimate career path. This scepticism stems from negative stereotypes about gaming, thus leading to familial and institutional opposition that stifles young talent. Although younger generations have become accepting of esports as a profession, broad societal support is limited, which hinders the industry's ability to gain traction. While media coverage of esports has increased in recent years, the portrayal of gaming in the media remains inadequate, with many people unaware of the professionalism and opportunities within the industry. A central issue impacting the growth of esports in Hong Kong is the lack of official recognition as a sport. This issue prevents players from accessing the benefits enjoyed by traditional athletes and hinders the industry's integration into the sports ecosystem. The inclusion of esports in international events, such as the Asian Games, has helped improve its image. However, older generations remain less informed often because of insufficient promotion and understanding.

Table 4. Interview responses – discourse analysis

Key issues	Quotes
Negative stereotypes and family oppositions	"Hong Kong has produced many outstanding players in the past, but the social recognition is still not high enough, and parents and schools do not provide much support." (Interviewee 11)
	"Many times, when students bring up esports to their families, the resistance from teachers and parents is very strong because they don't accept this as a profession." (Interviewee 14)
	"If you ask my parents, they wouldn't support it either. They think gaming has no future." (Interviewee 18)
Inadequate media coverage and poor public image	"Esports doesn't get enough exposure in the media, so the average person doesn't see the professionalism and development opportunities within the industry. They just think gaming is for fun." (Interviewee 9)
	"Since esports was included as an event in the Asian Olympic Games, the perception among many families and parents has improved a lot." (Interviewee 23)
	"Middle-aged people, those about 30 to 40 years old, really don't understand what esports is. When you talk to them about it, they'll ask, 'Isn't it just playing games?' They don't understand because there hasn't been enough promotion... it hasn't gained recognition, so they don't get it." (Interviewee 25)
Unclear image: Esports as a sport vs entertainment	"How do you convince people that training an esports player isn't just about playing games, but that it's actually a career?" (Interviewee 1)
	"Although young people are starting to accept esports as a career, society as a whole still sees gaming as entertainment and doesn't view it as a professional industry." (Interviewee 9)
	"Before, most people really disliked it... now, they think it's simple, like you just sit there playing games and get paid for it." (Interviewee 17)
Professionalism and financial stability	"Without enough support from sponsors, it's hard for players to earn a stable income, and that affects long-term development." (Interviewee 9)
	"Many parents worry that esports doesn't have a stable development path, and they feel that gaming cannot provide long-term career opportunities." (Interviewee 11)

7 Conclusion

Several key insights emerged after applying the BE framework to the development of the esports industry in Hong Kong. Firstly, the role of policy and regulation is crucial because government and regulatory bodies significantly shape the landscape of the industry. Public policies, government support, and regulatory interactions with industry stakeholders determine the development of infrastructure, tournament organisation, and industry standards. A detailed analysis of these dynamics helps to assess how conducive Hong Kong's environment is for fostering a sustainable esports ecosystem. Secondly, the BE framework highlights the importance of industry stakeholders, such as esports teams, tournament organisers, and media companies, thus emphasising the coevolutionary relationships between these actors (Zhao et al., 2023). Understanding how they collaborate and compete sheds light on the innovation and growth potential within the market. Studying esports within Hong Kong's broad creative economy allows for a deep understanding of its integration into digital entertainment and social trends. Overall, the BE framework provides a holistic tool for analysing the interplay among policy, stakeholders, and cultural elements, thus guiding the future growth and sustainability of Hong Kong's esports ecosystem.

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Investigating the psychological and behavioural effects of mukbang on audiences

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Abstract. This study examines the psychological and behavioural effects of mukbang videos on audiences. Utilising data collected from questionnaire surveys and PLS-SEM analysis method, the study finds that watching mukbang videos enhances social belonging, reduces stress, increases appetite, and fosters companionship, thus impacting viewers' food and restaurant preferences. The discussion emphasises the role of food as a cultural bridge and explores the fusion of dining experiences with the internet, particularly through mukbang videos. These videos attract a dedicated audience and contribute to the development of the food economy while presenting challenges. The study contributes to literature and provides valuable insights for online businesses and food industry.

Keywords. Behavioural effect, Food, Mukbang video, Psychological effect

1 Introduction

During the COVID-19 pandemic, many people have changed their eating habits and attitudes (Di Renzo et al., 2020). Recent newspaper coverage has indicated a growing phenomenon of individuals using internet applications to watch mukbang (McCarthy, 2017). Mukbang is a portmanteau of the South Korean words "eating" ("meokneun") and "broadcast" ("bangsong") and refers to online eating shows where a mukbanger or broadcast jockey (the individual in the broadcast) eats large portions of food on camera while interacting with viewers (McCarthy, 2017). Although mukbang first started in South Korea a decade ago, it has now gained immense popularity in various countries, thus attracting hundreds of thousands of internet users every day to watch mukbang videos (Hawthorne, 2019). Given the real-time and interactive nature of mukbang, it has gradually gained popularity on internet live broadcast platforms, thereby creating a virtual community where active users can communicate online. However, despite the rising popularity of mukbang, very little attention has been given to this phenomenon among scholars. Therefore, this study intends to investigate the psychological effects of mukbang viewers and the possible behavioural consequences of watching mukbang. The results will be valuable to online business and food industry.

2 Theoretical Background and Hypothesis Development

2.1 Psychological effect of mukbang videos

According to previous studies, watching mukbang videos can satisfy people's psychological needs on many aspects. In this regard, Chen Zhiyan, a professor at the Institute of Psychology of the Chinese Academy of Sciences, said in an interview with a reporter from *Science and Technology Daily* (2020) that mukbang videos cater to the psychological needs of certain viewers, thereby offering stress relief and a sense of satisfaction and generating positive effects. However, excessive viewing may result in overeating, which leads to health issues and negative emotions as well as avoidance behaviours. Chen Zhiyan believes that viewers engage with food-related broadcasts to fulfil four psychological needs.

Firstly, mukbang videos fulfil social needs. Watching mukbang videos allows viewers to experience satisfaction by vicariously enjoying the act of eating through the screen. Chen Zhiyan explains that humans are influenced by the behaviour of others, thus leading some individuals to watch mukbang videos to enjoy food indirectly when they are unable to eat by themselves. Hakimey and Yazdanifard (2015) found that mukbang provides a sense of companionship for individuals facing loneliness and isolation, thus allowing them to feel emotionally connected to others through virtual interactions. The emotional connection and empathy felt towards mukbangers foster a sense of community among viewers, thereby promoting positive emotions and a feeling of togetherness. Choe (2019) suggested that mukbang offers a sense of social unity for people eating alone because it creates a feeling of copresence and collaboration among viewers and mukbangers. Additionally, Bruno and Chung (2017) highlighted the role of mukbang in providing vicarious pleasures and a space for viewers to share a sense of community through interactions and common interests. Despite the positive aspects, Bruno and Chung (2017) raised concerns regarding uncontrolled social interactions among viewers. These concerns include the presence of negative comments and behaviours that can potentially impact the overall viewing experience.

Secondly, mukbang videos relieve stress. Watching mukbang videos can provide stress relief for viewers by offering a form of entertainment that allows them to relax and unwind. Chen Zhiyan explains that the sensory stimulation provided by the chewing sounds in mukbang videos can help people feel relaxed under moderate sensory input. Choe (2019) found that watching mukbangs can bring various pleasures to viewers, including enjoying the eating noises made by the mukbangers. Woo (2018) also noted that viewers derive enjoyment from the sounds associated with eating and cooking, which can trigger a sense of happiness and relief similar to an autonomous sensory meridian response (commonly known as ASMR) experience. Schwegler-Castañer (2018) highlighted the captivating experience viewers have while watching mukbang. Notably, edited interactions between viewers and mukbangers add to the entertainment value. Additionally, some viewers use mukbang to escape from reality and alleviate stress particularly in today's fast-paced and competitive society. Overall, mukbang serves as a soothing and entertaining escape for viewers seeking relaxation and sensory fulfilment.

Thirdly, mukbang videos increase appetite. Watching mukbang videos can influence viewers to eat or increase their appetite even if they initially had no desire to eat. Chen Zhiyan suggested that seeing mukbangers enjoying food can motivate viewers to eat. Hakimey and Yazdanifard (2015) and Choe (2019) supported this idea by explaining that individuals watch mukbang to satisfy their cravings and experience the pleasure of eating through the mukbangers. Gillespie (2019) added that the appeal of mukbang lies in the fantasy of being able to indulge in food without consequences, thus providing viewers with satisfaction by living out their eating desires through the mukbangers. Bruno and Chung (2017) found that viewers, especially those on diets, derive vicarious pleasure from watching mukbang; part of this satisfaction comes from the mukbangers' eating performance and presentation of food. Tu and Fishbach (2017) conducted experiments demonstrating that watching others eat specific foods can influence viewers' desires towards those foods, thus leading to a phenomenon known as vicarious satiation. Overall, mukbang serves as a way for viewers to experience eating pleasure through the actions of mukbangers, thus satisfying cravings and increasing appetite.

Finally, mukbang videos provide a sense of companionship. Watching mukbang videos can provide a sense of companionship for viewers, especially for those who live alone or feel isolated. Chen Zhiyan noted that individuals, such as the "empty-nest youth" who reside far from home and work in metropolitan areas, embrace mukbang as a means to enhance their dining experience. Thus, viewers feel as though their meals are vibrant and they are sharing a meal with others. Lavelle (2018) discussed how mukbang offers a social setting for viewers to interact with mukbangers, particularly benefiting those in single-person households or experiencing loneliness. Greatrex (2016) and Bloom (2013) highlighted how mukbang helps lonely individuals feel like they are eating with someone else, thus creating a sense of community during meals. Stanton (2015) and Bryant (2016) also delved into the social aspect of mukbang by noting that viewers value the interaction with mukbangers and each other through comments and live chats, which can help combat social isolation. Tran (2019) emphasised that mukbang assists viewers in overcoming social isolation by providing a social environment through shared meals.

Overall, mukbang satisfies viewers' psychological needs. Thus, we propose the first hypothesis:

H1: Mukbang video watching experiences will have psychological effects on audiences.

2.2 Behavioural effect of mukbang videos

In marketing research, investigating consumers' purchase intentions is essential to gauge the likelihood of them buying a particular product. A strong purchase intention indicates a high likelihood of actual purchase behaviour (Chen, 2021).

Mukbang videos have been found to evoke a strong psychological impact on their audience, thus influencing their emotions, thoughts, and behaviours. The captivating nature of mukbang content, which is characterised by the visual and auditory stimulation of watching individuals consume large quantities of food, can create a deep emotional connection with viewers. This connection can lead to a heightened sense of enjoyment, satisfaction, and even social bonding as viewers share in the experience with the content creator (Park et al., 2023).

Moreover, the positive attitude that audiences develop towards mukbang videos can significantly influence their purchasing behaviour. When viewers have a favourable opinion of mukbang content and feel positively towards the personalities creating the videos, viewers' trust and connection with the content increase. This positive association may translate into a willingness to support the content creator by purchasing products or services promoted in the videos (Park et al., 2023).

In this way, the psychological impact of mukbang videos, coupled with the audience's positive attitude towards the content, can effectively influence consumer purchase decisions. This outcome highlights the power of mukbang content in not only entertaining and engaging viewers but also in shaping their consumer behaviour and purchase intentions (Park et al., 2023). Thus, we propose the second hypothesis:

H2: Mukbang videos watching experiences will influence the audiences' behaviour through the psychological effects.

Below shows the research model

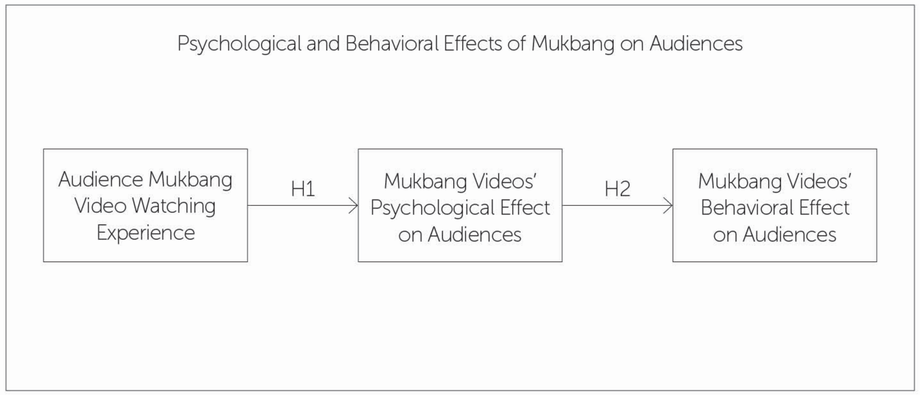

Fig. 2. Research model

3 Methodology

3.1 Data collection

This study used a questionnaire to collect data. The questionnaire mainly investigated whether watching mukbang videos would affect the audience's psychology and whether watching mukbang videos could affect the behaviour of the audience. The questionnaires were posted online and were filled in by respondents voluntarily. Excluding invalid responses, we obtained 53 valid responses. A total of 22.6% of the respondents were male, 77.4% of the respondents were female, and the age range of 18 to 25 was the dominant age group.

3.2 Measurement

A five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) was utilised to assess the model's variables. The measurements for the constructs are shown in Table 1.

Table 1. Measures of constructs

Construct	Code	Item
Experience	EPR1	I watch mukbang videos very frequently.
	EPR2	I spend a couple of hours watching mukbang videos every time.
	EPR3	I like watching mukbang videos.
Psychological Effect	PSY1	Watching mukbang videos can reduce my loneliness.
	PSY2	Watching mukbang videos can relieve my stress.
	PSY3	Watching mukbang videos can increase my sense of comfort and satisfaction.
Behavioural Effect	BHV1	I will try the food that appear in the mukbang videos.
	BHV2	I will go to the restaurants that appear in mukbang videos.
	BHV3	My appetite increases after watching mukbang videos.
	BHV4	My consumption on food increases after watching mukbang videos.

4 Data analysis and results

4.1 Construct reliability and validity

We evaluated the constructs by looking at several key indicators, such as standardised outer loading, Cronbach's alpha, rho_A, composite reliability, and average variance Extracted (AVE). The results are shown in Table 2.

Table 2. Construct reliability and validity

Latent Variable	Item	Mean	Standard Deviation	Standardised Outer loading	Cronbach's Alpha	rho_A	Composite Reliability	AVE
Experience	EPR1	3.55	1.06	0.90	0.852	0.874	0.910	0.773
	EPR2	2.02	0.88	0.80				
	EPR3	3.45	1.19	0.94				
Psychological Effect	PSY1	3.04	1.20	0.88	0.867	0.868	0.919	0.790
	PSY2	3.49	1.22	0.89				
	PSY3	3.57	1.25	0.90				
Behavioural Effect	BHV1	3.62	1.14	0.85	0.860	0.866	0.904	0.703
	BHV2	3.42	1.22	0.87				
	BHV3	2.60	1.17	0.81				
	BHV4	2.87	1.20	0.83				

Standardised outer loading: The values of the standardised outer loading for the items in each latent variable indicate the strength of the relationship between the observed items and the latent variable. Higher loading values (closer to 1) suggest a stronger relationship. In the data, the values ranged from 0.81 to 0.94, which were considered good because they were above the recommended threshold of 0.70.

Cronbach's alpha and rho_A: Cronbach's alpha and rho_A are measures of internal consistency reliability. These values indicate how well the items within a latent variable are correlated with each other. In the data, the Cronbach's alpha values were 0.860, 0.852, and 0.867 for the behavioural effect, experience, and psychological effect latent variables, respectively. These values were generally considered good because they were above the threshold of 0.70.

Composite reliability: Composite reliability is another measure of internal consistency reliability and is similar to Cronbach's alpha. In the data, the composite reliability values were 0.904, 0.910, and 0.919 for the behavioural effect, experience, and psychological effect latent variables, respectively. These values were also considered good because they were above 0.70.

Average variance extracted: The AVE values for each latent variable indicate the amount of variance captured by the latent variable in relation to the observed items. AVE values above 0.50 are typically considered good for convergent validity. In this data, the AVE values were 0.703, 0.773, and 0.790 for the behavioural effect, experience, and psychological effect latent variables, respectively. These values were above the threshold, thus indicating good convergent validity.

Overall, these indicators collectively suggest that the three constructs used in the analysis are reliable and valid.

4.2 Correlations

We further checked the correlations. The results are present in Table 3.

Table 3. Interconstructed correlations

	Experience	Psychological Effect	Behavioural Effect
Experience	0.879		
Psychology Effect	0.783	0.889	
Behavioural Effect	0.500	0.580	0.838

In Table 3, all p values were significant, which also supported good correlation. The correlation coefficients between the latent variables were all positive and moderate to strong. Overall, the correlation coefficients of the data between the latent variables demonstrated meaningful relationships that aligned with theoretical expectations. The strong correlations, coherence in relationships, consistency in data, and relevance to the research context collectively contributed to the strength of the data analysis.

4.3 Hypotheses testing

The hypotheses were tested using partial least squares structural equation modelling. The results are presented in Table 4.

Table 4. Hypotheses testing results

	Item	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
H1	Experience→Psychological Effect	0.783	0.785	0.068	11.484	0.000
H2	Psychological Effect→Behavioural Effect	0.580	0.586	0.124	4.676	0.000

The results supported the hypotheses concerning the relationships between the latent variables experience, psychological effect, and behavioural effect. The path coefficients for both hypotheses were strong with a value of 0.783 for H1 (Experience → Psychology Effect) and 0.580 for H2 (Psychological Effect → Behavioural Effect). These coefficients indicated a significant and positive relationship between experience and psychological effect as well as between psychological effect and behavioural effect.

Additionally, the T statistics for both paths were relatively high with values of 11.484 for H1 and 4.676 for H2. These high T statistics suggested that the relationships between the variables were substantial and unlikely to be due to random chance. Furthermore, the low P values of 0.000 for both hypotheses indicate that the relationships are statistically significant, thus providing strong evidence to support the hypotheses.

The sample mean and standard deviation for the variables further reinforce the validity of the hypotheses. The consistency in the sample means and standard deviation values between the original sample and the analysis sample indicates that the results are stable and not influenced by outliers or anomalies in the data.

Overall, the data analysis demonstrates that the hypothesised relationships between Experience → Psychological Effect and Psychological Effect → Behavioural Effect are well-supported. The strong path coefficients, high T statistics, low P values, and consistency in the sample statistics all contribute to the robustness and reliability of the findings, validating the initial hypotheses.

4.4 Mediation analysis

We further analysed the mediating effect. The results are present in Table 5.

Table 5. Mediation analysis results

Path	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Experience→Psychological Effect→ Behavioural Effect	0.454	0.461	0.111	4.075	0.000
Experience→Behavioural Effect	0.454	0.461	0.111	4.075	0.000

The data suggested that psychological effect acts as a mediator in the relationship between experience and behavioural effect. A mediator is a variable that helps explain the connection between two other variables. In this case, the path coefficients from experience to psychological effect and from psychological effect to behavioural effect were both 0.454 with statistically significant T statistics of 4.075 and P values of 0.000.

The consistent path coefficient of 0.454 from experience to behavioural effect when psychological effect was included in the model indicated that psychological effect mediated the relationship between experience and behavioural effect. This correlation demonstrated that psychological effect clarified the underlying mechanism through which experience influenced behavioural effect.

The significant T statistics and low P values provided further evidence supporting the role of psychological effect as a mediator in this relationship. The stable path coefficients and statistical significance in both paths strengthened the argument for the mediating effect.

The data suggest that psychological effect serves as a mediator in the relationship between experience and behavioural effect, thus elucidating how experience impacts behavioural effect. Additionally, the indirect effect from experience to behavioural effect through psychological effect reinforces the conclusion that psychological effect acts as a mediator in this relationship.

5 Discussion and conclusion

Mukbang becomes increasingly popular with the development of technology and the evolution of society (Spence et al., 2019). It can help content creators attract a dedicated fan base, thus leading to opportunities for fame and commercial ventures (Song, 2018). Collaborations with food companies can benefit both parties by promoting products and increasing industry influence. The act of eating in mukbang videos also serves as a cultural bridge (Kim et al., 2012), thus allowing viewers to experience local cuisines and understand different cultures. The integration of mukbang with social media has created a loyal audience and impacted the food economy positively.

However, research has shown that watching mukbang videos may have positive and negative impacts on viewers. Excessive consumption norms portrayed in mukbang videos may influence viewers to overeat. Additionally, mukbang can encourage problematic eating behaviours and normalise unhealthy food consumption, thus contributing to health issues, such as obesity and eating disorders. The portrayal of slim mukbangers consuming large amounts of food may also distort viewers' perceptions of food intake and body image. Furthermore, mukbang videos may influence viewers' food choices, thus leading to decreased support for domestic food products and increased consumption of fast food.

This research examines whether watching mukbang videos affects people's psychology and behaviour. Mukbang videos influence viewers' choice of food and restaurants and allow them to increase food consumption. Mukbang videos are a good channel to help food companies and restaurants to promote. At the same time, mukbang videos also have certain disadvantages. Therefore, rules need to be set to avoid unpleasant impacts that may bring.

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The power of user-generated content: Understanding consumer behaviour and purchase intentions in BiliBili videos

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Abstract. The rise of social media platforms, such as Bilibili, has revolutionised marketing strategies and consumer behaviour. This study aims to explore the impact of user-generated content (UGC) in Bilibili videos on user purchase intentions and identify the factors influencing these intentions. By examining the unique interactive culture and diverse collection of videos on Bilibili, this research enhances our understanding of consumer behaviour in the context of social media platforms. The study employed a survey methodology by collecting 421 valid responses from individuals who had recently watched Bilibili videos. The data analysis involved partial least squares structural equation modelling to evaluate the measurement model and test the research hypotheses. The results indicate strong relationships between the UGC dimensions in Bilibili videos and user purchase intentions. Additionally, the findings demonstrate good reliability, convergent validity, and discriminant validity of the measurement model. The study contributes to academia and online businesses by providing insights into the role of UGC in shaping consumer intentions within the Bilibili platform.

Keywords. Bilibili, Intention to purchase, User-generated content

1 Introduction

The rise of the internet and social media has opened new possibilities for marketers to shape their marketing strategies and influence consumers' buying choices. Nowadays, social media platforms have become an essential component of marketing approaches, thus offering fresh ways for companies to engage with current and potential customers (Appel et al., 2020). When making purchasing decisions, consumers often turn to social media for guidance by relying heavily on user-generated content (UGC) to inform their choices (Hsu et al., 2013; MacKinnon, 2012). UGC, which is created by regular users rather than companies, tends to be more trusted by consumers.

As of June 2023, China had a staggering 1.079 billion Internet users, thus representing an increase of 11.09 million since December 2022. Internet penetration

in China had also grown to 76.4%, thus marking a 0.8 percentage point increase from December 2022. During the same period, the number of online video users in China reached 1.044 billion with a notable surge of 13.80 million users. These online video users accounted for a remarkable 96.8% of all Internet users. Furthermore, the usage of short videos had risen to 1.026 billion users with an increase of 14.54 million users, which constituted 95.2% of all Internet users (China Internet Network Information Centre, 2022). Within China, social media platforms, such as Bilibili, have gained significant influence as hubs for user-generated short videos. Bilibili is known for its distinct interactive culture that is facilitated by various features, such as bullet chats. Individuals who upload videos on Bilibili, which are referred to as uploaders, often amass a considerable number of followers (Mei, 2022).

Despite extensive research exploring the impact of various social media platforms on consumers' purchasing behaviours, studies that specifically delve into video sharing websites, particularly those that focus on Bilibili, remain scarce. Among video sharing platforms, Bilibili emerges as a prominent contender. With its abundance of UGC, including content related to products, Bilibili has transformed into a platform where consumers actively seek information before making their purchase decisions. Consequently, marketers need to identify the key factors that shape consumers' intentions to purchase within the realm of Bilibili videos. The objective of this study is to enhance the existing knowledge on consumer behaviour by investigating how UGC in Bilibili's videos influences user purchase intention. This examination has potential implications for academia and online businesses.

2 Theoretical Background

2.1 User-generated content

Web 2.0 signifies the transition towards user interaction and contribution on the internet (MacKinnon, 2012; Van Dijck, 2007). These platforms offer users the ability to create, share, and engage with content, thus providing an alternative media experience where users set the rules themselves (Jarrett, 2008). In the present digital landscape,

people no longer simply search for information on the internet but live their lives within it. The relationship between Web 2.0 and UGC is symbiotic. Web 2.0 platforms empower users to participate actively in content creation and interaction, thus fostering the growth of diverse UGC. As a significant component of Web 2.0, social media enables nonprofessional users to create and share innovative UGC efficiently, thereby influencing public attitudes and behaviours across various domains (Kang & Namkung 2019; Sreejesh et al., 2020). As a result, an increasing number of enterprises have utilised UGC for brand building and product promotion. UGC related to brands or products can be found in user comments on platforms such as Facebook and Twitter as well as video clips on YouTube (Kim & Song, 2020; Liu et al., 2017; Roma & Aloini, 2019). Importantly, information shared through UGC, including product details, experiences, and activities, can shape users' perceptions and trust and influence multiple stages of the purchase process (Dewan et al., 2017; Lou & Yuan, 2019; Wang et al., 2021).

2.2 Bilibili

As a prominent UGC video social media platform, Bilibili has established itself as one of the most influential platforms in the new media industry in mainland China. With its unique interactive culture facilitated by bullet chats, Bilibili has attracted a substantial user base, including uploaders with large followings (Mei, 2022). Its popularity among Chinese young people and its diverse collection of videos contribute to its dominance as a multicultural platform (Han et al., 2021). Bilibili's platform offers users exposure to a diverse range of grassroots opinions, thus fostering an environment that encourages the exploration of different perspectives and the understanding of others' information and reasoning. This unique aspect of Bilibili's user experience contributes to its distinctiveness as a virtual community (Han et al., 2021). Bilibili experienced significant growth in its community and achieved strong financial performance in the first quarter of 2024. According to Bilibili's financial report (Bilibili, 2024), the platform's community has been flourishing because of its increasingly diverse content offerings, thus resulting in a 9% year-over-year increase in daily active users to reach 102.4 million in the first quarter of 2024. Additionally, monthly active users also hit a record high of 341.5 million, which represented an 8% year-over-year

growth. The users' engagement levels remained robust with an average daily time spent on the platform reaching 105 minutes, thus setting a new record in Bilibili's operational history.

3 Research Model and Hypotheses

The intention of the research model is to investigate the relationships between user comments, perceived content credibility, perceived content usefulness, perceived content quality, attitude towards purchase, and intention to purchase in the context of online content and consumer behaviour. Relevant literature about these factors is explained in detail below. The research model and all the hypotheses are shown in Figure 1.

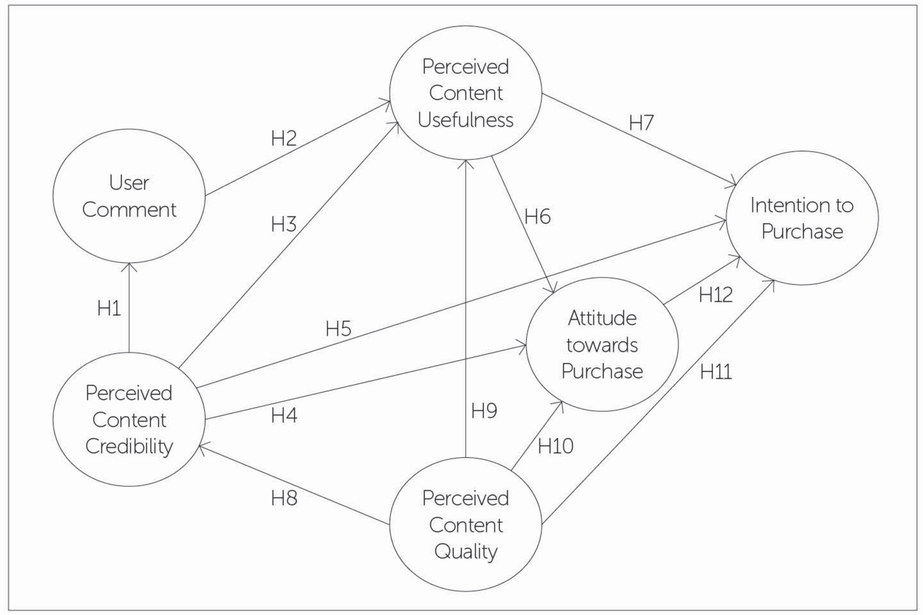

Fig. 1. Research model

3.1 User comments

User interactions and feedback play a significant role in shaping consumers' perceptions of online content. Lee (2009) conducted a study involving 258 customers in Taiwan and discovered that comments on online content related to a product can be perceived as an indication of its popularity, consequently influencing consumers' purchase intentions. Similarly, Mir and Rehman (2013) investigated the preferences of 231 university students in Islamabad, Pakistan and found that users of YouTube actively seeking UGC also consider the comments section. The presence of comments, especially an increased number of comments, enhances the credibility and usefulness of the videos. Yüksel (2016) expanded on this research by surveying 8,685 customers who engaged with online beauty channels on YouTube worldwide. The study revealed a positive correlation between the number of views, comments, and replies and the perceived credibility of the information presented in the videos. Additionally, Yüksel (2016) found that the number of views, likes, comments, and replies positively influenced the perceived usefulness of the information conveyed in the videos. Therefore, the following hypotheses are proposed:

H1: User comment positively affects the perceived content credibility.

H2: User comment positively affects the perceived content usefulness.

3.2 Perceived content credibility

Yüksel (2016) conducted a study involving 8,685 customers who actively engaged with online Beauty Channels on YouTube worldwide. The findings indicated that the credibility of the video content had a positive impact on its usefulness in providing information. Similarly, Chu and Kamal (2008) surveyed 145 blog users in the US and found that credible sources were successful in fostering positive attitudes among readers. Mir and Zaheer (2012) also demonstrated that the perceived credibility of UGC on social media sites positively influenced attitudes towards UGC related to products. Additionally, previous research has shown that perceived content credibility

of online content has a positive effect on purchase intention in online environments (Hsu and Tsou, 2011; Wang et al., 2006). Based on these findings, the following hypotheses are proposed:

H3: Perceived content credibility positively affects perceived content usefulness.

H4: Perceived content credibility positively affects attitude towards purchase.

H5: Perceived content credibility positively affects the intention to purchase.

3.3 Perceived content usefulness

Hsu et al. (2013) examined a sample of 327 bloggers in Taiwan and revealed that blog recommendations significantly influence individuals' attitudes towards online shopping. Yang et al. (2010) found that among 90 graduate and undergraduate master students specialising in management at a university in Taiwan, the perceived usefulness of web services directly influences users' intention to use them, as observed in their investigation on web service acceptance. Based on these research findings, two hypotheses have been formulated:

H6: Perceived content usefulness positively affects attitude towards purchase.

H7: Perceived content usefulness positively affects intention to purchase.

3.4 Perceived content quality

The perceived quality of video content is important because it directly influences viewers' attitudes, engagement, and trust in the information presented. It contributes to an immersive and satisfying viewing experience, thus leading to increased sharing and recommendation of the content. Specifically, Yüksel (2016) found that the perceived quality of video content had a positive impact on its credibility, usefulness, attitude toward purchase, and purchase intention. Based on the research findings, four hypotheses have been formulated:

H8: Perceived content quality positively affects perceived content credibility.

H9: Perceived content quality positively affects perceived content usefulness.

H10: Perceived content quality positively affects attitude towards purchase.

H11: Perceived content quality positively affects intention to purchase.

3.5 Attitude towards purchase

Several studies have provided support for the association between attitude and intention. Yang et al. (2010) found a positive relationship between attitude towards web-based services and the intention to use such services. Hsu and Lin (2008) proposed a positive influence of attitude on users' intention to join a blog. Saxena (2011) demonstrated a significant positive effect of attitude towards blogs on the intention to use them. Mir and Rehman (2013) established a positive correlation between consumers' attitude towards UGC on YouTube and their intention to use such UGC for purchase decisions. Furthermore, Bouhlel et al. (2010) highlighted the impact of consumers' attitudes on online purchase intentions; consumers who hold a positive attitude towards blogs exhibit a high likelihood of making actual purchases. Building upon these research findings, the following hypothesis has been formulated:

H12: Attitude towards purchase positively affects intention to purchase.

4 Methodology

4.1 Sampling and questionnaire design

Convenience sampling was utilised in this study, which targeted individuals residing in mainland China who were colleagues, friends, family members, and classmates. The survey included participants from Mainland China and Hong Kong SAR who were Bilibili users, aged 18 or above, and followed a cosmetic channel on the platform. The questionnaire, which was available in Chinese and English, was administered through Google Forms and Wenjuanxing Platform. It consisted of two parts: assessing various aspects of Bilibili and gathering demographic information. The primary objective was to gather respondents' sentiments regarding their preferred cosmetic channel on Bilibili.

4.2 Measures

The measurement items for the six constructs in this study were derived from previous research. Adjustments were made to tailor them specifically to the context of studying purchase intention on social media platforms. A seven-point Likert scale ranging from strongly disagree (coded as 1) to strongly agree (coded as 7) was used. Table 1 provides the definition of each construct and its corresponding measurement items.

Table 1. Measures of constructs

Construct (Source)	Definition	Code	Item
User Comment (Yüksel, 2016)	User comment is defined as the collective impact of video views, likes, comments, and vlogger engagement on video content.	UC1	If the video is viewed by many people, it affects my perspective on the information given in the video.
		UC2	If the video is liked by many people, it affects my perspective on the information given in the video.
		UC3	If many people comment on the video, it affects my perspective on the information given in the video.
		UC4	If vlogger often answers the comments, it affects my perspective on the information given in the video.
Perceived Content Credibility (Freeman & Spyridakis, 2004)	Perceived content credibility is referred to as the subjective evaluation of the credibility, expertise, trustworthiness, and accuracy of the product information presented in a video.	PCC1	I think that the product information given in the video is credible.
		PCC2	I think that the product information given in the video is expert.
		PCC 3	I think that the product information given in the video is trustworthy.
		PCC4	I think that the product information given in the video is accurate.

Perceived Content Usefulness (Venkatesh & Davis, 2000)	Perceived content usefulness is defined as the subjective evaluation of how the product information in a video facilitates purchase, provides valuable and convenient information, and enhances effectiveness and efficiency.	PCU1	I think that the product information given in the video makes my purchase easier.
		PCU 2	I think that the product information given in the video provides useful information for my purchase.
		PCU 3	I think that the product information given in the video is valuable for my purchase.
		PCU 4	I think that the product information given in the video is a convenient source of information for my purchase.
		PCU 5	I think that the product information given in the video makes my purchase more effective.
		PCU 6	I think that the product information given in the video makes my purchase more efficient.
Perceived Content Quality (Yüksel, 2016)	Perceived content quality is defined as the subjective evaluation of how well prepared and well presented the content is, along with good shooting quality and adequate video length, impacting one's perspective on the information provided in the video.	PCQ1	If the content of the video is well prepared, it affects my perspective on the information given in the video.
		PCQ2	If the content of the video is well presented, it affects my perspective on the information given in the video.
		PCQ3	If the shooting quality of the video is good, it affects my perspective on the information given in the video.
		PCQ4	If the length of the video is adequate, it affects my perspective on the information given in the video.
Attitude towards Purchase (Hsu et al., 2013)	Attitude toward purchase is defined as the positive inclination and satisfaction one feels after watching a video, influencing their decision to make a purchase.	ATP1	After watching the video, I think positively toward purchasing.
		ATP2	After watching the video, I like purchasing.
		ATP3	After watching the video, I feel good about purchasing.
		ATP4	After watching the video, my attitude toward purchasing is positive.

Intention to Purchase (Hsu & Tsou, 2011; Saxena, 2011).	Intention to purchase is defined as the individual's willingness, likelihood, and intention to consider, try, or actually purchase the products mentioned in the video in the future or in their upcoming purchases.	ITP1	Given the chance, I would consider purchasing the products that are mentioned in the video in the future.
		ITP2	It is likely that I shall actually purchase the products that are mentioned in the video in the near future.
		ITP3	Given the opportunity, I intend to purchase the products that are mentioned in the video.
		ITP4	I will try the products that are mentioned in the video in the future.
		ITP5	I intend to consider the products that are mentioned in the video in my future purchases.

5 Data Analysis and Results

A total of 421 valid responses were obtained, which were used as the dataset for the analysis in this study. In terms of demographics, the majority of respondents (76.3%) were between 18 and 30 years old. The sample comprised 41.10% males and 58.90% females. Regarding the respondents' location, 78.38% were from Mainland China, while 21.62% were from Hong Kong SAR. Additionally, approximately 49.70% of respondents reported an income ranging RMB 3000–9000.

The evaluation of the proposed model and research hypotheses was conducted using partial least squares structural equation modelling (PLS-SEM) through the software package SmartPLS 3.3.9. The analysis followed a two-stage process, which involved an outer model to examine the relationships between latent and observed variables and an inner model. In the inner model, a 5,000-random-bootstrap setting was employed to investigate the hypothesised relationships among the latent variables (Chin, 1998; Hair et al., 2014).

5.1 Measurement model (outer model) evaluation

In the measurement model of this study, several assessments were conducted to evaluate the factor loading, reliability, convergent validity, and discriminant validity of each construct, following the guidelines proposed by Hair et al. (2014). Firstly, the factor loading of each item was examined, and no instances of cross-loading were observed. The factor loadings of the relevant items were found to be 0.70 or higher, indicating strong relationships between the items and their underlying constructs. Secondly, reliability was assessed using Cronbach's alpha and composite reliability (CR) with principal component analysis, following the approach outlined by Chin (1998). As presented in Table 2, all reliability measures surpassed the threshold of 0.70, thus meeting the recommended criteria (Nunnally, 1978). Moreover, the factor loading measures were all above 0.70, and the average variance extracted (AVE) for each construct exceeded 0.50, as recommended by Hair et al. (2011). Finally, the Fornell-Larcker criterion was utilised to assess discriminant validity (Fornell and Larcker, 1981). As shown in Table 3, the square roots of the AVEs for each construct were greater than the correlations between the constructs. This finding indicates that the measurement model employed in this study exhibits good internal consistency reliability, adequate convergent validity, and acceptable discriminant validity.

Table 2. Quality criteria of the constructs.

Latent Variable	Item	Mean	Standard Deviation	Standardised Outer loading	Cronbach's alpha	CR	AVE
User Comment (UC)	UC1	4.979	1.543	0.780	0.859	0.904	0.703
	UC2	5.158	1.532	0.866			
	UC3	5.085	1.446	0.848			
	UC4	4.998	1.499	0.827			
Perceived Content Credibility (PCC)	PCC1	4.764	1.434	0.917	0.923	0.946	0.813
	PCC 2	4.723	1.456	0.898			
	PCC 3	4.738	1.416	0.904			
	PCC 4	4.742	1.433	0.887			
Perceived Content Usefulness (PCU)	PCU1	4.745	1.504	0.790	0.923	0.94	0.722
	PCU 2	5.095	1.363	0.836			
	PCU 3	5.097	1.412	0.873			
	PCU 4	4.983	1.461	0.805			
	PCU 5	4.922	1.384	0.837			
	PCU 6	5.028	1.422	0.868			
Perceived Content Quality (PCQ)	PCQ1	5.385	1.365	0.863	0.821	0.882	0.653
	PCQ2	5.430	1.292	0.843			
	PCQ3	5.430	1.366	0.856			
	PCQ4	4.669	1.434	0.744			
Attitude towards Purchase (ATP)	ATP1	4.905	1.424	0.900	0.928	0.949	0.822
	ATP2	4.319	1.697	0.894			
	ATP3	4.638	1.614	0.911			
	ATP4	4.780	1.610	0.894			
Intention to Purchase (ITP)	ITP1	5.109	1.485	0.913	0.942	0.956	0.813
	ITP2	4.955	1.513	0.889			
	ITP3	4.969	1.477	0.923			
	ITP4	5.071	1.436	0.902			
	ITP5	5.076	1.449	0.883			

Table 3. Square root of AVE (diagonal elements) and interconstruct correlations

	UC	PCC	PCU	PCQ	ATP	ITP
UC	**0.839**					
PCC	0.430	**0.902**				
PCU	0.435	0.779	**0.850**			
PCQ	0.635	0.465	0.543	**0.808**		
ATP	0.426	0.761	0.784	0.488	**0.907**	
ITP	0.39	0.728	0.855	0.543	0.853	**0.901**

Note: The diagonal italic and bold elements in the matrix represent the square roots of the AVE for each reflective construct. The Fornell-Larcker criterion suggests comparing these square roots with the correlations between the constructs.

5.2 Structural model (inner model) evaluation

Three processes were employed to examine the research model and hypotheses, following the guidelines outlined by Hair et al. (2014). Firstly, collinearity assessment was conducted by evaluating the variance inflation factor (VIF) for each construct. The VIF values ranged from 1.427 to 3.480, all of which were below the threshold of 5, thus indicating the absence of collinearity among the predictors in this model (Hair et al., 2011). Secondly, the relationships among the different constructs were examined using the bootstrapping procedure with 5,000 samples and the "no sign changes" option.

Hypotheses 1 to 12 were tested by assessing the significance of the ß coefficients and their corresponding p-values for each regression. Table 4 presents the results of the 12 structural relationships. The effect of user comments (UC) on perceived content credibility (PCC) was positive and significant (ß = 0.226, p-value = 0.001), thus confirming H1. However, the effect of UC on perceived content usefulness (PCU) was not significant, thus leading to the rejection of H2 (p-value = 0.979 > 0.05). The effects of PCC on PCU (ß = 0.672, p-value = 0.000) and ATP (ß = 0.376, p-value = 0.000) were positive and significant, thus confirming H3 and H4, respectively. Regarding the effect of PCC on ITP, the result (p-value = 0.49 > 0.05) indicated that it was not significant, thus rejecting H5. On the other hand, PCU had positive and significant effects on ATP

and ITP, accepting H6 (ß = 0.455, p-value = 0.000) and H7 (ß = 0.470, p-value = 0.000), respectively. The effect of perceived content quality (PCQ) on PCC was positive and significant (ß = 0.321, p-value = 0.000). Meanwhile, its effect on PCU was also significantly positive (ß = 0.231, p-value = 0.000), thus leading to the acceptance of H8 and H9. However, the effect of PCQ on ATP was not significant, thereby rejecting H10 (p-value = 0.122 > 0.05). Conversely, the effect of PCQ on ITP was positive and significant, accepting H11 (ß = 0.072, p-value = 0.019). Lastly, ATP had a positive and significant effect on ITP, thus confirming H12 (ß = 0.474, p-value = 0.000). In total, nine out of 12 hypotheses were accepted (H1, H3, H4, H6, H7, H8, H9, H11, and H12), whereas three hypotheses (H2, H5, and H10) were rejected.

The final evaluation aimed to assess the predictive power of the model by utilising measures such as R^2, f^2, and Q^2 (through the blindfolding procedure). The coefficients of determination (R^2) for the four endogenous variables, namely, PCU, PCQ, ATP, and ITP, were 0.646, 0.243, 0.673, and 0.820, respectively, thus indicating a moderate-to-substantial level of predictive power (Chin, 1998). The average explained variance (R^2) of the model was 0.596, thereby demonstrating a strong predictive capability.

Regarding effect size (f^2), the scores ranged from 0.002 to 0.968, thus indicating that the impact of different endogenous constructs on exogenous constructs varied from low to large (Hair et al., 2014). Furthermore, the predictive accuracy (Q^2) for the four endogenous constructs (PCU: 0.462, PCQ: 0.196, ATP: 0.548, and ITP: 0.660) surpassed the thresholds for medium and strong effects (0.15 and 0.35, respectively), thus supporting the model's predictive relevance.

Table 4. Significance testing results of the structural model path coefficients

	Path	Coefficient	SE	t-value	p-values	sign.	f^2	Remark
H1	UC→PCC	0.226	0.003	3.388	0.001	***	0.040	Supported
H2	UC→PCU	-0.001	0.002	0.027	0.979	n.s.	0.000	Unsupported
H3	PCC→PCU	0.672	0.002	18.517	0.000	***	0.968	Supported
H4	PCC→ATP	0.376	0.003	5.527	0.000	***	0.170	Supported
H5	PCC→ITP	-0.032	0.002	0.690	0.490	n.s.	0.002	Unsupported
H6	PCU→ATP	0.455	0.003	7.025	0.000	***	0.224	Supported
H7	PCU→ITP	0.470	0.003	8.266	0.000	***	0.356	Supported
H8	PCQ→PCC	0.321	0.003	4.606	0.000	***	0.082	Supported
H9	PCQ→PCU	0.231	0.002	5.038	0.000	***	0.084	Supported
H10	PCQ→ATP	0.067	0.002	1.545	0.122	n.s.	0.010	Unsupported
H11	PCQ→ITP	0.072	0.002	2.348	0.019	**	0.020	Supported
H12	ATP→ITP	0.474	0.003	7.951	0.000	***	0.409	Supported

Note: SE = Standard Error; Sign = Significance (**p < 0.01; ***p < 0.001; n.s. = not significant)

6 Discussion and Conclusion

The study explores the influence of Web 2.0 on UGC. It emphasises the symbiotic relationship between Web 2.0 and UGC with platforms enabling users to participate actively in content creation and interaction. This development has resulted in a diverse range of UGC, especially on social media, which impacts public attitudes and behaviours. Businesses are increasingly leveraging UGC for brand promotion and product marketing.

The study proposes several hypotheses related to user comments, perceived content credibility, usefulness, quality, and purchasing attitudes. A survey was conducted among users of Bilibili, a popular video-sharing platform in China, which focused on users' views towards their preferred cosmetic channel on the platform. Data analysis was performed using PLS-SEM. The results revealed that nine out of 12 proposed relationships were statistically significant. The model demonstrated strong predictive power with varying impacts of different endogenous constructs on exogenous constructs.

For the academic community, this study significantly contributes to understanding the relationship between UGC and factors such as credibility, usefulness, and quality. This work also provides valuable insights for researchers by examining the impact of user comments and perceived content quality on consumer perceptions and purchase intentions. Moreover, the research methodology employed in this study, along with its framework for evaluating measurement models, can serve as a valuable reference for future studies in this domain. These findings highlight the importance of UGC in shaping consumer attitudes and behaviours on social media platforms, thus offering practical implications for marketers and academics in the development of effective marketing strategies. For the online influencer industry, this study underscores the influence of user comments on the credibility and usefulness of content. It emphasises the significance of fostering a positive comment culture and encouraging user engagement to enhance the perceived value and trustworthiness of content. Additionally, the study highlights the critical role of perceived content quality in shaping consumer perceptions and purchase intentions. Online influencers should prioritise consistently delivering high-quality content to maintain credibility and impact consumers positively within their industry. These insights provide practical implications for content creators and marketers in the online influencer industry to enhance their strategies and engage with their audience effectively. The study provides valuable insights into the role of UGC in shaping user perceptions and influencing purchasing decisions on social media platforms.

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What drives diners to share restaurant reviews on OpenRice

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Abstract. This study investigates the process by which restaurant diners generate electronic word of mouth (eWOM) intentions in their written reviews on consumer-generated media platforms, such as OpenRice.com, based on their consumption experiences and various motivations. It analyses four key attributes, namely, food quality, service quality, price fairness, and atmosphere, in relation to three motives: concern for other customers, expressing positive feelings, and self-enhancement. A survey was conducted with 241 respondents in Hong Kong. Then, the hypotheses were tested using partial least squares modelling. The findings reveal that service quality, atmosphere, and food quality are crucial predictors of eWOM motives with each attribute triggering at least two types of motivations. By contrast, price fairness is linked solely to concern for other customers. The study suggests that marketers, advertisers, and restaurant owners focus their resources on fostering these motivations.

Keywords. Consumer-generated media, Customer restaurant experience, eWOM intention, Motivations, OpenRice

1 Introduction

The transition from physical to digital communication platforms, which has been facilitated by the internet, has fundamentally transformed the business landscape, where individuals increasingly participate in social media for collaborative information sharing (Verma & Yadav, 2021). A significant aspect of this transformation is the rise of consumer-generated media (CGM), which empowers individuals to express and disseminate their knowledge, thoughts, feelings, and opinions across various digital channels. These channels include social networking sites, blogs, discussion forums, online communities, chat rooms, review sites, and newsgroups (Cheung & Lee, 2012; King et al., 2014; Yoo & Gretzel, 2008; Yoo et al., 2013). CGM plays a crucial role in shaping consumer perceptions and influencing purchasing decisions because it reflects the voices and experiences of customers and users rather than traditional marketing messages. In this context, electronic word-of-mouth (eWOM) has emerged as a significant nonmarketer-driven communication that operates through the rapid sharing and dissemination of information across vast networks (Hennig-Thurau et al., 2004; Jeong & Jang, 2011; Verma & Yadav, 2021). This immediacy enhances the ability of consumers to exchange information in a multidirectional manner, thus creating a persistent and accessible flow of communication that profoundly impacts consumer behaviour (Cheung & Lee, 2012). Thus, CGM and eWOM not only facilitate individual perceptions but also serve as powerful tools for collective influence in the digital age.

Specifically, the proliferation of CGM has provided an extraordinary amount of relevant information, which particularly affects the restaurant industry. The number of users who rely on online customer sharing continues to grow steadily. For instance, OpenRice.com, which was founded in 1999 and is headquartered in Hong Kong, is a prominent restaurant guide and food review search engine in the Asia-Pacific region (Google Play, 2024). Operating across multiple countries and cities, including China, Hong Kong, Macau, Taiwan, Japan, Singapore, Thailand, and Malaysia, OpenRice.com facilitates connections between users and over 12 million food and beverage merchants in six different languages (Google Play, 2024). With approximately 7.2 million unique visitors and 3.6 million reviews, OpenRice.com has established itself as a reliable resource for food enthusiasts, which boasts a total of 7 million downloads and 62 million monthly page views (OpenRice biz, 2024). The platform's success is further highlighted by its loyal following of 5.4 million registered users. OpenRice.com possesses an extensive database comprising over 30 trillion data elements, thus making it a valuable tool for consumers and businesses within the food and beverage industry. Consumers exhibit significant engagement with restaurant review platforms prior to dining out. They often contribute their own reviews based on their satisfaction or dissatisfaction with their dining experiences. As noted by Aureliano-Silva et al. (2021), these evaluations and comments serve as influential signals for potential customers navigating their purchasing decisions. Beuscart et al. (2016) underscore the prevalence of various strategies employed by restaurants, which range from monitoring online customer reviews to implementing tailored online marketing initiatives. This dynamic interplay between CGM and restaurant engagement illustrates the critical role of CGM in shaping consumer behaviour and business strategies in the digital age.

The rise of CGM has made eWOM essential in influencing consumer purchasing behaviours and building a strong customer base for different companies through recommendations from consumers (Rani et al., 2022). Current research on eWOM examines its impact on brand attitudes, trust, purchase intentions, and visit intentions, as evidenced by online reviews (e.g., Albayrak & Ceylan, 2021; Lee et al., 2020; Nechoud et al., 2021; Ruiz-Mafe et al., 2020). Cheung and Lee (2012) and Nam et al. (2020) explored the psychological and marketing factors influencing individuals' intentions to engage in eWOM communication. Pezenka and Weismayer (2020) highlighted differences in restaurant evaluations between locals and visitors, focusing on aspects such as food quality, staff, location, payment, menu, ambience, and busyness. However, relatively limited research has been conducted on the determinants affecting individuals' intentions to propagate eWOM on CGM platforms. Thus, the present study proposes a theoretical framework to examine factors influencing eWOM intentions, including customer restaurant experiences and motivations, through the lens of utility typology and expectancy disconfirmation theory. Centred on the context of Hong Kong, this research addresses three key questions: (1) What motivates individuals to post reviews on OpenRice.com? (2) How do different customer restaurant experiences shape these motivations? (3) What factors influence the intention to engage in eWOM on OpenRice.com? The findings aim to deepen insights into eWOM communication, thus enabling restaurants to develop strategies for effectively engaging consumers and optimising eWOM practices in the industry.

2 Theoretical Framework and Hypotheses Development

Customer reviews and experiences are shaped by various factors that ultimately influence satisfaction and establish expectations based on those reviews. Numerous studies have investigated different attributes of restaurants to assess dining experiences. Jeong and Jang (2011) define customer restaurant experiences as the accumulation of knowledge or observations regarding restaurant attributes acquired during the dining experience, which leads customers to form positive or negative reviews (Filieri et al., 2020). These experiences encompass not only food-related aspects but also service quality and the overall physical environment (e.g., Ahmed et al., 2022; Slack et al., 2020; Tuncer et al., 2020; Yrjölä et al., 2019). Various factors contribute to customers' satisfaction or dissatisfaction with products or services, which significantly shape their behavioural intentions (Ratnasari et al., 2020). For instance, after dining, customers may engage in postdining behaviours, such as making recommendations (Zeithaml et al., 1996). Customer reviews, in turn, significantly impact the decisions of others. Chua et al. (2020) highlighted the essential role of electronic word-of-mouth (eWOM) in attracting new customers and influencing behaviours through discussions about products, services, or brands. They observed that recommendations from friends and family are often viewed as more trustworthy than traditional advertising. In this context, expectancy disconfirmation theory (EDT) suggests that customer satisfaction is shaped by the comparison between expected and actual service performance. Positive disconfirmation—when experiences exceed expectations—can result in favourable post-dining behaviours. This study applies EDT to explore the various attributes that motivate customers to leave reviews for restaurants on OpenRice.com.

2.1 Expectancy disconfirmation model (EDT)

EDT offers a valuable framework for understanding how dining experiences influence customer satisfaction and their subsequent behaviours. This model comprises four key components: expectations, perceived performance, disconfirmation, and satisfaction (Lakho et al., 2023). It clarifies the relationship between customers' preconceived expectations regarding the quality and performance of their dining experiences and their evaluations of actual performance (Feng et al., 2024). Drawing on their prior experiences, satisfied customers are likely to provide positive feedback and recommendations, while new customers often rely on external sources, such as eWOM or online reviews, to shape their expectations (Lakho et al., 2023). Westbrook (1987) further explained that product or consumption experiences serve as motivational sources that influence postpurchase behaviours, including word-of-mouth communication. Yang (2013) applied this model to illustrate how restaurant satisfaction drives customers to engage in eWOM. Therefore, understanding the specific expectations surrounding the dining experience is crucial for enhancing customer satisfaction and fostering positive reviews. Thus, customers typically formulate initial expectations based on their past experiences with a product

or service, which subsequently shapes their interactions and decisions throughout the purchasing process (Lakho et al., 2023). The alignment or misalignment between these expectations and actual performance results in disconfirmation, which can be positive (when performance exceeds expectations), negative (when performance falls short), or simple (when there is minimal variance) (Jia et al., 2024; Qazi et al., 2017).

2.2 eWOM

Behaviours towards eWOM encompass any positive or negative remarks about a product, service, company, or brand that are shared online by current, potential, or former consumers (Hennig-Thurau et al., 2004). Research has demonstrated that motivations significantly influence intentions to engage in eWOM (e.g., Chen et al., 2023; Haro-Sosa et al., 2024; Kautish et al., 2023; Moliner-Velázquez et al., 2023; Pang & Wang, 2023). For example, when customers experience psychological tension to participate in the community because of unmet needs, this tension drives various behavioural intentions, including the sharing of eWOM (Yoo et al., 2020). Furthermore, eWOM motivations are dynamic and can be easily affected by several factors, such as consumption experiences and the surrounding environment (Iliev, 2020). Chung and Kim (2015) identified food, service, and atmosphere as critical dimensions influencing behavioural intentions. Meanwhile, Jeong and Jang (2011) categorised restaurant experiences into four key attributes: food quality, service quality, price fairness, and atmosphere. This study utilises these four attributes to explore customer experiences in restaurants in accordance with the evaluation framework of OpenRice.com.

2.3 Customer restaurant experiences and eWOM motivations

Various studies have highlighted that food quality plays a crucial role in shaping customers' evaluations of their dining experiences (Batouei et al., 2023; Gómez-Rico et al., 2021; Kim et al., 2022; Seyitoğlu & Ivanov, 2020). For instance, Jeong and Jang (2011) examined how food quality influences various motives, such as concern for other customers and expressing positive feelings. Additionally, the research by Chang et al. (2020) revealed significant positive relationships between food consumption motivations, experiential values, and the well-being of foodies. These findings underscore the importance of food quality not only in satisfying individual preferences

but also in enhancing the communal aspects of dining. Based on this body of research, we propose the following hypotheses:

H1a: Food quality is positively related to concern for other customers.

H1b: Food quality is positively related to expressing positive feelings.

Service quality is a crucial factor in shaping customers' restaurant experiences. Several studies have investigated the significance of service quality within the dining context (Liu & Jang, 2009; Radojević et al., 2024; Talukder et al., 2023). Some studies have explored the connection between service quality and various customer motivations (Hilvert-Bruce et al., 2018; Zhao et al., 2017). For instance, Jeong and Jang (2011) emphasised that service quality is a key antecedent of eWOM motivations, which notably influences the desire to express positive emotions and the intention to assist restaurant companies. This outcome highlights service quality as a vital predictor in evaluating restaurant experiences. Furthermore, Gabrow (2021) demonstrated that assessments of restaurant quality encompass the service provided, thereby indicating that high service quality not only satisfies customers but also helps them articulate their feelings. When customers experience quality service, it fosters a sense of satisfaction that encourages them to share their experiences. Based on these studies, we propose the following hypotheses:

H2a: Service quality is positively related to concern for other customers.

H2b: Service quality is positively related to expressing positive feelings.

The significance of atmosphere in dining settings has been examined across various studies (e.g., Kim et al., 2022; Leong et al., 2023; Mohamed et al., 2021; Nyamekye et al., 2021; Yan & Felicen, 2021). Researchers have identified multiple factors that contribute to this atmosphere, such as cleanliness of the premises and the overall interior design of the restaurant, all of which play a role in stimulating eWOM motivations (Jeong & Jang, 2011). Furthermore, Chung and Kim (2015) highlighted that the assessment of a restaurant experience often encompasses descriptions of its atmospheric qualities. Given the critical role that atmosphere plays in shaping customer perceptions and behaviours, we propose the following hypotheses:

H3a: Atmosphere is positively related to concern for other customers.

H3b: Atmosphere is positively related to expressing positive feelings.

Some research has demonstrated that price fairness significantly influences various behavioural intentions (e.g., Chen et al., 2024; Hride et al., 2021; Huong et al., 2023; Mushagalusa et al., 2021). In the context of dining experiences, price fairness has been shown to affect customers' perceptions of their restaurant experiences positively (Ahmed et al., 2022). Jeong and Jang (2011) explored the relationship between price fairness and eWOM motivations and confirmed its role in fostering positive emotional expressions. Additionally, Yang (2013) identified price as a key attribute in evaluating customer experiences in restaurants. When customers perceive price fairness positively, various behavioural intentions may be driven by customers' motivations. Based on these findings, we recommend the following hypotheses:

H4a: Price fairness is positively related to concern for other customers.

H4b: Price fairness is positively related to expressing positive feelings.

2.4 eWOM motivations and eWOM intention

Haro-Sosa et al. (2024) identified various motivations behind the dissemination of positive eWOM. Focusing specifically on the OpenRice.com platform, the research uncovered distinct motivations influencing users' eWOM intentions. One significant factor is the concern for fellow customers, which plays a crucial role in shaping eWOM behaviour, particularly under the lens of focus-related utility. Customers are often driven to share their experiences through online reviews even in the absence of incentives or recognition (Cheung & Lee, 2012; Hennig-Thurau et al., 2004; Sundaram et al., 1998). This concern becomes particularly pronounced when customers experience positive disconfirmation regarding their dining experience, thus creating a natural inclination to share the information with others. Consequently, they feel compelled to write online reviews to inform and assist potential diners. Based on these studies, we propose the following hypothesis:

H5: Concern for other customers is positively related to one's eWOM intention.

Customers often seek to restore their emotional equilibrium following a positive or negative dining experience (Lajante et al., 2023). As a result, when they have a particularly enjoyable experience at a restaurant, they are inclined to express their positive emotions by writing online customer reviews. A substantial body of literature supports the existence of a positive relationship between dining experiences and

the likelihood of sharing favourable reviews (Fan et al., 2023; Lajante et al., 2023). Specifically, Lajante et al. (2023) found that online reviews expressing positive feelings are significantly influenced by positive dining experiences. Therefore, we propose the following hypothesis:

H6: Expressing positive feelings is positively related to one's eWOM intention.

Self-enhancement is another important motive in this study. Numerous studies have proven that self-enhancement assists individuals in engaging in eWOM communication (Dasanayaka & Karunarathne, 2024). Kim et al. (2015) identified three components to assess the impact of self-enhancement on eWOM intentions specifically in the café context. Additionally, Yang (2013) noted that a desire for personal recognition and validation serves as a driving force for reviewers seeking to fulfil their self-enhancement needs. Cheung and Lee (2012) further corroborated the significance of personal motivations as a key determinant of eWOM intentions. Thus, self-enhancement is positively associated with eWOM intentions. Based on these findings, we propose the following hypothesis:

H7: Self-enhancement is positively related to one's eWOM intention.

This study consists of 11 hypotheses, which are summarised in Figure 1.

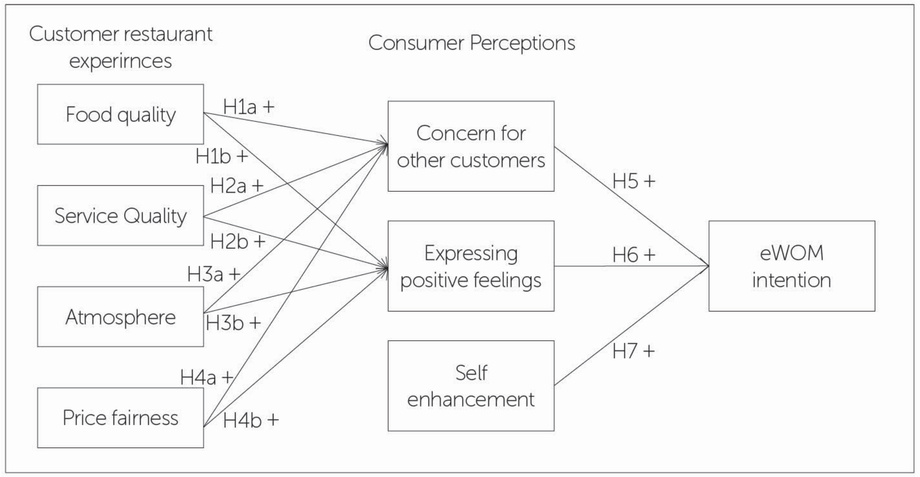

Fig 1. Proposed research model

3 Methodology

3.1 Sampling and procedure

A survey was conducted in Hong Kong using a self-administered questionnaire. Convenience sampling method was applied to the study. This approach enables researchers to collect information easily from readily accessible participants (Etikan et al., 2016). Participants were invited to respond to the questions regarding their eWOM intentions, restaurant experiences, and motivations by reflecting on their experiences of writing online reviews on OpenRice.com. Invitations were sent through various social media platforms, such as WhatsApp, Line, and WeChat, based on the researchers' contact lists. Individuals who had not engaged in eWOM were screened out of the survey using preliminary questions to ensure relevance.

At the end of the survey, a total of 241 questionnaires were collected and analysed for research purposes. Of these questionnaires, 231 were deemed valid responses, whereas the remaining responses were considered invalid and excluded based on the screening questions. Among the valid respondents, 55.4% identified as male and 44.6% as female. Additionally, 76.2% of the respondents were aged between 25 and 34, and 75.8% held a university degree. The demographic profile of the respondents is presented in Table 1.

Table 1. Demographic profiles of the respondents

Variable	Categories	Percentage (%)
Gender	Male	55.4
	Female	44.6
Age	<18	0.9
	18–24	10.4
	25–34	76.2
	35–44	11.7
	45–54	0.9
Education level	Primary School or below	0.4
	Secondary School	6.5
	Postsecondary school/Associate degree/Diploma	9.5
	University Degree	75.8
	Master or above	7.8
Employment status	Full-time	87.9
	Part-time	0.9
	Student	9.1
	Self-employed	2.2
Monthly income (HK$)	≤ $10,000	8.2
	$10,001–20,000	27.7
	$20,001–30,000	44.6
	$30,001–40,000	11.7
	$40,001–50,000	5.2
	≥ $50,001	2.6

3.2 Measures

To validate the survey questionnaires, a pilot test was conducted to pretest the questionnaire and ensure that the items met acceptable quality standards. The questionnaire was initially drafted in English, then translated into Chinese, and subsequently reviewed by another translator to ensure accuracy. 15 respondents were invited to participate by answering the questions either in person or via phone call. The results of the pilot test confirmed that all indicators were normally distributed in terms of skewness and kurtosis. Additionally, the Cronbach's alpha values for the variables ranged from 0.666 to 0.775, indicating that the internal consistency among the variables was at an acceptable level of reliability.

The questionnaire was divided into three sections. The first section included general questions about participants' dining experiences and eWOM engagements. The initial four questions served as screening questions to omit irrelevant participants and ensure the inclusion of specific targets relevant to this research. The second section focused on measuring the variables of eWOM intention, customer restaurant experiences, and motivations, which consisted of 27 items that had been adapted and modified from existing literature (e.g., Hennig-Thurau et al., 2004; Jeong & Jang, 2011). Participants responded to these items using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The final section required participants to provide personal background information, such as age and gender. The details are given in the table below.

Table 2. The variables and measurement items

Construct	Item code	Measurement item
eWOM intention (Cheung & Lee, 2012)	eWOM1	I intend to share my dining experiences with other members in OpenRice.com more frequently in the future.
	eWOM2	I will always provide my dining experiences at the request of other members in OpenRice.com.
	eWOM3	I will try to share my dining experiences with other members in OpenRice.com in a more effective way.
Food Quality (Jeong & Jang, 2011)	FQ1	The restaurant served tasty food.
	FQ2	The food presentation is visually attractive.
	FQ3	The food was served at the appropriate temperature.
Price Fairness (Jeong & Jang, 2011; Khalefa, 2015)	PF1	I think the price of the restaurant is reasonable.
	PF2	The dining experience was a good value for the money I paid.
	PF3	The food price was appropriate and the invoices were accurate.
	PF4	The service was good for the price.
Service Quality (Jeong & Jang, 2011)	SQ1	The restaurant servers provided attentive services.
	SQ2	The restaurant is dependable and consistent.
	SQ3	The restaurant had friendly and helpful employees.
Atmosphere (Jeong & Jang, 2011)	AT1	The restaurant employees were neat and well dressed.
	AT2	The restaurant dining areas were thoroughly clean.
	AT3	The interior design of the restaurant was visually appealing.
Expressing positive feeling (Hennig-Thurau et al., 2004; Yoo & Gretzel, 2008)	EPF1	I can express my joy about a good restaurant experience.
	EPF2	I felt good when I can tell others about my great restaurant experience.
	EPF3	I want to share my restaurant experience with others.
Self-enhancement (Hennig-Thurau et al., 2004; Kim et al., 2015)	SE1	I sometimes talk about the restaurants I visit, just to let others know the kind of person I am.
	SE2	After visiting restaurants similar to those my friends visit, I want to let them know.
	SE3	I am often concerned with the impression friends may form of me because of the restaurants I visit.
	SE4	My contributions show others that I am a clever customer.
Concern for other customers (Hennig-Thurau et al., 2004)	CFC1	I want to warn others of bad experience.
	CFC2	I want to save others from having the same negative experiences as me.
	CFC3	I want to help others with my own positive experiences
	CFC4	I want to give others the opportunity to buy the right service.

4 Data Analysis and Results

4.1 Preliminary analysis

Table 3 presents a summary of the descriptive statistics, including mean, standard deviations, skewness, and kurtosis derived from the survey questionnaire. The total valid sample consisted of 231 respondents. The means of all items ranged from 2.797 to 3.736, while the standard deviations for these items varied between 1.043 and 1.520. The results indicate that the data was normally distributed, as suggested by the skewness values being less than 2 and the kurtosis values being less than 7 (Gravetter et al., 2021).

Table 3. Descriptive statistic summary of items

Item	Mean	Std. Deviation	Skewness	Kurtosis
eWOM1	3.576	1.144	-0.388	-0.718
eWOM2	3.524	1.112	-0.650	-0.114
eWOM3	3.511	1.077	-0.353	-0.617
FQ1	3.571	1.074	-0.303	-0.475
FQ2	3.506	1.081	-0.307	-0.487
FQ3	3.519	1.209	-0.416	-0.640
PF1	3.736	1.079	-0.374	-0.657
PF2	3.719	1.091	-0.531	-0.352
PF3	2.883	1.520	0.043	-1.415
PF4	3.610	1.145	-0.395	-0.692
SQ1	3.571	1.110	-0.296	-0.724
SQ2	3.364	1.043	0.148	-0.805
SQ3	3.390	1.164	-0.319	-0.586
AT1	3.515	1.044	-0.351	-0.443
AT2	3.636	1.127	-0.471	-0.490
AT3	3.416	1.188	-0.507	-0.461
EPF1	3.368	1.147	-0.167	-0.826
EPF2	3.169	1.259	-0.152	-0.871
EPF3	3.437	1.054	-0.190	-0.493
SE1	3.719	1.050	-0.342	-0.811
SE2	3.589	1.181	-0.460	-0.675
SE3	3.325	1.225	-0.172	-0.982
SE4	2.797	1.223	0.181	-0.795
CFC1	3.468	1.096	-0.314	-0.690
CFC2	3.203	1.216	-0.222	-0.795
CFC3	3.212	1.167	-0.174	-0.823
CFC4	3.195	1.199	-0.184	-0.837

4.2 Measurement model results

Before examining the relationships among the variables, the measurement model analysis was conducted to examine the validity and reliability of the measurements (Hair et al., 2016). This analysis focused on several key components, including factor loading, reliability, convergent validity, and discriminant validity (Hair et al., 2016). To assess the reliability of the measurement model, Cronbach's alpha was used to determine whether the items demonstrated adequate internal consistency.

Table 4 summarises the results for Cronbach's alpha (CA), composite reliability (CR), and average variance extracted (AVE) for each variable. The CA values ranged from 0.705 to 0.881 with all values exceeding the minimum acceptable threshold of 0.7 (Nunnally, 1975; Hair et al., 2009). As for the factor loadings, most of the items were above 0.7, which showed the high relevance of items to the construct (Hair et al., 2011). Based on the results generated by AVE, the values from all constructs ranged from 0.631 to 0.806. All values exceeded the minimum requirement of 0.5 (Fornell & Larcker, 1981). Based on the findings of CR, the values from all constructs were ranged from 0.836 and 0.926. All values exceeded the minimum requirement of 0.7 (Nunnally, 1975; Hair et al., 2009). However, given the failure to meet the minimum requirements, two items (i.e., AT1 and SE4) were deleted because their factor loading were below 0.7.

Table 4. Quality criteria of variables

Item	Mean	SD	Standardised loading
eWOM intention (Cheung & Lee 2012) AVE = 0.801, CR = 0.923, CA = 0.875			
I intend to share my dining experiences with other members in OpenRice.com more frequently in the future.	3.576	1.144	0.906
I will always provide my dining experiences at the request of other members in OpenRice.com.	3.524	1.112	0.885
I will try to share my dining experiences with other members in OpenRice.com in a more effective way.	3.511	1.077	0.893
Food quality (Jeong & Jang 2011) AVE = 0.806, CR = 0.926, CA = 0.880			
The restaurant served tasty food.	3.571	1.074	0.907
The food presentation is visually attractive.	3.506	1.081	0.892
The food was served at the appropriate temperature.	3.519	1.209	0.894
Price fairness (Jeong & Jang 2011) AVE = 0.680, CR = 0.895, CA = 0.842			
I think the price of the restaurant is reasonable.	3.736	1.079	0.831
The dining experience was a good value for the money I paid.	3.719	1.091	0.861
The food price was appropriate and the invoices were accurate.	2.883	1.52	0.760
The service was good for the price.	3.61	1.145	0.843

Service quality (Jeong & Jang 2011) AVE = 0.756, CR = 0.903, CA = 0.839			
The restaurant servers provided attentive services.	3.571	1.11	0.888
The restaurant is dependable and consistent.	3.364	1.043	0.858
The restaurant had friendly and helpful employees.	3.39	1.164	0.862
Atmosphere (Jeong & Jang 2011) AVE = 0.769, CR = 0.869, CA = 0.706			
The restaurant dining areas were thoroughly clean.	3.636	1.127	0.836
The interior design of the restaurant was visually appealing.	3.416	1.188	0.916
Self-enhancement (Hennig-Thurau et al. 2004) AVE = 0.713, CR = 0.881, CA = 0.799			
I sometimes talk about the restaurants I visit, just to let others know the kind of person I am.	3.719	1.05	0.874
After visiting restaurants similar to those my friends visit, I want to let them know.	3.589	1.181	0.838
I am often concerned with the impression friends may form of me because of the restaurants I visit.	3.325	1.225	0.819
Expressing positive feelings (Hennig-Thurau et al. 2004) AVE = 0.631, CR = 0.836, CA = 0.705			
I can express my joy about a good restaurant experience.	3.368	1.147	0.854
I felt good when I can tell others about my great restaurant experience.	3.169	1.259	0.813
I want to share my restaurant experience with others.	3.439	1.056	0.710
Concern for other customers (Hennig-Thurau et al. 2004) AVE = 0.640, CR = 0.877, CA = 0.813			
I want to warn others of bad experience.	3.468	1.096	0.813
I want to save others from having the same negative experiences as me.	3.203	1.216	0.791
I want to help others with my own positive experiences	3.212	1.167	0.784
I want to give others the opportunity to buy the right service.	3.195	1.199	0.813

Discriminant validity of the measurement model was verified when the item loading of a construct was higher than the cross-loading with other constructs (Hair et al. 2011). Table 5 shows the factor loadings and cross-loadings of each construct. All the factors loading were proven to be higher than the cross-loading to other constructs.

Table 5. Examination of factor loadings and cross loadings

	AT	CFC	EPF	FQ	PF	SE	SQ	eWOM
AT2	**0.836**	0.264	0.192	0.183	0.293	0.235	0.297	0.26
AT3	**0.916**	0.358	0.266	0.109	0.312	0.216	0.317	0.222
CFC1	0.278	**0.813**	0.295	0.260	0.253	0.366	0.360	0.375
CFC2	0.321	**0.791**	0.278	0.204	0.328	0.318	0.332	0.333
CFC3	0.276	**0.784**	0.188	0.398	0.371	0.255	0.364	0.336
CFC4	0.282	**0.813**	0.338	0.259	0.402	0.308	0.314	0.459
EPF1	0.172	0.315	**0.854**	0.248	0.214	0.327	0.315	0.329
EPF2	0.255	0.260	**0.813**	0.235	0.152	0.304	0.239	0.309
EPF3	0.212	0.240	**0.710**	0.224	0.153	0.190	0.269	0.216
FQ1	0.190	0.332	0.245	**0.907**	0.245	0.166	0.253	0.329
FQ2	0.128	0.348	0.287	**0.892**	0.270	0.153	0.186	0.328
FQ3	0.108	0.262	0.263	**0.894**	0.244	0.173	0.217	0.337
PF1	0.268	0.36	0.148	0.204	**0.831**	0.237	0.364	0.291
PF2	0.324	0.345	0.171	0.210	**0.861**	0.188	0.296	0.368
PF3	0.273	0.315	0.231	0.263	**0.760**	0.163	0.246	0.259
PF4	0.272	0.384	0.175	0.254	**0.843**	0.221	0.338	0.386
SE1	0.247	0.383	0.242	0.13	0.213	**0.874**	0.376	0.321
SE2	0.192	0.235	0.324	0.141	0.173	**0.838**	0.238	0.270
SE3	0.200	0.357	0.333	0.198	0.238	**0.819**	0.332	0.255
SQ1	0.286	0.312	0.283	0.219	0.317	0.356	**0.888**	0.282
SQ2	0.323	0.394	0.327	0.231	0.339	0.339	**0.858**	0.262
SQ3	0.298	0.398	0.287	0.181	0.326	0.289	**0.862**	0.302
eWOM1	0.227	0.416	0.292	0.353	0.350	0.272	0.302	**0.906**
eWOM2	0.203	0.416	0.360	0.291	0.299	0.352	0.266	**0.885**
eWOM3	0.295	0.436	0.317	0.349	0.418	0.276	0.304	**0.893**

The validity of the constructs was confirmed by comparing the average variance extracted (AVE) with the square root of the correlations between constructs (Fornell & Larcker, 1981). Table 6 demonstrates that the square root of each construct was greater than its correlations with other constructs, thus indicating that all items were appropriately assigned to their respective constructs. Additionally, the heterotrait-monotrait ratio (HTMT) was utilised to assess discriminant validity, with a recommended minimum requirement that HTMT values be lower than 1 (Henseler et al., 2014). Table 7 presents the HTMT results. The results indicated that all HTMT values were below 0.9. Neither the lower nor upper confidence intervals included a value of 1.

Table 6. Square root of AVE (diagonal elements) and inter-construct correlations

	AT	CFC	EFP	FQ	PF	SE	SQ	eWOM
AT	**0.877**							
CFC	0.361	**0.800**						
EFP	0.266	0.344	**0.794**					
FQ	0.159	0.353	0.296	**0.898**				
FPF	0.344	0.427	0.220	0.283	**0.825**			
SE	0.254	0.388	0.349	0.182	0.246	**0.844**		
SQ	0.350	0.427	0.346	0.243	0.378	0.376	**0.869**	
eWOM	0.270	0.473	0.362	0.369	0.397	0.337	0.325	**0.895**

Table 7. Examination of HTMT result

	AT	CFC	EFP	FQ	PF	SE	SQ
CFC	0.467						
EFP	0.373	0.452					
FQ	0.210	0.410	0.376				
PF	0.446	0.510	0.284	0.327			
SE	0.339	0.479	0.466	0.221	0.300		
SQ	0.452	0.513	0.447	0.283	0.447	0.456	
eWOM	0.349	0.556	0.455	0.422	0.461	0.397	0.379

4.3 Structural model results

The proposed structural model was tested using SEM and SmartPLS 3. This analysis included evaluating the overall model fit and the significance of the relationships among customers' restaurant experiences, motivations, and eWOM intentions. Multiple indicators were employed to validate the structural model. For instance, the variance inflation factor (VIF) was used to assess collinearity and determine whether any collinearity issues were present. The inner VIF values for all constructs ranged from 1.114 to 1.292, indicating a low level of collinearity, as they were all below the threshold of 5 (Hair et al., 2016). Additionally, the predictive relevance (Q^2), which measures the out-of-sample predictive power of the model, was calculated using the blindfolding procedure in SmartPLS 3. The Q^2 values for eWOM intention, concern for other customers, and expressing positive feelings were 0.22, 0.203, and 0.108, respectively. These results demonstrate that each individual construct has low-to-medium predictive relevance to the structural model.

Table 8 presents the path coefficients and their significance within the structural model. The significance of these relationships was evaluated using a bootstrapping process with 5,000 bootstrap samples. Regarding customer restaurant experiences, food quality, service quality, and atmosphere were found to have a significant positive relationship with concern for other customers and expressing positive feelings. Price fairness demonstrated a significant positive relationship only with concern for other customers. All motivational factors exhibited a positive relationship with eWOM intentions with concern for other customers identified as the most influential factor in triggering eWOM intentions among all variables. Most of the path coefficients in the structural model were supported, with the exception of H4b, which was not supported. Additionally, the effect size (f^2) was used to measure the contribution of each construct to the R^2 value of the latent variables, thus representing weak-to-medium effect sizes according to their f^2 values.

Table 8. Significance testing results of the structural model path coefficients

Hypotheses	Path	Path coefficient	t-value	Sign.	f^2
H1a	FQ→CFC	0.207	3.472	***	0.057
H1b	FQ→EPF	0.210	3.38	***	0.049
H2a	SQ→CFC	0.234	3.686	***	0.064
H2b	SQ→EPF	0.237	3.506	***	0.054
H3a	AT→CFC	0.169	2.748	**	0.035
H3b	AT→EPF	0.143	2.08	*	0.021
H4a	PF→CFC	0.221	3.267	***	0.056
H4b	PF→EPF	0.022	0.321	n.s.	0
H5	CFC→eWOM	0.355	6.278	***	0.14
H6	EPF→eWOM	0.194	3.162	**	0.044
H7	SE→eWOM	0.131	1.978	*	0.019

Note: *p<.05; **p<.01; ***p<.001; n.s. = not significant

5 Discussion and Implications

This study provides valuable insights into the factors that drive eWOM intention by emphasising the importance of eWOM motives and various attributes associated with customer experiences in restaurants. In line with previous research, it identifies several key attributes of the dining experience that significantly influence postdining behaviours (Batouei et al., 2023; Chung & Kim, 2015; Gómez-Rico et al., 2021; Jeong & Jang, 2011). Specifically, price fairness, food quality, service quality, and the overall atmosphere emerge are crucial drivers of eWOM. Furthermore, the study reveals that concern for other customers, the expression of positive feelings, and the desire for self-enhancement serve as significant predictors of eWOM intention. This outcome highlights the interconnectedness of customer experiences and their motivations to share feedback in the digital space.

In addition to service quality, the study highlights that food quality and the overall atmosphere of the dining experience also significantly influence motivations for eWOM. The three attributes play a crucial role in fostering concerns for other

customers and in eliciting positive feelings, which can lead to eWOM intention (e.g., Chang et al., 2020; Chen et al., 2024; Kim et al., 2022; Radojević et al., 2024; Talukder et al., 2023). Some of the findings from this research align with and diverge from previous studies, particularly that of Jeong and Jang (2011). Their research found that food quality primarily motivates individuals to assist restaurant companies while the atmosphere predominantly stimulates concerns for other customers. However, the current study suggests a more nuanced relationship. Food quality, service quality, and atmosphere emerge as vital predictors of eWOM motivations, thereby enhancing the likelihood of eWOM intention. One possible explanation for this shift may be attributed to the advancements in CGM platforms, such as Openrice.com. These platforms have transformed how consumers interact with and evaluate their dining experiences. As customers increasingly rely on online reviews and ratings, they may feel a heightened sense of responsibility to share their insights about food quality and the restaurant ambiance. Therefore, the evolving landscape of digital communication may have amplified the impact of these attributes on eWOM motivations, thus reflecting a broad trend where consumers are engaged and proactive in sharing their dining experiences.

However, this study reveals that price fairness is linked only to concern for other customers and does not influence the expression of positive feelings. This finding partially contrasts with previous research by Jeong and Jang (2011), which indicated that price fairness does not motivate individuals to engage in eWOM at all. The results suggest that while customers may perceive fair pricing as a factor that fosters empathy towards others, it does not necessarily enhance their inclination to share positive sentiments about their own experiences. This outcome highlights the need for restaurant managers to focus on other aspects of the dining experience to encourage customers to express and share their positive feelings online.

Lastly, all three motives, namely, concern for other customers, expressing positive feelings, and self-enhancement, are important for individuals who are inclined to write online customer reviews following their dining experiences (Dasanayaka & Karunarathne, 2024; Fan et al., 2023; Lajante et al., 2023). The study reveals that concern for other customers has the most significant impact on eWOM intentions, surpassing the effects of expressing positive feelings and self-enhancement. This

finding is similar to the previous studies (e.g., Hennig-Thurau et al., 2004) and underscores the critical role that empathy plays in motivating customers to share their experiences online.

5.1 Academic implications

This study enhances the understanding of eWOM intentions by investigating the drivers and motives behind eWOM particularly within the restaurant context. Although research on eWOM has grown, limited focus has been given on the antecedents of eWOM motivations in this sector (Dasanayaka & Karunarathne, 2024; Jeong & Jang, 2011). Moreover, studies examining CGM platforms remain scarce. This research addresses this gap by employing a survey questionnaire to assess how various restaurant experiences impact eWOM communications. The findings reveal that the quality of dining experiences serves as a catalyst for customers' motivations to post reviews. Notably, service quality emerges as the most influential attribute, followed by food quality, atmosphere, and price fairness (Cheung & Lee, 2012; Hennig-Thurau et al., 2004; Kim et al., 2022; Yang, 2013).

Moreover, the study finds that all motivations significantly influence eWOM intentions, thus highlighting that marketers should consider each factor carefully. Patrons are primarily motivated to express positive feelings based on their satisfaction with food quality, service quality, and the overall atmosphere. When restaurants deliver an excellent dining experience, psychological tension is alleviated, thus encouraging customers to share their experiences with others. Additionally, concern for other customers is triggered by all aspects of the restaurant experience. For example, Chung and Kim (2015) noted that most reviews encompass multiple themes when evaluating the dining experience. This outcome suggests that customers feel a psychological obligation to share their positive experiences to guide others towards well-performing restaurants. Thus, this study underscores the importance of concern for others as a key motive for eWOM. Consequently, restaurant owners and marketers should prioritise enhancing all attributes of the dining experience rather than focusing solely on one or two elements. This comprehensive approach can significantly strengthen brand image through CGM.

5.2 Practical implications

Restaurant owners and marketers should actively monitor and manage review content on CGM platforms, such as OpenRice. These reviews provide valuable insights into various aspects of the dining experience, including food quality, pricing, service, and other attributes that influence customer satisfaction. Furthermore, reviews often include comments and suggestions that can guide restaurant owners in making improvements. For instance, Chung and Kim (2015) identified different types of reviews that offered recommendations specifically for restaurant owners, which ultimately helped enhance patrons' dining experiences.

Moreover, resources must be allocated not only to popular social media platforms, such as Facebook and Instagram, but also to CGM, which may exert a strong influence on customers in the restaurant industry. Oliveira and Casais (2018) highlighted the importance of photos shared by patrons on CGM and official social media pages. Therefore, marketing strategies should integrate various tools to achieve optimal results, enhance brand image, and foster brand loyalty. Jeong and Jang (2011) supported that these promotional campaigns, which are perceived as economic benefits, can significantly generate positive eWOM communications. Therefore, restaurant owners and marketers may implement promotional campaigns aimed at improving brand image through CGM. For example, if customers express satisfaction after their dining experience, restaurants can encourage them to write online reviews by offering discounts or other promotions. Such incentives can motivate customers to engage in eWOM communication.

5.3 Limitation and future research

Despite the findings, this study has several limitations. Firstly, it focused exclusively on OpenRice.com users in Hong Kong, which does not accurately represent the broad population. As a result, the findings cannot be generalised to all CGM or other countries. Future research should employ a more diverse sampling structure to yield more representative results. Additional examination should also explore eWOM communications across different regions or on various platforms, such as Facebook, Instagram, and YouTube, to deepen insights. Secondly, the conceptual

model was limited to specific restaurant experiences and motivations, thus overlooking other potential factors that may influence eWOM engagement. Future studies should investigate additional factors, such as personality and social psychological factors, to gain a comprehensive understanding of consumer behaviour. Additionally, marketing strategies that incentivise reviews, such as offering discounts or coupons, were not considered in this study, this opening opportunities for future research. Lastly, this study primarily focused on positive eWOM motivations, thus neglecting the impact of negative reviews. Given that positive and negative reviews significantly affect customer behaviour, future research should address this imbalance to provide a holistic view of eWOM dynamics.

6 Conclusion

Given the limited research on the antecedents of eWOM intention, this study investigates the factors that influence online customer reviews on OpenRice with a specific focus on customer restaurant experiences and motivations. A significant contribution of this research is the identification of service quality, atmosphere, and food quality as key attributes that predict eWOM intention, each stimulating at least two types of motivations. By contrast, price fairness is associated with only one motivation. Furthermore, the study reveals a positive relationship between all identified motivations and eWOM intention, thus indicating that marketers, advertisers, and restaurant owners should invest resources to cultivate these motivations. Ultimately, this research presents a comprehensive model that has been tailored to the Hong Kong context, thereby enhancing our understanding of the processes involved in online content generation.

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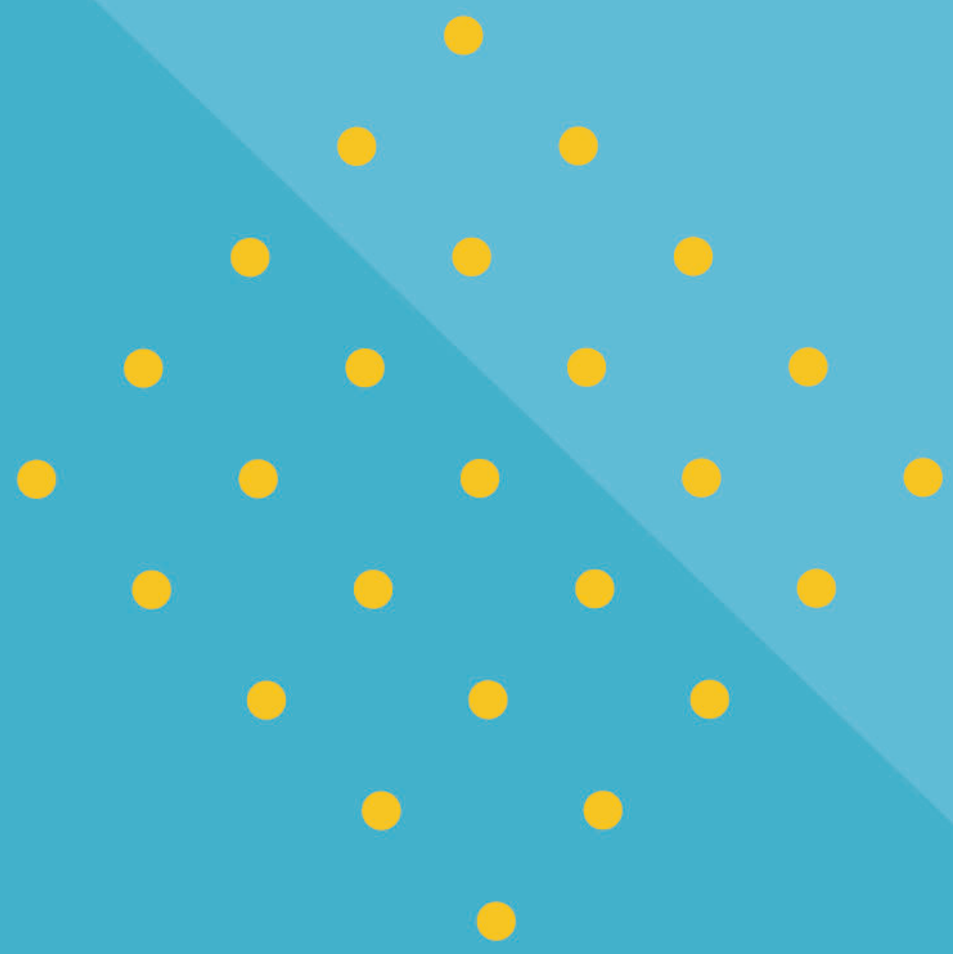

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