



Investigating consumer purchase intention in online social media marketing: A case study of Tiktok

Wenyao Zhang^a, Wei Zhang^{b,*}, Tugrul U. Daim^{c,d,**}

^a School of Economics and Management, Qilu University of Technology (Shandong Academy of Sciences), Office Building, 58 Sangyuan Road, Licheng Dist., Jinan, 250353, PR China

^b School of Public Administration, Sichuan University, 24 Nanyiduan, Yihuan Road, Wuhou Dist., Chengdu, Sichuan, 650016, PR China

^c Portland State University, USA Dept. of Engineering & Technology Management, PO Box 751, ETM, Portland, OR, 97207-0751, USA

^d Chaoyang University of Technology, Taiwan

ARTICLE INFO

Keywords:

Online social media
Online social media marketing
Pleasure-arousal-dominance model
Flow experience
Purchase intention

ABSTRACT

Online social media marketing has become a mainstream marketing approach, with huge and rising sales volume. Drawing on the pleasure-arousal-dominance model and flow theory, this study empirically investigates the relationships among perceived value, flow experience, emotional pleasure, and purchase intention by using a questionnaire survey of 257 consumers of Tiktok subordinating to online social media marketing in China. The results indicate that hedonic value and utilitarian value are positively associated with consumer purchase intention, respectively. Emotional pleasure mediates the relationship between perceived value and purchase intention, while flow experience positively moderates the relationships between hedonic value and emotional pleasure and between emotional pleasure and purchase intention. This study extends the online social media marketing literature related to consumer purchase intention. The results provide implications for future research and for operators and marketers.

1. Introduction

Social media is an integrated communication tool [1,2] to facilitate connections between friends, whose channel becomes an important route for the exchange and production of news and information [3]. The adoption of social media has recently shown enormous growth in communicating and promoting new or existing products or services because of its significant effect in affecting consumer buying behavior [4]. From this, the emergence of online social media has decreased the interest of consumers towards employing traditional medial marketing [5]. As a result, social media is not only an online platform for consumers to communicate and share their lives, but also a platform for consumers to buy clothes, food and daily necessities as an online marketing channel [6].

Online social media marketing has gained much attention in the marketing literature [7]. The majority of earlier studies focus on measuring it in terms of its interactivity, perceived risk, customization, immediacy, information, entertainment, and trendiness [8] in social media marketing activities, and exploring the direct effect of online

social media marketing on buyer behavior [7] and purchase intention [9], but there is insufficient empirical evidence to confirm what factors influence consumer purchase intention on the premise of taking online social media marketing as the research background. In existing studies on consumer purchase intention, some scholars use Pleasure-Arousal-Dominance (PAD) model to investigate consumer purchase intention and behavior. PAD model is deemed as a mature dimensional space emotion description model to project human emotions to three-dimensional space to effectively describe and explain the composition of human emotions and distinguish different emotional states. Drawing on the PAD model, Graa and Dani-el Kebir [10] examined the mediation effect of customer emotions (pleasure, arousal, and dominance) on the relationship between situational factors and impulse purchase behavior, [11] studied the effect of ambient scent on consumers' behavioral and emotional responses in retail environment. Wherein pleasure is one most important dimension of PAD model [12] and refers to an emotional variable that reveals the degree to which pleasant or unpleasant experience and feeling deactivated or activated is put into emotions of consumers [13].

* Corresponding author.

** Corresponding author. Portland State University, USA Dept. of Engineering & Technology Management, PO Box 751, ETM, Portland, OR, 97207-0751, USA.
E-mail addresses: 20171482@qq.com (W. Zhang), hbue.wb@163.com (W. Zhang), ji2td@pdx.edu (T.U. Daim).

Some studies believe flow theory has been applied extensively in online shopping [14] and social media usage behavior [15]. It proposes the construct of flow is essential to understand social shopping behavior of consumers [16]. Usually, flow represents a heightened state of energy, concentration, and focus when involving in various daily specific activities, i.e., playing sports, or watching movies [17]. A person who is in a stage of flow commonly encounters an enjoyable and pleasant experience and even owns a high degree of controlling her/his behavior when performing a task [18]. Consequently, the person is immersed in a specific activity with higher level of pleasure and concentration, indicating seamless action that occurs when performing that task. Meanwhile, other studies argue online shopping involves different types of interaction that establish a sense of telepresence or immersion [19] and is able to produce flow experience [20]. When experiencing flow, consumers filter out irrelevant thoughts and perceptions and become highly focused, and their consciousness is narrowed gradually and only responds to definitive feedback and specific targets [21]. However, scholars hold various points of view on the impact of flow experience. For instance, Yi and Yi [22] adopted flow experience as a mediator to analyze the gift-giving mechanism of viewers in live streaming media. Flow experience has a positive [23], or negative [24] or even no significant [25] effect on online purchase.

In online consumer purchase intention literature, most studies confine themselves to consideration of online purchase processes within the context of online shopping by ignoring hedonic and utilitarian characteristics [26]. However, some scholars even point out the important effect of perceived value - hedonic and utilitarian value and emotions, in consumer purchase intention and behavior [13,27]. Perceived value is taken as an indispensable variable to understand consumers' emotional responses to new products and services [28] and is associated with consumers' flow as Csikszentmihalyi [21] believed flow as the holistic experience of acting with total involvement. Bridges and Florsheim [29] even illustrated the effects of flow vary in hedonic and utilitarian processes.

Based on the aforementioned analysis, there has been less studies on consumer purchase intention in online social media marketing in accordance with PAD model and flow theory, combined with hedonic and utilitarian value, but both of them are crucial to the development of this study. Sellers and consumers in online social media marketing create the virtual, intuitive, visible and communicable face-to-face transaction environment together, where consumers are in a relaxed state to watch new product information released and their choices to consume are affected consequently [30]. In this sense, consumers have different understanding and positioning of products sold in online social media marketing. Their desire and willingness to buy are stimulated by multiple factors. Via online social media marketing, hedonic value has a significant influence on emotional responses during product trial, formation of attitude and future utilization [31] and also, consumers have different new cognitive perception on the functions of utilitarian value, by which consumers feel it is a way to kill time and enjoy watching live broadcast commerce. It resonates with live content with psychological appeal and transforms that into consumers' purchase power. As a result, drawing on PAD model and flow theory, this study empirically investigates how consumer purchase intention in online social media marketing is affected by its value perceived, especially what dual effect flow and emotion present, and further to reveal the underlying mechanism.

This article is organized as follows: The following section develops a theoretical model with a series of hypotheses, followed by methodology and data analysis and results. Further, this article provides the conclusion, implications, and limitations and future research direction.

2. Theoretical framework and hypotheses

Drawing on PAD model and flow theory, this article proposes a theoretical model with several hypotheses for testing, as shown in Fig. 1.

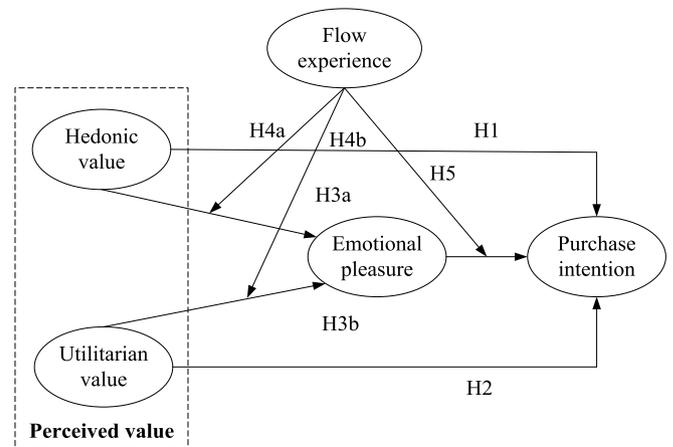


Fig. 1. Theoretical framework.

2.1. Perceived value and purchase intention in online social media marketing

The construct of perceived value (utilitarian value and hedonic value) has been widely applied to examine the factors that may influence purchase intention of new products and services [32] in consumer purchase behavior studies. Perceived value refers to consumers' overall assessment of service or product utility, which relies on consumers' perception of what they are offered and obtained [33]. Usually, it is understood from hedonic and utilitarian aspects.

Hedonic value reflects different non-functional motivations of shopping, i.e., effect, gratification, and adventure [34,35], all of which are usually associated with entertainment, happiness or fun that consumers will be experiencing when they do online shopping [36]. Hedonic value perceived by consumers greatly increases their emotional responses in receptive attitude and active trial of new products or services in the future [31]. The extant studies have demonstrated the importance of hedonic value to promote consumer purchase intention [37,38] in offline shopping. Meanwhile, utilitarian value is related to consumers' cognitive perception of effectiveness, efficiency of shopping [36], whose functional and instrumental support may help consumers fulfill certain tasks because consumers usually have specific demands that motivate them to purchase products or services during media activities [39]. Therefore, hedonic value and utilitarian value are able to promote consumer purchase intention towards effectiveness of products or services in different ways.

In this study, for hedonic value, consumers are provided with a live site in online social media marketing to find, share, and assess new products, where it is easy and thoughtful for them to communicate with the seller, like asking questions they care about or the seller giving full display of new products as required. It is very convenient for consumers to do shopping without any concern of time or location or even by sitting or lying down in the most comfortable position, and hence, they are eager and pleased to buy products just as a way of killing time and with no shopping burden. Also, online social media marketing happens in a live broadcast commerce room, where it is characterized by warm color decoration and professional relaxing atmosphere, leading consumers to be devoted to interactive shopping dominated by seller's personalized attractive excellence. Given a good seller-buyer relationship established, consumers are willing to click on the yellow shopping chart shown at the bottom of page to purchase products they like.

In addition, for utilitarian value, the seller introduces new product's size, material, fabric or functions one by one to consumers with patience, such as trying on new clothes or tasting new food, so that consumers can know more about them they are interested. Further, there is a public screen that scrolls in real time, from which new consumers could view comments released by others to see if the product is

as good as the seller describes. That is a way of decreasing information asymmetry which results in psychological purchase overload, and a way of enabling consumers to understand new product's real practicality, thereby promoting consumers to foster purchase intention. Thus, we propose the following hypotheses:

H1. Hedonic value is positively associated with users' purchase intention.

H2. Utilitarian value is positively associated with users' purchase intention.

2.2. Perceived value, emotional pleasure, and purchase intention in online social media marketing

Pleasure in emotions refers to the degree to which a person feels happy and joyful. This positive pleasure mediates the relationship between environmental cues and behaviour [40]. Environmental cues are those valuable information that consumers get from specific hedonic or utilitarian situations where consumers' emotional pleasure is dominated to enable their purchase intention. This is explained that a good mood has a positive effect on a consumer's cognition in psychological studies, in other words, the products are beautiful when consumers are in a good mood, inspiring them to purchase new products.

As a result, businesses have adopted different means to attract consumers. For instance, consumers' moods are boosted to think highly of new products if giving them gifts or shopping coupons [41]. Meanwhile, nice and pleasant music accommodates consumers to have better perception of product quality [42] as a cognitive appraisal in participant-shopping context that gives rise to positive emotional state. The resulting emotion is pleasure that yields more favorable attitude of consumers than that of unpleasant emotion [43]. Based on above, hedonic value and utilitarian value have a positive impact on consumers' level of emotional pleasure and hence, promote their positive purchase intention.

In our study, consumers have direct access to critical and useful utilitarian value of new products by watching reviews of past purchases left by others on public screen and by comparing past sales records in online social media marketing. This act saves them energy and time to look for the right product more easily and faster, in a way to reduce consumers' doubts but to improve their ease to shopping. Given that, consumers respond with positive emotions that they will purchase new products with pleasure. Also, the seller tries best to establish a shopping atmosphere for the scene to arouse consumers' interest in online social media marketing. For example, the seller sings a song or tells a joke to enliven the atmosphere or draw orders free of charge to consumers from time to time, for that reason to lift up their impetus towards emotional state - psychologically happy. From this, consumers are willing to purchase. Additionally, every seller is a good-looking and handsome young woman and often dresses up like a professional model, which to some extent gives consumers chances to enjoy visual feast - aesthetic feeling. As described above, consumer purchase intention is promoted. Therefore, we propose the following hypotheses:

H3. Emotional pleasure mediates the relationship between perceived value and purchase intention.

H3a. Emotional pleasure mediates the relationship between hedonic value and purchase intention.

H3b. Emotional pleasure mediates the relationship between utilitarian value and purchase intention.

2.3. Perceived value, flow experience, and emotional pleasure in online social media marketing

According to the flow theory, flow experience is a crucial factor that impacts consumers' attitudes towards a target [44]. Attitude stands for

consumers' affection level about that target, covering their consistent response of like or dislike. It can be said shopping online provides favorable experience to consumers and thus makes them have positive attitudes, thereby positively affecting their purchase intention online [45]. More specifically, this process accelerates consumers' in-depth understanding of product value as they witness more the benefits of online shopping, such that their pleasure is increased accordingly [45, 46]. Flow experience also refers to a multi-faceted optimal experience characterized by intrinsic benefits and accompanied by positive quality of experience. As flow experience increases, consumers emotionally perceive the worthiness of product value.

More specifically, utilitarian value brings consumers with emotional pleasure, as flow experience deepens, they get more involved in concentration, focus, involvement, and control in emotional shock towards utilitarian value, through which consumers become more sensitive to their understanding of new products, thereby strengthening the impact of utilitarian value on consumers' emotional pleasure. In the same vein, hedonic value is responsible for making consumers emotionally pleased. With the improvement of flow experience, consumers' cognitive absorption is enhanced to make them more enjoy products, dedicated to engaging in emotional state of pleasure stimulated by hedonic value of products.

In our study, one of the major features in online social media marketing is high interactivity, during which consumers' emotional pleasure is stimulated by their interaction. Song and Shi [47] reported that flow experience has a marked effect on users' perception of utility and satisfaction of online shopping websites, in order to influence consumer loyalty and trust in online shopping. As flow experience increases, consumers' psychological satisfaction for new products' utilitarian value - novel functions and serviceable effect, is improved more, giving rise to more emotional pleasure and satisfaction towards inclination to purchase. For instance, the seller guides consumers in online social media about how to interact with him/her. Sometimes, the seller invites consumers to give thumbs up by clicking screen double times, or asks them if this product is their favorite one, if it is, consumers need to follow the seller's instruction to typewrite number 1 on public screen, or inquires consumers about which welfare product or price they want after the seller presents a collection of products. All these moves are to mobilize consumers' flow degree, keep them awake and active in the participation with the seller, thus driving their emotional pleasure uplifted.

Moreover, a new form of entertained business is created in online social media marketing. As understandable, it is convenient for consumers to watch new products launched and buy them. Usually, a common technique used is to make up a short video in advance in order to heat up the upcoming new products and attract more attention of potential consumers, thus it opens up the prologue of live broadcast commerce. In this sense, as flow experience increases, consumers are happier to have fun in and become loyal to online social media, promoting them to talk on public screen with the seller and accepting more the effect of hedonic value of products on their emotional pleasure. For example, the seller continues to remind consumers of not leaving the room but wait for coupons or lotteries she/he will issue later. In another case, the seller is good at chatting with consumers to set off a friendly atmosphere, close the distance between them like real friends, and improve consumers' loyalty or more positive attitudes towards new products. All these moves are to put consumers into online social media marketing with their whole attention by leaving hope for them and hence increase their flow degree, by which consumers get more pleasurable experiences leading from higher hedonic value, thereby generating more emotional pleasure. Thus, we propose the following hypotheses:

H4. Flow experience positively moderates the relationship between perceived value and emotional pleasure.

H4a. Flow experience positively moderates the relationship between

hedonic value and emotional pleasure.

H4b. Flow experience positively moderates the relationship between utilitarian value and emotional pleasure.

2.4. Emotional pleasure, flow experience, and purchase intention in online social media marketing

Emotional pleasure is defined as the extent to which they feel happy, joyful, or satisfied in a specific context [48], representing a person’s positive reaction to environmental cues. Its underlying mechanism is to affect a person’s behavioral measures by utilizing his/her emotional feeling as a guide in assessing any objective [49]. Flow experience is regarded as interesting, exciting, pleasant and fun. Consumers value the online shopping in social media marketing not only for the utilitarian benefits obtained but also for the hedonic benefits of enjoyment and gratification gained from the online shopping act [50]. Moderated by flow experience, consumers’ attitudes and purchase intention are affected gradually by their positive emotions and thus to accept shopping services on mobile [45]. Consumers are happy to expect quality shopping experiences. In other words, flow experience is capable of attracting consumers and is significant to their subsequent attitudes [51]. Its increase inevitably affects emotionally happy state of a person or the influence of loyalty on purchase intention [52].

In our study, exchange interaction frequently occurs in online social media marketing, where consumers are impressed by the seller’s unique way of performing. As consumers’ flow experience improves, their involvement, concentration, and enjoyment are increased to have a positive effect on their emotional pleasure on purchase intention. In online social media, strange thoughts or troubles of waiting in line for shopping are eliminated out of consumers’ minds but only concentrating on listening to pleasing music and doing some shopping at their will. Consumers have a nice chat with the seller in comfortable postures at home or anywhere, so that they are more pleased to spend time and efforts in purchase in this manner. That is to say, moderated by flow experience, consumers’ mental state is controlled to their own world. Their thought processes are signaled by that effect in a positive emotional state and hence, they are more inclined to accept the happy environment created in online social media. It highlights a way to alter consumers’ psychological orientation fundamentally and then, they are more willing to purchase goods. Accordingly, we propose the following hypothesis:

H5. Flow experience positively moderates the relationship between emotional pleasure and purchase intention.

3. Methodology

3.1. Sample and participants

Tiktok is an important marketing tool in online social media, with huge influence and promising development prospects. Tiktok has broken the record of live sales in its peculiar way by creating single-course turnover reached up to 167 million yuan for 23 products, and by realizing over 130 million yuan of sales in a 4-h live broadcast commerce debut. As hedonic value and utilitarian value of Tiktok is outstanding and has typical characteristics of online social media marketing, this study selects Tiktok as a case study, whose distribution of survey questionnaires issued lasted for one and a half months between 2018 and 2019 by using electronic copies of nationwide.

To minimize sample bias, online questionnaire survey was administered randomly to volunteers who were fans of online shopping in Tiktok via a professional third-party platform-WenJuanXing. Also, we contacted in person a number of participants who were regulars in big live broadcast rooms where clothes or food were sold online. Of 451 surveys distributed (293 questionnaires issued by WenJuanXing, 158 questionnaires administered by ourselves), 286 participants returned

their completed questionnaires (approximately 63.4% response rate), while 29 questionnaires were discarded for unavailable or unmatchable reasons, resulting in an effective response rate of 57%. The profiles of respondents are listed in Table 1.

3.2. Measures

A questionnaire survey was developed into two parts to test our theoretical model. To ensure equivalence of meaning, we translated and back-translated into Chinese all of the measures, following the procedure by Brislin [53]. The questionnaire was sent to three academic experts in its drafting form for their review, and then was modified depending on their suggestions, so as to facilitate the wording preciser. To evaluate the reliability and validity of items, we carried out a pilot test among fifteen participants by employing Chinese questionnaires, eleven of whom replied with comments, which were utilized to refine and modify questionnaires items.

The questionnaire included 26 measurements to define five constructs, all of which were adapted from the existing literature, as shown in Table 2. Every item that corresponded to the construct was measured by using a seven-point Likert scale, and all answer choices ranged from “disagree strongly” (1) to “agree strongly” (7). Utilitarian value(Cronbach’s α 0.94), hedonic value (Cronbach’s α 0.86), emotional pleasure (Cronbach’s α 0.96), flow experience (Cronbach’s α 0.92), and purchase intention (Cronbach’s α 0.96) demonstrated acceptable reliability.

In order to test the validity of questionnaires in this study, we conducted an exploratory factor analysis (EFA), as shown in Table 3. 26 items were clustered into five main factors, indicating that our test questionnaire had good structural validity.

This study used structural equation model in Mplus 7.4 to test our theoretical model, in a way to estimate multiple relationships among hypotheses simultaneously and derive overall fit indexes of our hypothetical model. Consistent with the approach advocated by Anderson & Gerbing [54]; the measurement model was tested first, and then the nested models were compared to obtain the optimal structural model. Subsequently, it estimated the significance of paths and performed a hypothesis test. According to the suggestions [55], we applied the paired product index method to generate interaction terms.

By comprehensively considering the model’s simplicity and making full use of each measurement item, the balanced packing method [56] was used to incorporate measurement items of hedonic value, utilitarian value, and emotional pleasure into three packages, multiplying them with those items that ranked the top three in factor loading of measurement items of flow experience. At last, three indicators were formed

Table 1
Demographic profiles of respondents (N = 257).

Measure	Items	Frequency	Percentage %
Gender	Male	167	65
	Female	90	35
Age	18–25	134	52
	26–30	72	28
	31–40	39	15
	40 above	12	5
Education	Junior college or below	27	69
	Bachelor	46	118
	Master or above	27	70
How long do you watch Tiktok live broadcast every time?	Within 30 min	46	18
	30 min to 1 h	83	32
	1–2 h	74	29
	2 h above	54	21
	Less than 1 month	10	4
How long have you been watching Tiktok live broadcast?	1–3 months	28	11
	3–6 months	72	28
	6 months above	147	57

Table 2
Constructs and measurement items.

Construct	Question items	Origin
Utilitarian value	UV1: I could feel accomplished in purchasing the product that I saw on Tiktok live broadcast.	Anil, Khaldoon, Fevzi, & Cihan, 2015; Rodrigo, Babak, Thomas, & Kevin, 2018; Spreng, MacKenzie, & Olshavsky, 1996
	UV2: Purchasing the product that I saw on Tiktok live broadcast would make my life easier.	
	UV3: I think of purchasing the product that I saw on Tiktok live broadcast as an expert in the services (products) it offers.	
	UV4: Purchasing the product that I saw on Tiktok live broadcast would fit with my interest.	
	UV5: The information and products that I saw on Tiktok live broadcast would be what I would look for.	
	UV6: On Tiktok live broadcast, I could get the information or product that I might need.	
Hedonic value	HV1: During the process of watching on Tiktok live broadcast, I felt the excitement of purchasing the product that I saw on it.	Anil et al., 2015;Rodrigo et al., 2018; Spreng et al. 1996
	HV2: While purchasing the product that I saw on Tiktok live broadcast, I felt a sense of adventure.	
	HV3: I enjoyed being immersed in exciting new product that I saw on Tiktok live broadcast.	
	HV4: Compared to other things I could have done, the time spent in online purchasing the product that I saw on Tiktok live broadcast was truly enjoyable.	
	HV5: The music that they played on Tiktok live broadcast entertained me.	
Purchase intention	PI1: Whenever I need to purchase, I intend to purchase the product that I saw on Tiktok live broadcast.	José, Catarina, Tiago, Ramiro, & Frederico, 2019; Pavlou & Fygenson, 2006
	PI2: Whenever I need to purchase, I plan to purchase the product that I saw on Tiktok live broadcast.	
	PI3: I predict that I would purchase the product that I saw on Tiktok live broadcast.	
	PI4: It is highly that I will purchase the product that I saw on Tiktok live broadcast.	
	PI5: I will strongly recommend others to purchase the product that I saw on Tiktok live broadcast.	
Emotional pleasure	While watching the product information on Tiktok live broadcast, to what extent did you feel?	Eigne et al., 2005; [13];Russell, 1980
	EP1: Angry-satisfied	
	EP2: Unhappy-happy	
	EP3: Dissatisfied-very pleased	
	EP4: Sad-joyful	
	EP5: Disappointed-delighted	
Flow experience	While watching Tiktok live broadcast, you see the product information, to what extent did you feel?	Lee, Moon, Kim, & Yi, 2015; Lee & Tsai,2010

Table 2 (continued)

Construct	Question items	Origin
	FE1: I felt time passes quickly.	
	FE2: I felt curious.	
	FE3: I never thought of other things.	
	FE4: I was entirely absorbed.	

Table 3
Exploratory factor analysis results.

	1	2	3	4	5
UV1	.229	.792	.161	.196	.237
UV2	.235	.772	.292	.211	.238
UV3	.206	.692	.399	.190	.226
UV4	.231	.729	.365	.154	.172
UV5	.195	.807	.295	.131	.152
UV6	.135	.800	.150	.214	.234
HV1	.275	.319	.353	.146	.680
HV2	.058	.077	.213	.047	.738
HV3	.273	.263	.371	.114	.711
HV4	.235	.260	.416	.103	.663
HV5	.116	.309	-.049	.155	.711
EP1	.854	.192	.181	.163	.118
EP2	.873	.189	.209	.119	.128
EP3	.856	.241	.201	.168	.090
EP4	.826	.126	.187	.200	.207
EP5	.838	.157	.187	.193	.224
EP6	.796	.190	.232	.195	.092
FE1	.225	.186	.114	.829	.117
FE2	.246	.241	.099	.834	.120
FE3	.117	.145	.182	.859	.067
FE4	.210	.167	.196	.834	.120
PI1	.296	.413	.703	.186	.236
PI2	.247	.344	.769	.224	.224
PI3	.279	.358	.753	.169	.257
PI4	.264	.301	.784	.233	.230
PI5	.348	.246	.769	.127	.247

to measure the interaction terms between hedonic value and flow experience, between utilitarian value and flow experience, and between emotional pleasure and flow experience. When examining the mediating effect of emotional pleasure, we used the bootstrap approach with reference to the suggestions of Preacher & Hayes [57]. As this method did not require indirect effect to obey normal distribution, it was more efficient than the sobel test.

4. Results

As shown in Table 4, individual values (including utilitarian value and hedonic value), age and occupation are significantly associated with emotional pleasure and purchase intention, respectively. However, education is significantly associated with purchase intention and is marginally related to emotional pleasure; time is only marginally related to purchase intention. All correlation coefficients are below 0.70, indicating that there is no multicollinearity between variables.

We evaluate the goodness of fit of the hypothesis model and compare it with the substitution model. The fit index is: $\chi^2(342) = 669.87, p < 0.001, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, SRMR = 0.06$, showing good goodness of fit. The substitution model is a fully mediation model in which the paths from hedonic value to purchase intention and from utilitarian value to purchase intention are removed. The substitution model has a fit index of $\chi^2(344) = 741.96, p < 0.001, CFI = 0.93, TLI = 0.92, RMSEA = 0.07, SRMR = 0.07$, weaker than the hypothesis model, and there is a significant Chi-Square difference ($\Delta\chi^2(2) = 72.09, p < 0.01$). It shows that at least one variable of hedonic value and utilitarian value have a significant and direct effect on purchase intention.

The results of standardized path estimates of the hypothetical model are presented in Fig. 2. Hypothesis 1 suggests that hedonic value is

Table 4
Descriptive statistics and correlations.

Variables	mean	SD	1	2	3	4	5	6	7	8
1. age	2.74	1.09								
2. occupation	5.15	5.14	.76***							
3. education	2.45	0.84	.44***	.41***						
4. time	1.54	0.85	-.08	.03	-.19**					
5. utilitarian value	3.41	1.39	.17**	.18**	.12 [†]	.13*				
6. hedonic value	3.55	1.38	.15*	.13*	.16*	.10	.58***			
7. emotional pleasure	3.75	1.29	.17**	.18**	.12 [†]	.05	.54***	.56***		
8. flow experience	3.80	1.63	.03	.04	.04	.07	.52***	.40***	.49***	
9. purchase intention	3.34	1.59	.28***	.25***	.18**	.12 [†]	.69***	.65***	.67***	.50***

The measurement model consists of five latent variables, i.e., hedonic value, utilitarian value, emotional pleasure, flow experience, and purchase intention. The confirmatory factor analysis results report that $\chi^2(289) = 634.25, p < 0.001$; RMSEA = 0.07, SRMR = 0.04; CFI = 0.95, TLI = 0.9, implying that the measurement model has good goodness of fit. In addition, every factor loading is greater than 0.50, thus the structural model can be tested.

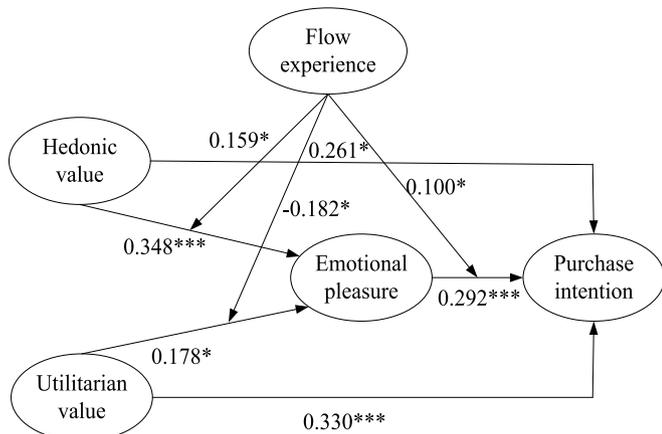


Fig. 2. Standardized path estimates of the hypothesized model.

positively correlated with purchase intention. Hypothesis 2 proposes that utilitarian value is positively correlated with purchase intention. Consistent with the hypotheses, the results of path estimates demonstrate that both hedonic value and utilitarian value are positively correlated with purchase intention ($\beta_1 = 0.26, p < 0.001$; $\beta_2 = 0.33, p < 0.001$). Thus, Hypothesis 1 and Hypothesis 2 are supported. Hypothesis 4a predicts that flow experience moderates the relationship between hedonic value and emotional pleasure, while Hypothesis 4b predicts flow experience moderates the relationship between utilitarian value and emotional pleasure. The results of path estimates illustrate that flow experience aggravates the positive relationship between hedonic value and emotional pleasure ($\beta = 0.16, p < 0.05$), and lessens the positive relationship between utilitarian value and emotional pleasure ($\beta = -0.18, p < 0.05$). Therefore, Hypothesis 4a is supported but Hypothesis 4b is not. Hypothesis 5 predicts that flow experience moderates the relationship between emotional pleasure and purchase intention. According to the results of path estimates, flow experience aggravates the relationship between emotional pleasure and purchase intention ($\beta = 0.10, p < 0.05$), Hypothesis 5 is thus supported.

To more intuitively present the interaction effect between flow experience and hedonic value and between utilitarian value and emotional pleasure, this study takes mean values of independent variables and moderator variables plus or minus one standard deviation value, depicting the strength of relationships between hedonic value and emotional pleasure, between utilitarian value and emotional pleasure, and between emotional pleasure and purchase intention, at different levels of flow experience. The results are shown in Fig. 3, Fig. 4, and Fig. 5, respectively.

It can be seen from Fig. 3 that when an individual has a higher level of flow experience, the positive correlation between hedonic value and emotional pleasure is stronger. The simple slope test further validates

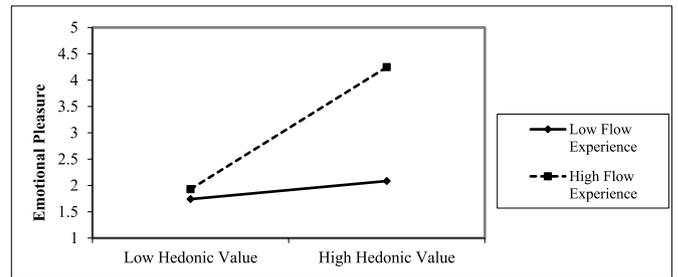


Fig. 3. Interaction of hedonic value and flow experience on emotional pleasure.

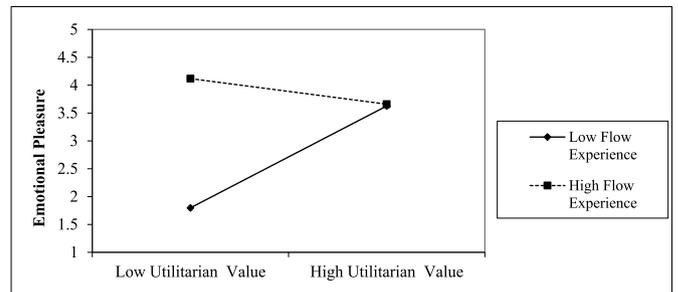


Fig. 4. Interaction of utilitarian value and flow experience on emotional pleasure.

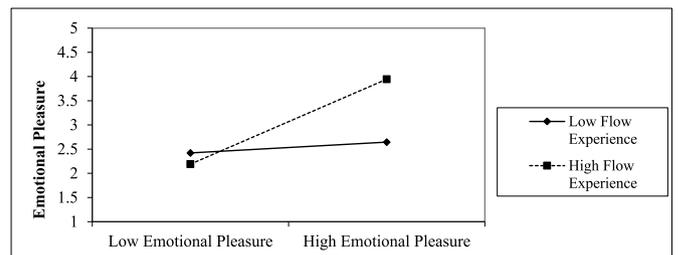


Fig. 5. Interaction of emotional pleasure and flow experience on purchase intention.

our findings, reporting that for individuals with high levels of flow experience, hedonic value is significantly and positively correlated with emotional pleasure ($\beta = 0.70, p < 0.001$); for individuals with low levels of flow experience, the relationship between hedonic value and emotional pleasure is not significant ($\beta = 0.26, p > 0.05$). As seen in Fig. 4, there is a stronger positive correlation between utilitarian value and emotional pleasure when the individual has a lower level of flow experience. The simple slope test also demonstrates that for individuals

with low levels of flow experience, hedonic value is significantly and positively correlated with emotional pleasure ($\beta = 0.50, p = 0.001$); for individuals with high levels of flow experience, hedonic value and emotional pleasure are not significantly correlated ($\beta = -0.01, p > 0.05$).

To further verify the hypotheses, as can be seen from Fig. 5, when individuals have high levels of flow experience, there is a stronger positive correlation between emotional pleasure and purchase intention. The findings of the simple slope test indicate that for individuals with high levels of flow experience, emotional pleasure is significantly and positively correlated with purchase intention ($\beta = 0.56, p < 0.001$); for individuals with low levels of flow experience, there is a significant marginal positive correlation between emotional pleasure and purchase intention ($\beta = 0.20, p < 0.1$). Therefore, the findings are verified further.

This study examines the significance of indirect effect by using the bootstrap approach suggested by Preacher & Hayes [57] to test Hypothesis 3a and Hypothesis 3b. These hypotheses predict emotional pleasure mediates the relationships between hedonic value and purchase intention and between utilitarian value and purchase intention. By repeating sampling 1000 times in Mplus 7.4, it obtains the estimates of indirect effect and bias-corrected bootstrap confidence intervals. The results are shown in Table 5. It is found that hedonic value has a significant and direct effect on purchase intention ($\beta = 0.28, 95\% \text{ bcCI} = [0.150, 0.416]$), and has a significant and positive effect on purchase intention ($\beta = 0.12, 95\% \text{ bcCI} = [0.056, 0.219]$) via the effect of emotional pleasure, indicating that emotional pleasure partially mediates the relationship between hedonic value and purchase intention, thereby supporting Hypothesis 3a. In addition, utilitarian value has a significant and direct effect on purchase intention ($\beta = 0.37, 95\% \text{ bcCI} = [0.242, 0.517]$), and can significantly and positively influence purchase intention through the effect of emotional pleasure ($\beta = 0.09, 95\% \text{ bcCI} = [0.039, 0.157]$), thus Hypothesis 3b is supported.

5. Discussion and conclusion

This paper explores why and how consumers have purchase intention in online social media marketing, highlights the dual effects of flow and emotions on consumers in this context, and deeply reveals its underlying mechanism. The results indicate that hedonic value and utilitarian value have a positive effect on purchase intention, respectively. Emotional pleasure mediates the relationships between utilitarian value and purchase intention and between hedonic value and purchase intention. Flow experience positively moderates the relationships between hedonic value and emotional pleasure, and between emotional pleasure and purchase intention.

Value is considered a higher level objective to guide and motivate consumers to make decision and act [58], and increase consumers' loyalty to product or service providers [59]. Those are the reasons that it increases consumers' trust in product or service and thus they are committed and willing to purchase. In online social medial marketing, consumers feel satisfied and immersed in the shopping state without consideration of time, and get involved in the shopping scene designed by the seller in the live broadcast room, thus consumers become loyal

fans and perceive the happiness and multi-dimensional advantages of shopping. Consequently, H1 and H2 are supported. The results are consistent with the findings of Furner et al. [60] and Yi-Ru [33] in mobile applications that perceived value has a positive and direct effect on building business-consumer relationship and on purchase intention via value-adding experience in social media or in branded mobile applications.

It has been widely known that perceived value is a key element to better understand emotional responses of consumers to obtain competitive advantage [28]. Emotion is associated with a source specifically known to affect consumers' tendency to behave in a certain manner [61]. More clearly, Jensen & Klastrup [62] found that consumers' responses are promoted by rational and emotional assessment on the object. In online social media marketing, rational assessment usually refers to an objective understanding of product features, performance, and attributes. When the expected results are achieved via the evaluation of usefulness and entertainment, consumers will feel satisfied and will reach a kind of emotional state for shopping, so they are willing to buy. In other words, the value consumers perceive strengthens consumers' psychological motivation in terms of utilitarian and hedonic aspects, thus consumers are encouraged to form positive emotions and shopping intention. Therefore, H3b and H3a are supported.

Flow experience refers to a psychological mixture of state in which users can be engaged within a stimulus completely without noticing any negative experiences [15] and potential treats [63]. It involves a state of intrinsic enjoyment that enhances a person's intention to perform a certain task due to its enjoyment and pleasure nature. Taking the adoption of mobile shopping services as an example, consumers can have positive flow experiences, leading to positive emotions and satisfaction, because positive emotions show gradual impact on consumer attitude and purchase intention in the flow process [64]. Likewise, flow experience is taken a variable to control consumers' spirit and attention psychologically in online social media marketing, which can promote consumers' mental investment from the perspective of emotional enjoyment, leading to the discovery that with the increase of flow experience, the role of hedonic value on emotional pleasure also increases. Thus, H4a is confirmed.

However, Bridges and Florsheim [29] pointed out that flow effects vary in hedonic and utilitarian processes, and hence, our study finds H4b is not supported. This can be explained as that the construct utilitarian value of a product is a rational concept and needs to be known by consumers realistically and objectively, so it is the intuitive feeling that consumers own and is not easy to be directed by others. Thus, it can be understood that as flow experience increases, there is no significant effect of utilitarian value on emotional pleasure. This is the fundamental reason why it is different from that between hedonic value and emotional pleasure, as emotions are volatile and subject to being influenced by other factors. Generally speaking, no matter how much emotional input flow experience brings, it cannot replace the position of objective cognition of utilitarian efficacy and practical characteristics of the product itself, and there is no substitute for utilitarian effect on consumers' emotional pleasure, and consequently, it cannot foster a moderating effect.

Flow refers to an intrinsically optimal state in which an individual is engaged in an activity intensely to the exclusion of all other ideas, becoming a critical determinant of online experiences such as online shopping [65]. Flow experience entails consumers to make decisions on unplanned purchase when visiting online stores as consumers have higher levels of loyalty and satisfaction [66], and flow experience is more about getting consumers into a state of engagement and about keeping their spirits up while ignoring other factors. That contributes to stronger affective feeling. In this sense, consumers can get into a common experience mode, in which a good sense of emotion is manipulated in balance. Flow experience becomes stronger, consumers show more friendly and more favorable attitudes towards the products, thereby increasing the effect of consumers' emotional pleasure on purchase

Table 5
Direct and indirect effects of hedonic value and utilitarian value on purchase intention.

Path	Effect	95% Bias-corrected Bootstrap Confidence Intervals
Hedonic Value→Purchased Intention	0.28	[0.150, 0.416]
Hedonic Value→Emotional Pleasure→Purchased Intention	0.12	[0.056, 0.219]
Utilitarian Value→Purchased Intention	0.37	[0.242, 0.517]
Utilitarian Value→Emotional Pleasure→Purchased Intention	0.09	[0.039, 0.157]

intention. Thus, H5 is supported.

6. Theoretical implications

This study integrates flow theory with PAD model to theorize consumer purchase intention on online social media marketing, on which it reveals how dual effect of flow and emotion works on it.

First, this study supplements the consumer behavior literature by incorporating PAD model and flow theory in online social media marketing context, infused with hedonic and hedonic characteristics provided to consumers. Specifically, this study further discloses flow state and emotional pleasure in online social media marketing, where consumers are totally involved in the interaction with the seller with enjoyment and pleasure, in a way to display the relationships among perceived value, emotional pleasure, flow experience, and consumer purchase intention. Our results also verify the study of Bridges and Florsheim [29] that the effects of the flow vary in hedonic and utilitarian processes. That is, flow experience positively moderates the relationship between hedonic value and emotional pleasure but not between utilitarian value and emotional pleasure. Such findings extend the results of existing studies believing that there is a sparse relationship between flow experience and perceived ease of use and perceived usefulness for shopping in social networking services [16], as well as develop the effect of flow experience as a moderator, rather than a mediator on consumer's satisfaction and purchase intention [15].

Second, this study contributes to the online social media marketing literature by taking perceived value as a multidimensional variable to investigate how both utilitarian value and hedonic value affect consumer purchase intention. Our results extend the prior studies that only concentrate on studying perceived value from a utilitarian perspective, which is too simplistic or too narrow to accept holistic representations of value perception [67] and even ignores the complex nature of perceived value [68] in online social media marketing.

Third, this study further extends the emotions research in online social media marketing, and complements the studies of PAD model on purchase intention by taking emotional pleasure as a mediator to study consumer purchase behavior. Importantly, this study takes another step forward to investigate the effect of emotional pleasure on consumer purchase intention in online social media marketing, which makes up for the insufficiency of studies on emotional pleasure of PAD model. Our results are also consistent with the development trend of investigating how emotion influences consumer's behavior in online services [69].

7. Managerial implications

This study provides important insights into online social media marketers and operators. As reported in the analysis results, flow experience is critical to moderate the relationships between hedonic value and emotional pleasure and between emotional pleasure and purchase intention, these results inform operators and marketers to strengthen the scenarios where consumers are willing to put their attention more into with concentration and enjoyment, so that it promotes the effect of hedonic value on consumer purchase intention. Additionally, music congruent with online social media marketing scenarios is another good choice to highlight personalized mode and increase the quality of interaction with consumers, by which they would be attracted into and their flow experience is thus facilitated. These situations can create new chances for differentiating services [70].

Moreover, our results show that emotional pleasure mediates the relationship between perceived value and consumer purchase intention. The results inform operators and marketers about product design attributes and features in a diversified style from both utilitarian value and hedonic value perspectives. In the same vein, it emphasizes to decorate products technically by means of unique editing skills, these warm and comfortable settings would accelerate the speed of consumers to relieve psychological and financial pressure that if they bought wrong products

but were unable to return those products. Consequently, it gives birth to positive sentiments of consumers, to the extent that they will feel relaxed and happy in mood, thus promoting consumers' voluntary purchase intention.

8. Limitations and future research directions

Our study has several limitations that provide suggestions for future studies. First, this study verifies the mediating effect of emotional pleasure in online social media marketing. Future studies may focus on investigating other important elements of PAD model in a similar context to find what effect they have on consumer purchase intention, i. e., arousal, or perceived behavioral control. Second, this study adopts an empirical research method to analyze different relationships between variables, so future researches are encouraged to employ longitudinal qualitative studies to reveal the profound mechanism underlying their relationships. Third, this study only examines the impact of perceived value, emotional pleasure, and flow experience on purchase intention in online social media marketing, so our results can be integrated into future studies to improve their applicability in other social commerce context, i.e., online social advertising, reviews and rating, communities and forums, social shopping, and referrals and recommendation [71].

Declaration of competing interest

The authors declare that there's no financial/personal interest or belief that could affect their objectivity, or if there is, stating the source and nature of that potential conflict. Hereby all the authors state explicitly that there is no potential competing interests exist.

Data availability

Data will be made available on request.

Acknowledgement

This work was supported by the National Natural Science Foundation of China (Grant #72104115), the Late Funded Project of National Social Science Foundation of China (22FGLB026), Humanities and Social Sciences Research Project of the Ministry of Education of China (#20YJC630218), Project Supported by China Scholarship Council (CSC No.202008370107).

References

- [1] Severina Cartwright, Hongfei Liu, Chris Raddats, Strategic use of social media within business-to-business (B2B) marketing: A systematic literature review, *Ind. Market. Manag.* 97 (2021) 35–58.
- [2] Xuefan Dong, Ying Lian, A review of social media-based public opinion analyses: challenges and recommendations, *Technol. Soc.* 67 (2021), 101724.
- [3] E.C. Tandoc Jr., R. Ling, O. Westlund, A. Duffy, D. Goh, L. Zheng Wei, Audiences' acts of authentication in the age of fake news: a conceptual framework, *New Media Soc.* 20 (8) (2018) 2745–2763.
- [4] J. Park, H. Hyun, T. Thavisay, A study of antecedents and outcomes of social media WOM towards luxury brand purchase intention, *J. Retailing Consum. Serv.* 58 (2021). Article 102272.
- [5] S. Chatterjee, A.K. Kar, Y.K. Dwivedi, Intention to use IoT by aged Indian consumers, *J. Comput. Inf. Syst.* (2021) 1–12.
- [6] Marat Zagidullin, Nergis Aziz, Sanat Kozhakhmet, Government policies and attitudes to social media use among users in Turkey: the role of awareness of policies, political involvement, online trust, and party identification, *Technol. Soc.* 67 (2021), 101708.
- [7] Jalal Rajeh Hanaysha, Impact of social media marketing features on consumer's purchase decision in the fast-food industry: brand trust as a mediator, *Int. J. Inform. Manag. Data Insights* 2 (2022), 100102.
- [8] E.J. Seo, J.W. Park, A study on the effects of social media marketing activities on brand equity and customer response in the airline industry, *J. Air Transport. Manag.* 66 (2018) 36–41.
- [9] A.N. Mason, J. Narcum, K. Mason, Social media marketing gains importance after Covid-19, *Cogent Bus. Manag.* 8 (1) (2021), 1870797.
- [10] A. Graa, M. Dani-el Kebir, Application of stimulus & response model to impulse buying behavior of Algerian consumers, *Serbian J. Manag.* 7 (1) (2012) 53–64.

- [11] B.J. Davies, D. Kooijman, P. Ward, The sweet smell of success: olfaction in retailing, *J. Market. Manag.* 19 (5e6) (2003) 611–627.
- [12] Minxue Huang, Ali Rizwan, Junyun Liao, The effect of user experience in online games on word of mouth: a pleasure-arousal-dominance (PAD) model perspective, *Comput. Hum. Behav.* 75 (2017) 329–338.
- [13] Carla Ruiz-Mafea, Kalliopi Chatzipanagiotoub, Rafael Curras-Pereza, The role of emotions and conflicting online reviews on consumers' purchase intentions, *J. Bus. Res.* 89 (2018) 336–344.
- [14] L. Gao, X. Bai, An empirical study on continuance intention of mobile social networking services: integrating the IS success model, network externalities and flow theory, *Asia Pac. J. Market. Logist.* 26 (2) (2014) 168–189.
- [15] J. Lin, S. Lin, O. Turel, F. Xu, The buffering effect of flow experience on the relationship between overload and social media users' discontinuance intentions, *Telematics Inf.* 49 (2020), 101374.
- [16] Hyowon Hyun, Toulany Thavisay, Suk Hyung Lee, Enhancing the role of flow experience in social media usage and its impact on shopping, *J. Retailing Consum. Serv.* (2021), 102492. Available online 22 February.
- [17] S.A. Ettis, Examining the relationships between online store atmospheric color, flow experience and consumer behavior, *J. Retailing Consum. Serv.* 37 (2017) 43–55.
- [18] C.H. Lee, J.J. Wu, Consumer online flow experience: the relationship between utilitarian and hedonic value, satisfaction and unplanned purchase, *Ind. Manag. Data Syst.* 177 (10) (2017) 2452–2467.
- [19] A. Mollen, H. Wilson, Engagement, telepresence, and interactivity in online consumer experience: reconciling scholastic and managerial perspectives, *J. Bus. Res.* 63 (9/10) (2010) 919–925.
- [20] C.I. Teng, L.S. Huang, S.P. Jeng, Y.J. Chou, H.H. Hu, Who may be loyal? Personality, flow experience and customer e-loyalty, *Int. J. Electron. Cust. Relatsh. Manag.* 6 (1) (2012) 20–47.
- [21] M. Csikszentmihalyi, *Beyond Boredom and Anxiety*, Jossey-Bass San, Francisco, CA, 1975.
- [22] L. Yi, P. Yi, What drives gift-giving intention in live streaming? The perspectives of emotional attachment and flow experience, *Int. J. Hum. Comput. Interact.* 37 (2021) 1317–1329.
- [23] A.V. Hausman, J.S. Siekpe, The effect of web interface features on consumer online purchase intentions, *J. Bus. Res.* 62 (1) (2009) 5–13.
- [24] H.J. Liu, Y.C. Shiue, Influence of Facebook game players' behavior on flow and purchase intention, *Soc. Behav. Pers.: Int. J.* 42 (2014) 125–133.
- [25] Behcet Yalin Ozkara, Mujdat Ozmen, Jong Woo Kim, Examining the effect of flow experience on online purchase: a novel approach to the flow theory based on hedonic and utilitarian value, *J. Retailing Consum. Serv.* 37 (2017) 119–131.
- [26] S.H. Zanjani, G.R. Milne, E.G. Miller, Procrastinators' online experience and purchase behavior, *J. Acad. Market. Sci.* 44 (5) (2016) 568–585.
- [27] T. Veseli-Kurtishi, Social media as a tool for the sustainability of small and medium businesses in Macedonia, *Eur. J. Sustain. Dev.* 7 (4) (2018) 262, 262.
- [28] S. Zielke, Shopping in discount stores: the role of price-related attributions, emotions and value perception, *J. Retailing Consum. Serv.* 21 (3) (2014) 327–338.
- [29] E. Bridges, R. Florsheim, Hedonic and utilitarian shopping goals: the online experience, *J. Bus. Res.* 61 (4) (2008) 309–314.
- [30] Zhai Xin, Analysis of music short video from the perspective of interactive ritual chain-Taking Tiktok App as an example, *New Media Research* 16 (2018) 78–86.
- [31] S. Menon, B. Kahn, Cross-category effects of induced arousal and pleasure on the internet shopping experience, *J. Retailing* 78 (1) (2002) 31–40.
- [32] A. Jamal, J. Sharifuddin, Perceived value and perceived usefulness of halal labeling: the role of religion and culture, *J. Bus. Res.* 68 (5) (2015) 933–941.
- [33] Regina Chen Yi-Ru, Perceived values of branded mobile media, consumer engagement, business-consumer relationship quality and purchase intention: a study of WeChat in China, *Publ. Relat. Rev.* 43 (2017) 945–954.
- [34] P.L. To, C. Liao, T.H. Lin, Shopping motivations on internet: a study based on utilitarian and hedonic value, *Technovation* 27 (12) (2007) 774–787.
- [35] M.J. Arnold, K.E. Reynolds, Hedonic shopping motivations, *J. Retailing* 79 (2) (2003) 77–95.
- [36] J.W. Overby, E.J. Lee, The effects of utilitarian and hedonic online shopping value on consumer preference and intentions, *J. Bus. Res.* 59 (10) (2006) 1160–1166.
- [37] K. Ryu, H. Han, S. Jang, Relationships among hedonic and utilitarian values, satisfaction and behavioral intentions in the fast-casual restaurant industry, *Int. J. Contemp. Hospit. Manag.* 22 (2010) 416–432.
- [38] M.A. Jones, K.E. Reynolds, M.J. Arnold, Hedonic and utilitarian shopping value: investigating differential effects on retail outcomes, *J. Bus. Res.* 59 (2006) 974–981.
- [39] Zhaoxia Zhang, Multidimensional Analysis of Music Social Short Video Software-Tiktok, vol. 8, *New Media Research*, 2018, pp. 140–146.
- [40] A. Mehrabian, J. Russell, *An Approach to Environmental Psychology*, MIT Press, Cambridge, MA, 1974.
- [41] A.M. Isen, T.E. Shalcker, The effect of feeling state on evaluation of positive, neutral, and negative stimuli: when you accentuate the positive do you eliminate the negative? *Soc. Psychol. Q.* 45 (1982) 58–63.
- [42] G. Gorn, M. Goldberg, K. Basu, Mood, awareness and product evaluation, *J. Consum. Psychol.* 2 (3) (1993) 237–256.
- [43] C. Obermiller, M.J. Bitner, Store atmosphere: a peripheral cue for product evaluation, in: D.C. Stewart (Ed.), *American Psychology Division, American Psychological Association, Washington, DC, 1984*, pp. 52–53.
- [44] Minseong Kim, Brijesh Thapa, Perceived value and flow experience: application in a nature-based tourism context, *J. Destin. Market. Manag.* 8 (2018) 373–384.
- [45] M.L. Korzaan, Going with the flow: predicting online purchase intentions, *J. Comput. Inf. Syst.* 43 (4) (2003) 25–31.
- [46] T.P. Novak, D.L. Hoffman, Y.F. Yung, Measuring the customer experience in online environments: a structural modeling approach, *Mar. Sci.* 19 (1) (2000) 22–42.
- [47] Z.J. Song, X.L. Shi, The loyalty of group purchase website: based on the flow and expectation confirmation theory, *Sci. Technol. Manag.* 15 (2013) 30–34.
- [48] S.A. Eroglu, K.A. Machleit, L.M. Davis, Empirical testing of a model of online store atmospherics and shopper responses, *Psychol. Market.* 20 (2) (2003) 139–150.
- [49] S. Menon, B. Kahn, The impact of context on variety seeking in product choices, *J. Consum. Res.* 22 (1995) 285–295.
- [50] Saïd Aboubaker Ettis, Examining the relationships between online store atmospheric color, flow experience and consumer behavior, *J. Retailing Consum. Serv.* 37 (2017) 43–55.
- [51] Lingling Gao, Kerem Aksel Waechter, Xuesong Bai, Understanding consumers' continuance intention towards mobile purchase: a theoretical framework and empirical study-A case of China, *Comput. Hum. Behav.* 53 (2015) 249–262.
- [52] Daria Spatar, Orhun Kok, Nuri Basoglu, Tugrul Daim, Adoption factors of electronic health record systems, *Technol. Soc.* 58 (2019), 101144.
- [53] R.W. Brislin, Applied cross-cultural psychology: an introduction, in: R.W. Brislin (Ed.), *Applied Cross-Cultural Psychology: 9–33*, Sage, Newbury Park, CA, 1990.
- [54] J.C. Anderson, D.W. Gerbing, An updated paradigm for scale development incorporating unidimensionality and its assessment, *J. Market. Res.* 25 (2) (1988) 186–192.
- [55] F. Massara, S.S. Liu, R.D. Melara, Adapting to a retail environment: modelling consumer-environment interactions, *J. Bus. Res.* 63 (7) (2010) 673–681.
- [56] T.D. Little, W.A. Cunningham, G. Shahar, K.F. Widaman, To parcel or not to parcel: Exploring the question, weighing the merits, *Struct. Equ. Model.* 9 (2002) 151–173.
- [57] K.J. Preacher, A.F. Hayes, Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models, *Behav. Res. Methods* 40 (3) (2008) 879–891.
- [58] J. Gutman, Means-end chains as goal hierarchies, *Psychol. Market.* 14 (1997) 545–560.
- [59] C.S. Carver, M.F. Scheier, Origins and functions of positive and negative affect: a control-process view, *Psychol. Rev.* 97 (1990) 19–35.
- [60] C.P. Furner, P. Racherla, J.S. Babb, Mobile app stickiness (MASS) and mobile interactivity a conceptual model, *Market. Res.* 14 (2) (2014) 163–188.
- [61] J.S. Lerner, D. Keltner, Beyond valence: toward a model of emotion-specific influences on judgement and choice, *Cognit. Emot.* 14 (4) (2000) 473–493.
- [62] M.B. Jensen, K. Klstrup, Towards a B2B customer-based brand equity model, *J. Target Meas. Anal. Market.* 16 (2) (2008) 122–128.
- [63] L. Wang, J. Yan, J. Lin, W. Cui, Let the users tell the truth: self-disclosure intention and self-disclosure honesty in mobile social networking, *Int. J. Inf. Manag.* 37 (1) (2017) 1428–1440.
- [64] Yi-Mu Chen, Hsu, Tsuen-Ho, Yu-Jou Lu, Impact of flow on mobile shopping intention, *J. Retailing Consum. Serv.* 41 (2018) 281–287.
- [65] L. Gao, X. Bai, Online consumer behaviour and its relationship to website atmospheric induced flow: insights into online travel agencies in China, *J. Retailing Consum. Serv.* 21 (4) (2014) 653–665.
- [66] C. Chiu, E.T.G. Wang, Y. Fang, H. Huang, Understanding customers' repeatpurchase intentions in B2C e-commerce: the roles of utilitarian value, hedonic value and perceived risk, *Inf. Syst. J.* 24 (1) (2014) 85–114.
- [67] J.S. Lee, C.K. Lee, Y.J. Choi, Examining the role of emotional and functional values in festival evaluation, *J. Trav. Res.* 50 (6) (2011) 685–696.
- [68] C.H. Lin, P.J. Sher, H.Y. Shih, Past progress and future directions in conceptualizing customer perceived value, *Int. J. Serv. Ind. Manag.* 16 (2005) 318–336.
- [69] I.O. Pappas, P.E. Kourouthanassis, M.N. Giannakos, V. Chrissikopoulos, Sense and sensibility in personalized E-Commerce: how emotions rebalance the purchase intentions of persuaded customers, *Psychol. Market.* 34 (10) (2017) 972–986.
- [70] Tugrul U. Daim, Nuri Basoglu, Banu Kargin, Kenny Phan, Service innovation adoption: the case of value-added mobile services, *J. Knowledge Economy* 5 (2014) 784–802.
- [71] Shu-Hsien Liao, Retno Widowati, Yu-Chieh Hsieh, Investigating online social media users' behaviors for social commerce recommendations, *Technol. Soc.* 66 (2021), 101655.