Received 22 April 2022
Revised 5 July 2022
16 September 2022
Accepted 17 September 2022

An investigation into factors affecting individuals' gifting intention in live streaming: a streamer–content perspective

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Abstract

Purpose – Gifting is a typical monetization strategy for live streaming platforms to motivate providers' live content contribution. However, research regarding the factors that affect individuals' gifting intention is still at an infant stage. Therefore, this study aims to investigate the factors that affect individuals' gifting intention during live streaming.

Design/methodology/approach – The authors build a model to uncover the factors that affect individuals' gifting intention from a streamer–content perspective, and the hypotheses are largely validated by online survey data through structural equation model analysis.

Findings – Individuals' perceived attractiveness of the streamers is significantly and positively associated with gifting intention for leisure-related live streaming, whereas individuals' perceived similarity with the streamers is significantly and positively associated with gifting intention for leisure-related and non-leisure-related live streaming. For live content-related factors, the individuals' perceived utilitarian value of content is significantly and positively associated with gifting intention for non-leisure-related live streaming, whereas the individuals' perceived hedonic value is significantly positively associated with gifting intention for leisure-related live streaming. Perceived symbolic value is insignificantly associated with gifting intention for neither type of live streaming.

Originality/value – The research is an original work and significantly contributes to live streaming and PWYW literature, and the findings derived from this study can guide live streaming platforms to regulate individuals' gifting intentions/behaviors better.

Keywords Live streaming, Gifting intention, Perceived attractiveness, Perceived similarity, Perceived value

Paper type Research paper

1. Introduction

Given the rapid evolution of social technologies, live streaming, which is a typical type of social media-enabled real time self-expression video show has shown a blowout development (Lu, Yao, Chen, & Grewal, 2021). Industrial statistics indicate that the global video streaming market size was valued at USD 50.11 billion in 2020, and is expected to expand at a compound

Funding: This work was supported by the National Natural Science Foundation of China no. 71902086. and no. 72201059.

Journal of Electronic Business & Digital Economics
Vol. 1 No. 1/2, 2022
pp. 90-110
Emerald Publishing Limited
e-ISSN: 2754-4222
p-ISSN: 2754-4214
DOI 10.1108/JEBDE-04-2022-0007

annual growth rate (CAGR) of 21.0% from 2021 to 2028 [1]. A notable number of SNS websites, such as Facebook, Twitter, YouTube are spending considerable resources on integrating live streaming function into their websites, e.g. Facebook Live, Twitch and YouTube Connect (Cai, Wohn, Mittal, & Sureshbabu, 2018). In China, Douyin and Kuaishou stand out as two pioneers in user-generated live streaming. Meanwhile, Taobao, JD and other e-commerce platforms have also leveraged live streaming as an alternative selling channel (Lu & Chen, 2021).

To guarantee long-term success, live streaming platforms have utilized various monetization strategies to induce users' continuous content contribution and active engagement in live streaming. One of the most typical strategies is in-session gifting, which is also called Dashang in Chinese (Wang, Guo, & Chen, 2019). By sending paid virtual gifts, users can pay what they want for the content providers, while the content providers and the platforms will share these monetary rewards. This is quite similar to an established buyer pricing model—pay what you want (PWYW) (Gerpott, 2017; Wan, Luo, Wang, & Zhao, 2017). PWYW usually involves the complete delegation of the power to set prices to buyers in transactions, while the buyers decide whether and how much they pay to sellers (Gerpott, 2017).

Previous studies have directed extensive attention to the factors that affect individuals' PWYW intention or behaviors from perspectives of buyer, seller and product characteristics (Gerpott, 2017). Meanwhile, designing strategies of PWYW, such as reference price design, payment timing, procedure name framing, time limitation, anonymity of buyers and so on, have also been discussed (Gneezy, Gneezy, Riener, & Nelson, 2012; Kunter & Braun, 2013; Schröder, Lüer, & Sadrieh, 2015). However, most of these previous studies on PWYW mainly focused on offline transactional scenes, such as restaurants, cinemas and concerts (Gneezy, Gneezy, Nelson, & Brown, 2010; Kim, Natter, & Spann, 2009; Riener & Traxler, 2012). Only a few focused on users' donation or gifting behaviors on social content platforms. For example, Wan *et al.* (2017) investigated the antecedents of users' donation behavior on social media platforms from a socio-technical systems perspective; Wang, Guo, and Chen (2019) examined the impact of the volume of paid people on users' Dashang intention. Some studies specifically focused on users' gifting behavior on live streaming platforms, and users' relational identities (Li, Lu, Ma, & Wang, 2021), audience size (Lu *et al.*, 2021), while broadcasters' emotion (Lin, Yao, & Chen, 2021) have been demonstrated as effective factors that affect users' gifting intention/behavior.

Despite these accumulative studies in PWYW and gifting, we postulate that several gaps still exist considering the characteristics of live streaming. First, live streaming provides various values for audiences. For example, one can obtain useful knowledge through watching educational live streams; one can also release pressure through watching leisure-related live streaming; one may also feel socially satisfied through expressing themselves in live streaming show rooms. However, previous studies rarely consider the impacts of various values of live streaming on users' gifting intention. Second, a defining feature of live streaming is its social feature: facilitating instant interactions among streamers and the audience in a social environment for online activities. Therefore, streamer-audience dyad characteristics play important roles in affecting users' gifting intention, which are neglected in previous studies. Third, previous studies seldom consider the various types of live streaming when investigating antecedents of gifting, such as teaching, talent shows and casual chatting, while they may actually regulate the impacts of streamer- and content-related factors on users' gifting intention.

Considering the gaps above, we investigate the factors that affect users' gifting intention in live streaming from a streamer–content perspective. We propose that users' perceived attractiveness (PA) of the streamer and perceived similarity (PS) with the streamer are significantly and positively associated with their gifting intention. The users' perceived utilitarian, hedonic and symbolic value of live streaming are postulated as effective factors that are significantly and positively associated with users' gifting intention. We also consider

the types of live streaming to unravel the various impacts of streamer–content related factors on users' gifting intention as a further explorative analysis. The findings will significantly contribute to the literature of live streaming and PWYW, and also provide viable guidance for live streaming platforms to regulate users' gifting behaviors better by considering streamer and live content-related factors.

The remainder of the paper is organized as follows. We provide a review of the literature related to our current research, and propose the research model and discuss the constructs and hypotheses. The subsequent section elaborates upon our research method and describes the research site for collecting data. We present the statistical analyses and provide the related discussion concerning the results. Finally, we conclude the paper with a summary of our research contributions, limitations and potential future directions.

2. Literature review

To investigate the factors affecting users' gifting intention in live streaming, this section is related to literature streams of PWYW and live streaming monetization strategies.

2.1 Pay what you want (PWYW)

PWYW is a customer-centered pricing procedure. The seller provides products/services, the buyer determines the final transaction price, and the seller can only accept the price (Kim *et al.*, 2009; Natter & Kaufmann, 2015). In this process, the buyer can choose to pay any price for the products/services, including paying nothing (Gneezy *et al.*, 2010). Gifting in our research shares similarity with PWYW. Users can freely determine whether and how much they want to give, which is similar to PWYW. Meanwhile, as the virtual gifts in our context are not free, users have to pay some amount if they want to send virtual gifts, which is slightly different from PWYW.

PWYW is inconsistent with classical economic theory, which states that purely selfish buyers would always take products without paying any money. However, customers do not only consider monetary but also social, psychological, or moral transaction costs on markets (Gerpott, 2017; Gneezy *et al.*, 2010). Therefore, previous studies have directed extensive attention to PWYW and involved two major research streams: the influencing factors of PWYW and the consequences of PWYW.

For the influencing factors of PWYW, researchers have investigated various antecedents from the perspectives of the buyer, seller, product characteristics and mechanism design (Gerpott, 2017). From the buyer's perspective, the buyer's personal characteristics, which comprise age, gender, income, social status and education level, will have impacts on their voluntary payment intention/behavior (Bryant, Jeon-Slaughter, Kang, & Tax, 2003; Harvey, 1990). The price sensitivity and cultural background of buyers will also show impacts on the payment price (Kim *et al.*, 2009; Lynn, Zinkhan, & Harris, 1993). Some researchers also use prosocial and equity theory to explain why consumers engage in PWYW activities (Adams, 1965; Carrell & Dittrich, 1978). From the perspective of sellers, the financial status, scale and reputation of the enterprise will affect the willingness and price that consumers would pay voluntarily (Aaker, 2009; León, Noguera, & Tena-Sánchez, 2012; Lee, Baumgartner, & Pieters, 2015; Schlüter and Vollan, 2015). From the perspective of products, the anchor price, product quality, fixed cost, marginal production cost and quality uncertainty of products will have direct impacts on consumers' voluntary pricing (Greiff, Egbert, & Xhangolli, 2014; Kim *et al.*, 2009; Kim, Kaufmann, & Stegemann, 2014; Mills, 2013). Apart from the aforementioned factors, certain procedure designs, such as external reference price, buyer anonymity and procedure name framing can also affect the buyers' PWYW intentions/activity (Gneezy *et al.*, 2012; Kunter and Braun, 2013; Schröder *et al.*, 2015). The research regarding the consequences of PWYW is relatively less. The major consequences comprise the price

paid, buyer satisfaction, number of products sold and cross-selling (Kim *et al.*, 2009, 2014; Riener & Traxler, 2012). The recurring theme of these studies is that PWYW can benefit the sellers and/or buyers if it is designed and implemented appropriately.

Previous studies on PWYW mainly focused on offline scenes, such as restaurants, cinemas and concerts (Gneezy *et al.*, 2010; Kim *et al.*, 2009; Riener & Traxler, 2012). Few have considered the online scenes. For example, some scholars have explored the users' donation behavior on Wikipedia and the PWYW behavior of electronic products on iTunes (Mak, Zwick, Rao, & Pattaratanakun, 2015; Marett, Pearson, & Moore, 2012; Racherla, Babb, & Keith, 2011). Wan *et al.* (2017) have made a preliminary exploration on the donation behavior of users on social media platforms from a socio-technical systems perspective. Their results indicate that donation intention is determined by the emotional attachment to the content creator and functional dependence on social media, which are influenced by social and technical factors. Wang *et al.* (2019) have investigated whether and how social signals, such as the disclosed information about the volume of paid people, might influence the consumers' willingness to Dashang. An ambivalent framework is proposed in their research, indicating that such social signals may have both positive and negative effects on voluntary payment.

2.2 Live streaming and monetization strategies

Live streaming, which is also referred to as live broadcasting, is a typical type of user generated content (UGC) (Hu, Zhang, & Wang, 2017). As a special combination of multiple media forms, live streaming comprises a streamer who uploads real-time video content such as games, talent shows, daily life and so on (Hamilton *et al.*, 2014; Hu *et al.*, 2017). During live streams, streamers can engage in dialogs and interactions with the audiences; meanwhile, the audiences on the streamers' channel can comment and communicate with each other in text-based chat rooms (Hamilton, Garretson, & Kerne, 2014).

Compared with the rapid development in the practice field, studies have paid extensive attention to live streaming, leading to two major streams of research. The first stream mainly focuses on investigating users' engagement in live streaming. For example, based on social identity theory, Hu *et al.* (2017) have investigated audiences' continuous watching behavior intention via a dual identification framework, which includes identifications with streamers and audience groups. They found that the audiences' identification with streamers and audience groups are positively associated with their continuous watching intention. As live streaming not only offers a real-time watching experience for audiences but also provides opportunities to communicate and socialize among streamers and other audiences, frequent interactions between streamer and audiences and interactions among audiences have been deemed as efficient elements in attracting and maintaining users (Hamilton *et al.*, 2014; Lim *et al.*, 2012; Smith, Obrist, & Wright, 2013).

The other stream focuses on various monetization strategies of live streaming, among which is live streaming marketing and in-session gifting have received much attention (Chen, Hu, Lu, & Hong, 2019; Lu & Chen, 2021; Lu *et al.*, 2021). On the one hand, with the widespread proliferation of live streaming, the fusion of live streaming and marketing has become a successful e-commerce business model, while live streaming commerce has surfaced as a hot topic in both practice and academic discipline (Lu & Chen, 2021). On the other hand, gifting during live streaming has also drawn attention. For example, Li *et al.* (2021) investigated how class and relational identities may affect viewers' gifting behavior and how social density moderates the effects of identities on viewers' gifting behavior. Lu *et al.* (2021) examined the impact of audience size on viewer participation through a randomized controlled field experiment and found consistent evidence for a positive causal relationship between audience size and average tipping size. Lin *et al.* (2021) explored the impact of the broadcasters' emotion on audiences' engagement

in live streaming and revealed that a happier broadcaster makes the audience happier, which leads to further viewer tipping behavior.

Despite the accumulative research in live stream gifting, we propose that salient research gaps still exist. On the one hand, live streaming is a process entailing streamers' continuous real time content contribution (e.g. talent shows, teaching or casual chatting), and streamer and content are two fundamental elements during live streaming. Therefore, exploring the factors affecting individuals' gifting intention by considering both streamer-related and live content-related factors is essential. On the other hand, previous studies in live streaming gifting rarely consider the types of live streaming. In fact, various types of live streaming exist. For example, some live streaming contents serve for leisure purposes, such as talent shows; whereas some others serve for instrumental purposes, such as language teaching live streaming. These various types of live streaming may potentially regulate the impacts of streamer- and content-related factors on individuals' gifting intention, which is largely ignored in prior studies.

3. Research hypotheses and model

In this study, we investigate the factors that affect the individuals' gifting intention from a streamer–content perspective. In live streaming, the streamer acts as a central role in hosting live for audiences. Streamers not only show their external physical characteristics, such as appearance, voices, tones, body figures and so on, to the audiences (Lu & Chen, 2021; Park & Lin, 2020), but also spread internal thoughts, opinions and values to the audiences (Lu & Chen, 2021). For streamer-related factors, we consider the individuals' PA of streamers, which is a reflection of individuals' perception toward the streamers' external physical characteristics, and PS with streamers, which corresponds to the internal similarity between individuals and streamers, as effective factors that are positively associated with users' gifting intention during live streaming. Previous studies have demonstrated the effectiveness of the individuals' PA of streamers and similarity with the streamers on purchase intention (Lu & Chen, 2021; Park & Lin, 2020).

Aside from streamer related factors, live streaming itself is a typical content product, which conveys various values for individuals. Product values usually include utilitarian, hedonic and symbolic value in marketing discipline (Ailawadi, Neslin, & Gedenk, 2001; Babin, Darden, & Griffin, 1994; Keller, 1993; Park, Jaworski, & MacInnis, 1986). Utilitarian value is instrumental oriented, which always serve for a functional or task-related purpose (Mano & Oliver, 1993). Hedonic value usually results from fun or entertainment, which is more subjective and emotional (Babin *et al.*, 1994). By contrast, symbolic value always satisfies individuals' self-expression or social recognition needs (Keller, 1993). As a content product, live streaming provides individuals with utilitarian value (e.g. learning through live streaming), hedonic value (e.g. releasing pressure via watching live streaming) and symbolic value (e.g. expressing oneself and obtaining social approval in live streaming rooms). Thus, for live content-related factors, we postulate that the individuals' perceived utilitarian, hedonic and symbolic value of live streaming are significantly and positively associated with their gifting intention. We detail the hypothesis elaboration as follows.

3.1 Streamer-related factors

3.1.1 Perceived streamer attractiveness and gifting intention. Source attractiveness has drawn extensive attention in marketing research and has been repeatedly claimed as an effective factor that can affect the consumers' opinion, product evaluation and persuasiveness to sell products (DeShields, Kara, & Kaynak, 1996; Joseph, 1982; Park & Lin, 2020). The attractiveness of the source has increased the effectiveness of the endorsement of online media (Park & Lin, 2020; Till & Busler, 2000). Consumers are more likely to form positive

stereotypes about attractive endorsers, which would further increase the willingness to buy an approved product (Erdogan, 1999).

The individuals' PA of streamers will facilitate their positive evaluation and attitude toward the streamer. For example, a well-dressed streamer with rich and vivid language expression in live streaming is more likely to make an attractive impression on the audience. With PA of streamer, the audiences will form a positive evaluation and attitude regarding the ability and expertise of the streamer (Swartz, 1984), which would further trigger individuals' gifting intention during live streams. Thus, we have the following hypothesis:

H1. Individuals' perceived streamer attractiveness is positively associated with their gifting intention.

3.1.2 Perceived similarity with streamer and gifting intention. Similarity attraction is a theory that originated from social psychology, which proposes that people are attracted to others who are similar to them in terms of personal characteristics, such as demographic and physical characteristics, attitude, behavior, personality, values and so on (Byrne & Griffitt, 1969; Duck, 1973; Morry, 2005). Researchers usually adopt reward-based mechanism to explain why similarity leads to positive evaluations, because similarity validates one's views and it possesses reward qualities (Byrne & Griffitt, 1973; Byrne, Griffitt, & Stefaniak, 1967; Pandey, 1978). The reward-based mechanism is classified into two streams (Al-Natour, Benbasat, & Cenfetelli, 2010): 1) effectance-arousal and 2) uncertainty reduction (Baxter & West, 2003; Morry, 2005). The effectance-arousal mechanism proposes that because attitudes lack objective verification, individuals look to others for validation and positive reinforcers serve as stimuli for affective responses (Byrne *et al.*, 1967). The uncertainty reduction mechanism implies that similarity offers the reward of decreasing uncertainty about a target individual (Berger & Calabrese, 1975). This affords predictability about partners in interaction and enables them to communicate with greater confidence and effectiveness (Baxter & West, 2003).

We postulate that individuals' PS with the streamer will be positively related to gifting intention due to following reasons. First, the individuals' PS with the streamers will trigger their perceptions of the streamers as in-group members who understand and share their world-view, which will facilitate gifting intention. Second, the individuals' PS with the streamer will ensure a high level of shared language and topics between the two parties. Research has shown that people with shared language may feel a closer bond with one another and be more likely to support each other (Lu, Guo, Luo, & Chen, 2015). Third, the individuals' PS can make interactions more rewarding by improving interaction quality and efficiently reduce the potential conflicts during the interaction (Al-Natour *et al.*, 2010), which may further trigger the individuals' gifting intention. Therefore, we propose the hypothesis H2:

H2. Individuals' PS with the streamer is positively associated with their gifting intention.

3.2 Live content-related factors

Live streaming, as a virtual content product, provides various values for the audiences. The consumers' perceived value of products usually indicates their evaluation of product utility based on what is received and given (Wan *et al.*, 2017). Abundant prior studies have established the positive relationships between perceived value and individuals' attitude and behavior (Lam, Shankar, Erramilli, & Murthy, 2004; Molinari, Abratt, & Dion, 2008; Wan *et al.*, 2017). In marketing literature, product values usually encompass three types, i.e. utilitarian value, hedonic value and symbolic value (Ailawadi *et al.*, 2001; Babin *et al.*, 1994; Keller, 1993; Park *et al.*, 1986). We will provide a detailed elaboration on the relationships between the three types of values conveyed by live streaming and individuals' gifting intention.

3.2.1 Perceived utilitarian value and gifting intention. Utilitarian value is described as instrumental (e.g. functional, task-related) and related to cognitive evaluation. Utilitarian

value is linked with the notion of product performance and usefulness (Mano & Oliver, 1993). For example, savings, convenience and product quality can be classified among utilitarian values or benefits (Chaudhuri & Holbrook, 2001; Ailawadi *et al.*, 2001). Previous studies have demonstrated the important role of utilitarian value in affecting individuals' various attitudes and behaviors, such as adoption intention (Yuan Zhang, & Wang, 2022), satisfaction (Eggert & Ulaga, 2002), purchase intention (Akram *et al.*, 2021), etc.

We focus on live streaming utilitarian value, which is a functional value regarding individuals' perception of obtaining knowledge, useful information and advices from live streaming. For example, an individual can learn English or singing skills through live streaming. When individuals perceive a high utilitarian value of live streaming, they will have a higher intention to gift the streamers.

H3. The individuals' perceived utilitarian value (PUV) of live content is positively associated with their gifting intention.

3.2.2 Perceived hedonic value and gifting intention. Hedonic value is more subjective and emotional, which results more from fun and entertainment than from task completion (Babin *et al.*, 1994; Holbrook & Hirschman, 1982). Pleasing properties such as consumer aesthetics, variety seeking or exploration, enjoyment are hedonic values or benefits: they are non-instrumental, experiential and affective. Hedonic value has been proven to be effective in generating positive consequences, such as adoption and purchase intention (Akram *et al.*, 2021; Yuan *et al.*, 2022).

We consider the hedonic value of live streaming as individuals' emotional happy feelings cultivated through watching live streaming. For example, one can release pressure and obtain hedonic values through watching leisure-related live streams, such as talent shows, casual chatting, funny shows, etc. When individuals feel high hedonic value from live streaming, they will have a higher intention to gift.

H4. The individuals' perceived hedonic value (PHV) of live content is positively associated with their gifting intention.

3.2.3 Perceived symbolic value and gifting intention. While perceived value is often conceptualized as bi-dimensional, some researchers include a third dimension, indicating that symbolic benefits such as self-expression or social recognition are additional gratifications, different from hedonic perceptions. Keller (1993) and Park *et al.* (1986) make a clear differentiation and describe symbolic value as less product-related than hedonic benefits, including self-expression, social approval and self-esteem. Symbolic value has been deemed as an important antecedent that affects the consumers' evaluation of products, especially luxury products/brands (Shukla & Rosendo-Rios, 2021), while symbolic uncertainty associated with the products has also been discussed in previous research (Castaño, Sujan, Kacker, & Sujan, 2008).

In a live streaming context, individuals can acquire social values through live streams. For example, individuals can express their opinions and views by sending comments in chat box in live streaming, through which all other audiences can see what the focal individuals express due to communication visibility of live streaming (Lu & Chen, 2021). Meanwhile, individuals can also directly communicate with the streamer by applying real time connection. Therefore, live streaming provides effective ways for the mass audiences to express themselves and acquire social approval within the group. When the individuals perceive high symbolic value from live streaming, they will have a higher gifting intention. Thus, we have the following hypothesis:

H5. The individuals' perceived symbolic value (PSV) of live content is positively associated with their gifting intention.

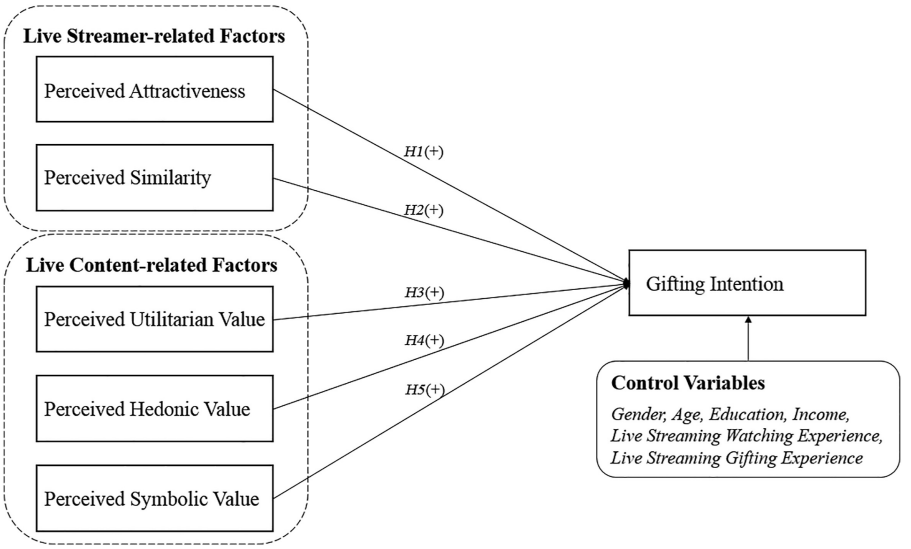


Figure 1.
Research model

Thus, we propose the research model as illustrated in Figure 1. Moreover, we control the potential impacts of individuals' gender, age, education, income, live streaming watching experience and live streaming gifting experience.

4. Data and measurement

4.1 Data collection

In this study, we consider gifting on live streaming platforms. Given the rapid development of live streaming platforms in China (e.g. Douyin and Kuaishou), various types of live streaming have emerged. For example, some streamers are talent anchors and usually show special talents during their live streams, such as singing, playing piano and so on. Some streamers are professional in teaching, and they teach courses in language, computer programming and so on. Except for the professional streamers, some people will also share personal feelings, opinions and views of the things around them during live streams. To better motivate streamers to contribute live contents continuously, most live streaming platforms have incorporated gifting as an effective way for the audiences to express appreciation and affection toward streamers and "pay" whatever they want to the streamers, typically in the form of paid virtual gifts. It is worth noting that there are no free-paid gifts in a live streaming context, which differs from traditional PWYW in which individuals can pay nothing. On live streaming platforms, if an individual wants to support the streamer without paid virtual gifts, then he or she can give free thumbs-up ("Dianzan" in Chinese) for the streamers. Thus, live streaming provides us with an appropriate context to investigate what factors affect the individuals' intention to gift, considering the salient role of streamers and live contents.

We used an online survey to obtain data. The questionnaire consists of 17 self-report items in total. We also included the individuals' gender, age, education level, income level, experience in watching live streams and experience of gifting in live streams in the survey. As the survey was conducted in China, the questionnaire was translated into Chinese, and then a backward translation was conducted to ensure consistency between the Chinese and English versions.

For the data collection, we relied on the professional data collection service offered by the Wenjuanxing website (https://www.wjx.cn/), which helped us randomly select live stream audiences and remove invalid questionnaire responses. To ensure the suitability of potential respondents, we included pre-screening questions to ask respondents if they had watched live streams in the past three days and which platform(s) they had watched from. Only those who reported "yes" were given access to the questionnaire. Meanwhile, it is worth noting that we did not consider live streaming commerce shows, as it aims to sell products, which is not the focus of this study. These respondents were then instructed to answer questions by recalling their latest experience of watching live streaming in the past three days. Finally, 516 respondents completed the survey. After eliminating invalid samples with contradictory answers on one original and reversed worded item, 455 valid cases were retained. Table 1 shows the demographic information of the sample.

4.2 Measurement items

Measurement items for PA were adopted from Park and Lin (2020). Items for PS were adopted from Feick and Higie (1992). Items for PUV and PHV were adopted from Yuan *et al.* (2022) and Jahn and Kunz (2012). Items for PSV were adopted from Steg, Vlek, and Slotegraaf (2001) and Steg (2005). Items for gifting intention (GI) were adopted from Wan *et al.* (2017), which originally focused on donation intention in social media platforms. The concrete measurement items for each construct are listed in Table 2.

5. Results

5.1 Measurement model

As the data were collected in a cross-sectional survey, the common method may pose a potential threat. According to Lu and Chen (2021), Harman's one-factor test was conducted by explorative

Items		Frequency	Percentage
Gender	Male	189	41.54%
	Female	266	58.46%
Age	Under 25	68	14.95%
	25–34	269	59.12%
	35–44	87	19.12%
	45 or older	31	6.81%
Education level	Secondary school or below	24	5.27%
	Junior college	62	13.63%
	Bachelor	342	75.16%
	Master	26	5.71%
	PhD	1	0.22%
Income level (Yuan)	Under 5,000	86	18.90%
	5,000–9,999	207	45.49%
	10,000–14999	100	21.98%
	15,000–19999	39	8.57%
	20,000 or higher	23	5.05%
Live streaming watching experience	Very low	17	3.74%
	Slightly low	49	10.77%
	Medium	221	48.57%
	Slightly high	142	31.21%
	Very high	26	5.71%
Gifting experience on live streaming platforms	Very low	34	7.47%
	Slightly low	150	32.97%
	Medium	157	34.51%
	Slightly high	64	14.07%
	Very high	50	10.99%

Table 1.
Demographics of respondents ($N = 455$)

factor analysis. Results have shown five factors with eigenvalues above 1. The first factor explained 37.463% (<40%), indicating that CMB is not a problem (Hair *et al.*, 1998). In addition, the correlation matrix showed that all bivariate correlations are below 0.90, whereas CMB

Constructs	Items	Constructs	Items
Perceived Attractiveness (Park & Lin, 2020)	The streamer gives me a good feeling The streamer is not attractive (reverse) The streamer catches my attention	Perceived Similarity (Feick & Higie, 1992)	The streamer and I share similarities in tastes and preferences The streamer has similar values and beliefs with me
Perceived Utilitarian Value (Yuan *et al.*, 2022)	The content of the live streaming is functional The content of the live streaming is useful The content of the live streaming is practically meaningful	Perceived Hedonic Value (Jahn & Kunz, 2012)	Watching the live streaming is enjoyable Watching the live streaming makes me feel relaxed I feel pleasant when watching the live streaming
Perceived Symbolic Value (Steg, 2005; Steg *et al.*, 2001)	Involving into the live streaming makes me feel socially acceptable Involving into the live streaming can help me make a good impression on others Involving into the live streaming would improve the way I am perceived	Gifting Intention (Wan *et al.*, 2017)	I am very likely to send virtual gifts to the streamer I would consider gifting the streamer in the future I intend to buy the virtual gifts for the streamer

Table 2.
Constructs and items

Variables	V1	V2	V3	V4	V5	V6
Cronbach's alpha	0.841	0.752	0.754	0.803	0.816	0.770
rho_A	0.842	0.778	0.764	0.834	0.818	0.773
AVE	0.759	0.799	0.670	0.714	0.730	0.685
VIF	1.817	1.502	1.895	1.853	2.449	-
V1: PA	0.871					
V2: PS	0.423	0.894				
V3: PUV	0.477	0.521	0.818			
V4: PHV	0.522	0.402	0.512	0.845		
V5: PSV	0.628	0.449	0.590	0.629	0.855	
V6: GI	0.355	0.351	0.383	0.387	0.340	0.828

Table 3.
Descriptive analysis of the constructs

appears when there are high correlations ($r > 0.90$) (Tarafdar, Maier, Laumer, & Weitzel, 2020). Therefore, common method bias is not a risk in this study.

The convergent validity of the constructs is validated by examining the average variance extracted (AVE) and the internal consistency of the indicators (i.e. rho_A). Table 3 shows that all the values fulfilled the recommended thresholds. To evaluate the discriminant validity, the AVE needs to be compared with the square of the correlation among the latent variables (Chin, 1998). The diagonal elements of Table 3 contain the square root of the AVE. All AVEs are greater than the off-diagonal elements in the corresponding rows and columns, demonstrating the discriminant validity. The convergent and discriminant validity is also examined by factor loadings of each indicator (Chin, 1998). Factor loadings and cross loadings are calculated and presented in Table 4. Inspection of loadings and cross loadings further confirmed that the observed indicators have adequate discriminant and convergent validity. Finally, the discriminant validity is examined with the heterotrait-monotrait (HTMT) ratio. Table 5 shows that the HTMT values ranged from 0.426 to 0.781; as they are all below 0.850, in which the discriminant validity is confirmed (Lu & Chen, 2021; Voorhees, Brady, Calantone, & Ramirez, 2016).

Table 4.
Factor cross loadings

	PA	PS	PUV	PHV	PSV	GI
PA _1	0.858	0.367	0.424	0.489	0.569	0.301
PA _2	0.895	0.370	0.408	0.447	0.526	0.314
PA _3	0.860	0.369	0.414	0.430	0.546	0.314
PS _1	0.332	0.869	0.426	0.318	0.344	0.276
PS _2	0.417	0.919	0.500	0.395	0.450	0.346
PUV _1	0.368	0.421	0.814	0.390	0.469	0.307
PUV _2	0.402	0.441	0.861	0.448	0.504	0.348
PUV _3	0.404	0.419	0.778	0.418	0.475	0.280
PHV _1	0.468	0.330	0.447	0.882	0.558	0.384
PHV _2	0.427	0.349	0.430	0.863	0.517	0.333
PHV _3	0.430	0.353	0.424	0.786	0.525	0.240
PSV _1	0.595	0.371	0.516	0.589	0.840	0.271
PSV _2	0.512	0.364	0.510	0.474	0.857	0.307
PSV _3	0.508	0.417	0.487	0.556	0.867	0.292
GI _1	0.298	0.322	0.334	0.307	0.303	0.854
GI _2	0.258	0.260	0.298	0.308	0.245	0.806
GI _3	0.324	0.288	0.318	0.346	0.293	0.822

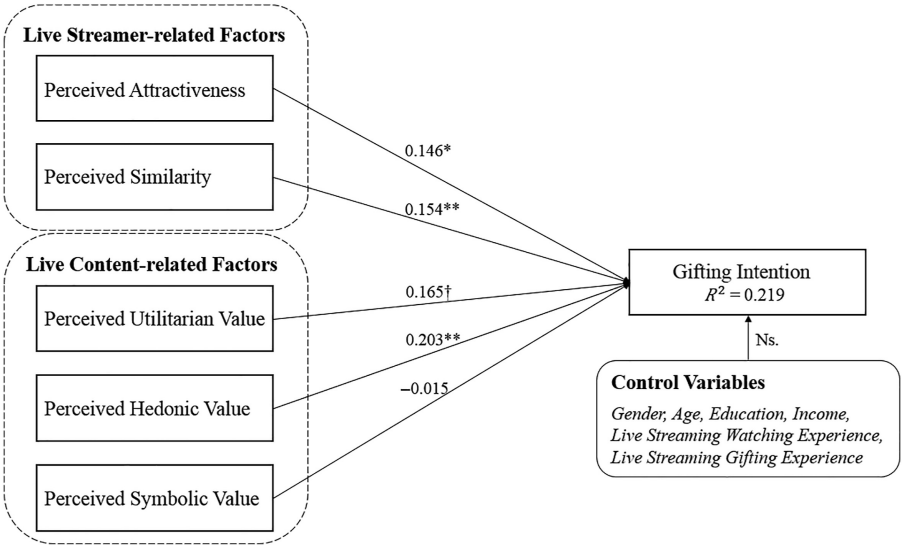
Table 5. Heterotrait-Monotrait (HTMT) ratio

	PA	PS	PUV	PHV	PSV	GI
PA						
PS	0.527					
PUV	0.600	0.688				
PHV	0.636	0.518	0.659			
PSV	0.761	0.566	0.753	0.781		
GI	0.440	0.456	0.500	0.478	0.426	

Table 6. The results of structural equation modeling analysis

Hypotheses	Path	STDVE	*T* Statistics	*β*
–	Gender → GI	0.046	1.344	0.062
–	Age → GI	0.059	1.022	–0.061
–	Education → GI	0.048	0.740	–0.036
–	Income → GI	0.054	0.448	–0.024
–	Watching Experience → GI	0.059	0.729	–0.043
–	Gifting Experience → GI	0.041	0.074	–0.003
H1	PA → GI	0.070	2.093	0.146*
H2	PS → GI	0.055	2.802	0.154**
H3	PUV → GI	0.063	2.628	0.165†
H4	PHV → GI	0.069	2.940	0.203**
H5	PSV → GI	0.087	0.177	–0.015

Note(s): †$p < 0.1$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$



Note(s): † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 2. Testing results

5.2 Structural model

We adopted the SmartPLS software to test the hypotheses. SmartPLS is widely used for structural equation modeling and can deal with small-sample and non-normal data (Lu & Chen, 2021). Table 6 and Figure 2 summarized the test results. The control variables, including the respondents' gender, age, educational level, income level, experience of watching live streaming and experience of gifting in live streaming are not significantly associated with respondents' gifting intention. Most of the hypotheses are significantly supported. For live streamer-related factors, the respondents' PA of the streamer ($\beta = 0.146$, $p < 0.05$) and PS with the streamer ($\beta = 0.154$, $p < 0.01$) are both significantly and positively associated with gifting intention. For live content-related factors, the respondents' PUV ($\beta = 0.165$, $p < 0.1$) is marginally and significantly associated with gifting intention, while the hedonic value ($\beta = 0.203$, $p < 0.01$) of live streaming is significantly and positively associated with gifting intention. However, the PSV of live streaming is insignificantly associated with gifting intention. The variance explained for gifting intention is 0.219.

5.3 Importance–performance map analysis

We also conducted the Importance–Performance Map Analysis (IPMA) to identify the importance (i.e. the structural model total effects) and performance (i.e. the average values of the latent variable scores) of independent latent variables (Höck, Ringle, & Sarstedt, 2010). To increase the analyzed endogenous latent variables' performance level in the future, actions should be taken along lines that have a relatively high importance and relatively low performance (Lu & Chen, 2021).

Figure 3 illustrates that the construct total effects of PA, PS, PUV and hedonic value on gifting intention are 0.146, 0.154, 0.165 and 0.203, respectively. The construct performances of PA, PS, PUV and hedonic value on gifting intention are 64.474, 72.058, 71.634 and 69.737, respectively. PHV is the most impactful factor for increasing gifting intention. However, the performance of PHV is relatively low, indicating its major improvement potential. The second

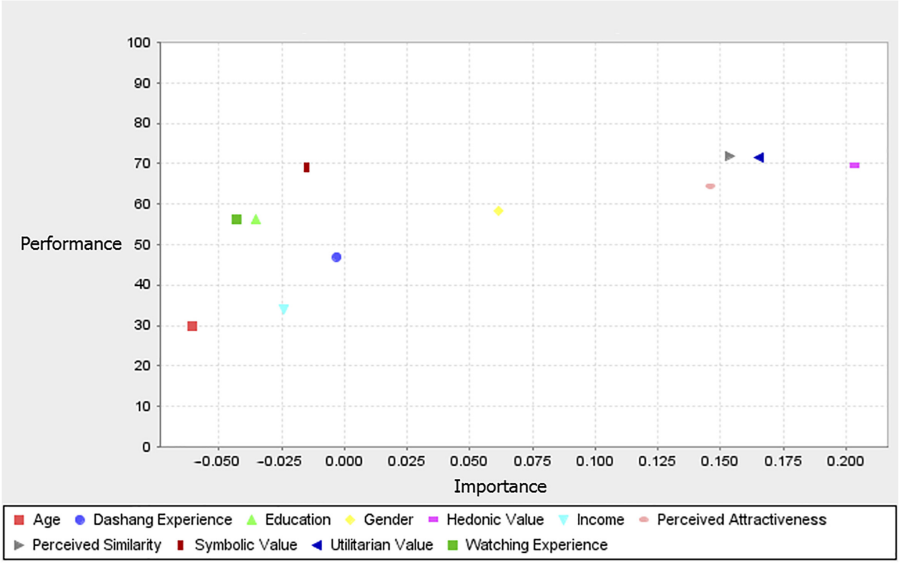


Figure 3.
Importance-performance map analysis of GI

factor with improvement potential is PUV, as the importance of it is larger than that of PS, whereas the performance is relatively lower compared with PS.

5.4 PLS-MGA analysis

On live streaming platforms, various types of live streaming do exist. Based on the analysis of whether the specific live streaming serves for leisure purpose or not, we categorized all live streaming in our sample into leisure-related live streaming and non-leisure-related live streaming according to one survey question asking the types of live streams that the respondents have watched. In the questionnaire, we provided some live stream types, such as talent shows (e.g. singing, dancing, etc.), personal life sharing, teaching (e.g. language, computer programming, etc.), live news and so on, for respondents to choose. If the respondents cannot fit the live streams they watched into any types we have provided, then they can choose the "other" choice, and fill in the specific types. Finally, in our sample, only six respondents chose "other" choices, and the type they filled in is "game streaming", which is also a type of leisure-related live streaming. To verify whether live streaming types (i.e. leisure-related and non-leisure-related) affect the results, we conducted a PLS multi-group analysis (PLS-MGA).

Before conducting PLS-MGA, we used MICOM to test measurement invariance based on permutation algorithm (Henseler, Ringle, & Sarstedt, 2016). MICOM is used to determine whether significant intergroup differences are due to inter-group differences in constructs.

Composite	Correlation c value	Bias-corrected 95% confidence interval	Permutation *p*-value	Compositional invariance?
Compositional invariance				
PA	0.999	[0.992, 1.000]	0.658	Yes
PS	0.998	[0.992, 1.000]	0.307	Yes
PUV	0.998	[0.987, 1.000]	0.699	Yes
PHV	0.995	[0.991, 1.000]	0.174	Yes
PSV	0.996	[0.990, 1.000]	0.313	Yes
GI	0.999	[0.995, 1.000]	0.645	Yes
Composite	Mean Difference	Bias-corrected 95% confidence interval	Permutation *p*-value	Equal mean values?
Scalar invariance				
PA	−0.080	[−0.190, 0.190]	0.400	Yes
PS	−0.184	[−0.198, 0.184]	0.055	Yes
PUV	−0.171	[−0.189, 0.184]	0.072	Yes
PHV	−0.154	[−0.178, 0.177]	0.104	Yes
PSV	−0.105	[−0.168, 0.185]	0.269	Yes
GI	−0.049	[−0.199, 0.177]	0.599	Yes
Composite	Variance difference	Bias-corrected 95% confidence interval	Permutation *p*-value	Equal variance?
PA	0.129	[−0.262, 0.246]	0.342	Yes
PS	0.143	[−0.328, 0.344]	0.401	Yes
PUV	−0.148	[−0.384, 0.362]	0.428	Yes
PHV	0.074	[−0.306, 0.308]	0.654	Yes
PSV	0.108	[−0.269, 0.261]	0.438	Yes
GI	−0.066	[−0.433, 0.414]	0.784	Yes

Table 7. Measurement invariance for the two groups

Table 7 corroborates the configural [2], compositional and scalar invariance assuring "full measurement invariance".

Based on the establishment of measurement invariance, we conducted the PLS-MGA analysis. Table 8 shows the results and some interesting findings have appeared. For non-leisure-related live streaming, only PS with the streamer ($\beta = 0.201$, $p < 0.05$) and PUV ($\beta = 0.249$, $p < 0.05$) of live streaming content are significantly positively associated with gifting intention, whereas PA of the streamer, PHV and symbolic value are insignificantly associated with gifting intention. For leisure-related live streaming, the individuals' PA of live streamers ($\beta = 0.152$, $p < 0.1$) is marginally and significantly associated with gifting intention, and PS with the streamer ($\beta = 0.123$, $p < 0.05$) and PHV ($\beta = 0.291$, $p < 0.001$) of live streaming are all significantly and positively associated with gifting intention; whereas PUV and symbolic value are insignificantly associated with gifting intention.

6. Discussion

Gifting has been widely adopted by live streaming platforms as a typical extrinsic strategy, with the expectation to motivate live streamers to contribute live contents continuously. In this study, we built a model to test the factors that are associated with individuals' gifting intention during live streaming by considering live streamer-related and live content-related factors simultaneously. The five hypotheses in the model are validated via online survey data. H1 is partially supported, indicating that individuals' PA of live streamers is marginally significantly associated with their gifting intention in a positive way for leisure-related live streaming. A possible explanation may be that individuals usually care more for the live streamers' appearance, emotions, voices, tones and so on, during leisure-related live streams, as the main purpose of watching this type of live streaming resides in the pursuit of recreation and entertainment, and attractiveness of streamers is one important factor that constitutes such recreation and entertainment. However, for non-leisure-related live streaming, the individuals' main purpose is instrumental-oriented, such as learning and obtaining useful information, thereby excluding PA of streamers from their focus. H2 is supported, indicating that the individuals' PS with the streamers is significantly and positively associated with gifting intention in the groups of leisure-related and non-leisure-related live streaming. As a significant departure from previous studies that focus on offline PWYW scenarios, this result highlights the importance of similarity between streamers and audiences on live streaming platforms. As individuals usually build social connections with streamers whom they are interested in and involve in a continuous watching behavior on the platforms, similarity cultivation will play a salient role in affecting individuals' attitudes and behaviors, such as gifting intention. H3 is partially supported, as the result reveals that the individuals' PUV of live streaming content is only significantly and positively associated with gifting intention for non-leisure-related live streaming group. This is reasonable when we consider the nature

Table 8.
The results of multi-group analysis between different types of live streaming

	Group (non-leisure-related live streaming, $N = 198$)			Group (leisure-related live streaming, $N = 257$)		
Path	STDVE	T statistics	β	STDEV	T statistics	β
PA → GI	0.114	0.999	0.114	0.084	1.812	0.152†
PS → GI	0.081	2.501	0.201*	0.062	1.994	0.123*
PUV → GI	0.108	2.296	0.249*	0.078	1.483	0.116
PHV → GI	0.110	1.134	0.125	0.070	4.140	0.291***
PSV → GI	0.159	0.648	−0.103	0.088	0.615	0.054

Note(s): †$p < 0.1$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$

of leisure and non-leisure-related live streams. Non-leisure-related live streaming usually serves for the individuals' instrumental purposes. Thus, individuals will provide more weight on the utilitarian value of the live contents. Similarly, the individuals' PHV of live contents is significantly positively associated with gifting intention for leisure-related live streaming, indicating that H4 is partially supported. H5 is not supported, as the individuals' PSV is insignificantly associated with gifting intention neither in leisure-related nor in the non-leisure-related live streaming group. A possible explanation is that symbolic value is usually related to the individuals' explicit purpose, such as showing off, obtaining social approval from others and so on. However, interaction in live stream shows cannot fully fulfill such explicit purpose.

7. Theoretical contributions and practical implications

Our research makes several theoretical contributions. First, this study contributes to live streaming literature by uncovering the factors that affect the individuals' gifting intention during live streams. As a typical form of a social content platform, live streaming has drawn extensive research attention recently. Numerous previous studies have focused on investigating the factors that influence users' various engagement behaviors in live streaming, including gifting (Chen *et al.*, 2019; Hamilton *et al.*, 2014; Hu *et al.*, 2017; Lu *et al.*, 2021). As a significant departure from previous studies, we built a model by considering live streamer-related factors (i.e. PA and PS) and live content-related factors (i.e. perceived utilitarian, hedonic and symbolic value), and uncover the links between these factors and individuals' gifting intention. Meanwhile, this study unpacks whether the associations between these factors and gifting intention vary across different types of live streaming, i.e. leisure-related and non-leisure-related live streaming. The research findings significantly enrich the research stream of live streaming gifting. Second, this study contributes to PWYW literature. Different from prior PWYW studies that mainly focused on offline transactional context (Gneezy *et al.*, 2010; Kim *et al.*, 2009; Riener & Traxler, 2012), we considered gifting on live streaming platforms, which is an online context, and we proposed the individuals' PA of the streamer and similarity with the streamer as specific constructs that reflect novel characteristics of live streaming. A systematical investigation into the factors that are significantly associated with individuals' gifting intention will further broaden the landscape of PWYW research.

There are some practical implications that needed to be noted. With the rapid development of live streaming, gifting has become a typical strategy for live streaming platforms to incentivize streamers to contribute live contents continuously, especially high quality contents. Therefore, the platforms need to understand the factors that are significantly associated with individuals' gifting intention in different types of live streaming, through which they can strategically regulate individuals' gifting intention/behaviors accordingly. For example, we found that individuals' PS with the streamer and PUV of live contents are significantly positively associated with their gifting intention for non-leisure-related live streaming. The platforms can encourage streamers to focus more on similarity cultivation with the audiences during their non-leisure-related live streaming, and emphasize on providing utilitarian value for the audiences. By contrast, for leisure-related live streaming, we found that individuals' PA of the streamer, PS with the streamer, and PHV of live content are significantly and positively associated with their gifting intention. Therefore, the streamers can direct further efforts to increase their attractiveness during live streaming, such as better clothing and improved layout of broadcasting environment. Cultivating similarity regarding tastes and values with the audiences is useful in leisure-related live streaming. Finally, as PHV is highly associated with individuals' gifting intention in a positive way, streamers can take effective actions to enhance the entertainment of live streaming. For example, talent streamers can intersperse some casual chats with the

audiences during their talent shows, specifically, they can extract some interesting replies from the audiences and further interact with the audiences based on these replies.

8. Limitations and future directions

There are three limitations in this study, which further shed light on future research directions. First, this study specifically focuses on live streaming context. In live streaming, streamers and live contents play parallel important roles in affecting the individuals' attitudes and behaviors. Therefore, we adopted a "streamer–content" perspective to build our research model. However, this may not be the case for other social content platforms, such as the Q&A community. Thus, the external validity of our research model needs further investigation. Future research can apply and/or adapt this model to other social content platforms to evaluate its external validity. Second, we adopted cross-sectional survey data to test the hypotheses, and thereby cannot clearly identify the causal relationships between independent and dependent variables. Future research can take experiments or use objective panel data to clarify the causal impacts of streamer-related and live content-related factors on individuals' gifting intention/behavior further. Third, we do not consider irrational gifting in this research. Irrational gifting sometimes happens, especially for leisure-related live streaming. The underlying factors that affect irrational gifting may differ from regular gifting, such as infatuation with the streamers. Therefore, future research can specifically focus on irrational gifting and explore the factors that may affect this special behavior.

Notes

1. https://www.grandviewresearch.com/industry-analysis/video-streaming-market
2. Running MICOM in SmartPLS usually automatically establishes configural invariance. The statistical output does not apply to this step and is not shown.

References

Aaker, D. A. (2009), *Managing Brand Equity*, Simon & Schuster, New York, NY.

Adams, J. S. (1965). Inequity in social exchange. In *Advances in Experimental Social Psychology* (Vol. 2, pp. 267-299). Academic Press.

Ailawadi, K. L., Neslin, A. A., & Gedenk, K. (2001). Pursuing the value-conscious consumer: store brands versus national brand promotion. *Journal of Marketing*, *65*(1), 71–89.

Akram, U., Junaid, M., Zafar, A. U., Li, Z., & Fan, M. (2021). Online purchase intention in Chinese social commerce platforms: Being emotional or rational?. *Journal of Retailing and Consumer Services*, *63*, 102669.

Al-Natour, S., Benbasat, I., & Cenfetelli, R. (2010). The adoption of online shopping assistants: perceived similarity as an antecedent to evaluative beliefs. *Journal of AIS*, *12*(5), 347–374.

Babin, B. J., Darden, W. R., & Griffin, M. (1994). Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of Consumer Research*, *20*, 644–656.

Baxter, L. A., & West, L. (2003). Couple perceptions of their similarities and differences: a dialectical perspective. *Journal of Social and Personal Relationships*, *20*(4), 491–514.

Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: toward a developmental theory of interpersonal communication. *Human Communication Research*, *1*(2), 99–112.

Bryant, W. K., Jeon-Slaughter, H., Kang, H., & Tax, A. (2003). Participation in philanthropic activities: Donating money and time. *Journal of Consumer Policy*, *26*(1), 43–73.

Byrne, D., & Griffitt, W. (1969). Similarity and awareness of similarity of personality characteristic determinants of attraction. *Journal of Experimental Research in Personality*, *3*(3), 179–186.

Byrne, D., & Griffitt, W. (1973). Interpersonal attraction. *Annual Review of Psychology*, *24*, 317–336.

Byrne, D., Griffitt, W., & Stefaniak, D. (1967). Attraction and similarity of personality characteristics. *Journal of Personality and Social Psychology*, *5*(1), 82–90.

Cai, J., Wohn, D. Y., Mittal, A., & Sureshbabu, D. (2018). Utilitarian and hedonic motivations for live streaming shopping. *Proceedings of the 2018 ACM International Conference on Interactive Experiences for TV and Online Video - TVX '18*.

Carrell, M. R., & Dittrich, J. E. (1978). Equity theory: the recent literature, methodological considerations, and new directions. *Academy of Management Review*, *3*(2), 202–210.

Castaño, R., Sujan, M., Kacker, M., & Sujan, H. (2008). Managing consumer uncertainty in the adoption of new products: Temporal distance and mental simulation. *Journal of Marketing Research*, *45*(3), 320–336.

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing*, *65*(2), 81–93.

Chen, C., Hu, Y., Lu, Y., & Hong, Y. (2019). Everyone can be a star: Understanding the role of live video streaming in online retail. available from: https://ssrn.com/abstract=3422615

Chin, W. W. (1998). Issues and opinion on structural equation modeling. *MIS Quarterly*, *22*, vii–xvi.

DeShields, O. W., Kara, A., & Kaynak, E. (1996). Source effects in purchase decisions: the impact of physical attractiveness and accent of salesperson. *International Journal of Research in Marketing*, *13*(1), 89–101.

Duck, S. W. (1973). Personality similarity and friendship choice: similarity of what, when?. *Journal of Personality*, *41*(4), 543–558.

Eggert, A., & Ulaga, W. (2002). Customer perceived value: a Substitute for satisfaction in business markets?. *Journal of Business and Industrial Marketing*, *17*(2/3), 107–118.

Erdogan, B. Z. (1999). Celebrity endorsement: a literature review. *Journal of Marketing Management*, *15*(4), 291–314.

Feick, L., & Higie, R. A. (1992). The effects of preference heterogeneity and source characteristics on ad processing and judgments about endorsers. *Journal of Advertising*, *21*(2), 9–24.

Gerpott, T. (2017). Pay-what-you-want pricing: an integrative review of the empirical research literature. *Management Science Letters*, *7*(1), 35–62.

Gneezy, A., Gneezy, U., Nelson, L. D., & Brown, A. (2010). Shared social responsibility: a field experiment in pay-what-you-want pricing and charitable giving. *Science*, *329*(5989), 325–327.

Gneezy, A., Gneezy, U., Riener, G., & Nelson, L. D. (2012). Pay-what-you-want, identity, and self-signaling in markets. *Proceedings of the National Academy of Sciences*, *109*(19), 7236–7240.

Greiff, M., Egbert, H., & Xhangolli, K. (2014). Pay what you want–but pay enough! Information asymmetries and PWYW pricing. *Management and Marketing*, *9*, 193–204.

Hair, J. F., Anderson, R. E., Tatham, R. L. and Black, W. (1998), *Multivariate Data Analysis*, Prentice-Hall, Englewood Cliffs, NJ, pp. 648-650.

Hamilton, W. A., Garretson, O., & Kerne, A. (2014). Streaming on twitch: Fostering participatory communities of play within live mixed media. *Proceedings of the SIGCHI conference on human factors in computing systems* (pp. 1315-1324), Toronto, Ontario: Canada, ACM, 2014.

Harvey, J. W. (1990). Benefit segmentation for fund raisers. *Journal of the Academy of Marketing Science*, *18*(1), 77–86.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, *33*, 405–431.

Höck, C., Ringle, C. M., & Sarstedt, M. (2010). Management of multi-purpose stadiums: importance and performance measurement of service interfaces. *International Journal of Services Technology and Management*, *14*, 188–207.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: consumer fantasies, feelings and fun. *Journal of Consumer Research*, *9*, 132–140.

Hu, M., Zhang, M. L., & Wang, Y. (2017). Why do audiences choose to keep watching on live video streaming platforms? An explanation of dual identification framework. *Computers in Human Behavior*, *75*, 594–606.

Jahn, B., & Kunz, W. (2012). How to transform consumers into fans of your brand. *Journal of Service Management*, *23*(3), 344–361.

Joseph, W. B. (1982). The credibility of physically attractive communicators: a review. *Journal of Advertising*, *11*(3), 15–24.

Keller, K. L. (1993). Conceptualizing, measuring and managing customer-based brand equity. *Journal of Marketing*, *57*(1), 1–22.

Kim, J. Y., Natter, M., & Spann, M. (2009). Pay what you want: a new participative pricing mechanism. *Journal of Marketing*, *73*(1), 44–58.

Kim, J. Y., Kaufmann, K., & Stegemann, M. (2014). The impact of buyer–seller relationships and reference prices on the effectiveness of the pay what you want pricing mechanism. *Marketing Letters*, *25*(4), 409–423.

Kunter, M., & Braun, D. (2013). 'The price is up to you!' – 'Oh no! What am I gonna do?' customers' product category inexperience and belief about other customers' payments under pay-what-you-want conditions. *European Journal of Management*, *13*(2), 15–21.

Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context. *Journal of the Academy of Marketing Science*, *32*(3), 293–311.

Lee, S. R., Baumgartner, H., & Pieters, R. (2015), Are you really paying as little as possible? Constraints on consumers' self-interest seeking in participative pricing, Working Paper.

León, F. J., Noguera, J. A., & Tena-Sánchez, J. (2012). How much would you like to pay? Trust, reciprocity and prosocial motivations in El Trato. *Social Science Information*, *51*(3), 389–417.

Li, R., Lu, Y., Ma, J., & Wang, W. (2021). Examining gifting behavior on live streaming platforms: an identity-based motivation model. *Information and Management*, *58*(6), 103406.

Lim, S., Cha, S. Y., Park, C., Lee, I., & Kim, J. (2012). Getting closer and experiencing together: antecedents and consequences of psychological distance in social media-enhanced real-time streaming video. *Computers in Human Behavior*, *28*(4), 1365–1378.

Lin, Y., Yao, D., & Chen, X. (2021). Happiness begets money: emotion and engagement in live streaming. *Journal of Marketing Research*, *58*(3), 417–438.

Lu, B., & Chen, Z. (2021). Live streaming commerce and consumers' purchase intention: an uncertainty reduction perspective. *Information and Management*, *58*(7), 103509.

Lu, B., Guo, X., Luo, N., & Chen, G. (2015). Corporate blogging and job performance: effects of work-related and non-work-related participation. *Journal of Management Information Systems*, *32*(4), 285–314.

Lu, S., Yao, D., Chen, X., & Grewal, R. (2021). Do larger audiences generate greater revenues under pay what you want? Evidence from a live streaming platform. *Marketing Science*, *40*(5), 964–984.

Lynn, M., Zinkhan, G. M., & Harris, J. (1993). Consumer tipping: a cross-country study. *Journal of Consumer Research*, *20*(3), 478–488.

Mak, V., Zwick, R., Rao, A. R., & Pattaratanakun, J. A. (2015). Pay what you want' as threshold public good provision. *Organizational Behavior and Human Decision Processes*, *127*, 30–43.

Mano, H., & Oliver, R. L. (1993). Assessing the dimensionality and structure of the consumption experience: evaluation, feeling, and satisfaction. *Journal of Consumer Research*, *20*(3), 451–466.

Marett, K., Pearson, R. A. and Moore, R. S. (2012), "Pay what you want: an exploratory study of social exchange and buyer-determined prices of iProducts", *Communications of the Association for Information Systems*, Vol. 30. available from: https://aisel.aisnet.org/cais/vol30/iss1/10/.

Mills, P. (2013). Trust, reciprocity and fairness in a large scale pay what you wish experiment. In *Competitive Paper Session, Society for the Advancement of Behavioral Economics, SABE/IAREP*.

Molinari, L. K., Abratt, R., & Dion, P. (2008). Satisfaction, quality and value and effects on repurchase and positive word-of-mouth behavioral intentions in a B2 B services context. *Journal of Services Marketing*, *22*(5), 363–373.

Morry, M. (2005). Relationship satisfaction as a predictor of similarity ratings: a test of the attraction-similarity hypothesis. *Journal of Social and Personal Relationships*, *22*(4), 561–584.

Natter, M., & Kaufmann, K. (2015). Voluntary market payments: underlying motives, success drivers and success potentials. *Journal of Behavioral and Experimental Economics*, *57*, 149–157.

Pandey, J. (1978). Dependency similarity, attraction and perceived helpfulness. *Social Behavior and Personality*, *6*(1), 37–42.

Park, H. J., & Lin, L. M. (2020). The effects of match-ups on the consumer attitudes toward internet celebrities and their live streaming contents in the context of product endorsement. *Journal of Retailing and Consumer Services*, *52*, 101934.

Park, C. W., Jaworski, B. J., & MacInnis, D. J. (1986). Strategic brand concept-image management. *Journal of Marketing*, *50*, 135–145.

Racherla, P., Babb, J. S., & Keith, M. J. (2011). Pay-what-you-want pricing for mobile applications: the effect of privacy assurances and social information. *Conference for Information Systems Applied Research Proceedings*, *4*(1833), 1–13.

Riener, G., & Traxler, C. (2012). Norms, moods, and free lunch: Longitudinal evidence on payments from a pay-what-you-want restaurant. *The Journal of Socio-Economics*, *41*(4), 476–483.

Schlüter, A., & Vollan, B. (2015). Flowers and an honour box: evidence on framing effects. *Journal of Behavioral and Experimental Economics*, *57*, 186–199.

Schröder, M., Lüer, A., & Sadrieh, A. (2015). Pay-what-you-want or mark-off-your-own-price – a framing effect in customer-selected pricing. *Journal of Behavioral and Experimental Economics*, *57*, 200–204.

Shukla, P., & Rosendo-Rios, V. (2021). Intra and inter-country comparative effects of symbolic motivations on luxury purchase intentions in emerging markets. *International Business Review*, *30*(1), 101768.

Smith, T., Obrist, M., & Wright, P. (2013). Live-streaming changes the (video) game. In *Proceedings of the 11th european conference on interactive TV and video* (pp. 131-138). Como, Italy: ACM.

Steg, L. (2005). Car use: lust and must. Instrumental, symbolic and affective motives for car use. *Transportation Research A*, *39*, 147–162.

Steg, L., Vlek, C., & Slotegraaf, G. (2001). Cognitive-reasoned and affective-emotional motives for using a motor car. *Transportation Research-F: Psychology and Behavior*, *4*(3), 1–19.

Swartz, T. A. (1984). Relationship between source expertise and source attractiveness in an advertising content. *Journal of Advertising*, *13*(2), 49–55.

Tarafdar, M., Maier, C., Laumer, S., & Weitzel, T. (2020). Explaining the link between technostress and technology addiction for social networking sites: a study of distraction as a coping behavior. *Information Systems Journal*, *30*(1), 96–264.

Till, B. D., & Busler, M. (2000). The match-up hypothesis: physical attractiveness, expertise, and the role of fit on brand attitude, purchase intent and brand beliefs. *Journal of Advertising*, *29*(3), 1–13.

Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing in marketing: an analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, *44*, 119–134.

Wan, J. L., Lu, Y. B., Wang, B., & Zhao, L. (2017). How attachment influences users' willingness to donate to content creators in social media: a socio-technical systems perspective. *Information and Management*, *54*(7), 837–850.

Wang, Y., Guo, X. and Chen, G. (2019), "Will you "gifting"? Effects of social signals in online pay-what-you-want", *ICIS 2019 Proceedings*, Vol. 23. available from: https://aisel.aisnet.org/icis2019/crowds_social/crowds_social/23/.

Yuan, C., Zhang, C., & Wang, S. (2022). Social anxiety as a moderator in consumer willingness to accept AI assistants based on utilitarian and hedonic values. *Journal of Retailing and Consumer Services*, *65*, 102878.

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