

The Effect of Emotional Responses on Reuse Intention by Impulse Buying Types: Focused on Live Shopping in China

Zihao Jin¹, Sa Yang¹, Ke Su¹, Xin Yan¹, Xianfang Hu¹, Jeong-In Kim¹,
Chae-Kwan Lim², Seung-Wan Ju²

¹Department of Business Administration, Tongmyong University, Korea

²Department of Distribution and Logistics, Tongmyong University, Korea

gauace@naver.com (corresponding author)

Abstract. This study aims to present the problems and solutions of live shopping to suggest the direction of live commerce broadcasting in the future by examining the influence of the types of impulse buying on consumers' emotional responses and the reuse intention according to changes into non-contact economy due to the COVID-19 pandemic. To achieve the purpose of this study, the theoretical foundation of related factors was established based on literature research and previous studies. Accordingly, research models and research hypotheses were presented. To verify the hypothesis, a survey was conducted through an online survey method targeting 300 consumers who have experience using live shopping in China. The statistical analysis was conducted by frequency analysis, exploratory factor analysis, correlation analysis and multiple regression analysis using SPSS26.0 program. The results of the empirical analysis and implications of this study are as follows. First, pure impulse buying, planned impulse buying, stimulus impulse buying and reminder impulse buying had a significant positive (+) effect on jealousy and vanity of emotional response. Therefore, the seller of the product is expected to increase sales by stimulating customers' impulse buying. In addition, the purchaser may meet emotional responses such as jealousy or vanity, but this may lead to economic losses or unnecessary product purchases. Second, jealousy and vanity of emotional response had a significant positive (+) effect on reuse intention. Therefore, the purchaser should try to find ways to reduce emotional responses such as jealousy and vanity. Third, pure impulse buying, planned impulse buying, stimulus impulse buying and reminder impulse buying had a significant positive (+) effect on reuse intention. Therefore, impulse buying can lead to product purchase even if there is no stimulus of emotional reaction such as jealousy or vanity, so product buyers should exclude the factors that can cause

impulse buying as much as possible. This study also aims to present the research results and implications based on some limitations in the process of the study. First, if the study is conducted for all age groups, it is expected that the results of more objective research will be derived. Second, if comparative research is conducted on live shopping users in various countries, it is judged that strategies will be derived to help identify the tendency of live shopping users by country and to establish marketing strategies for product sellers.

Keywords: Live shopping, Impulse buying, Emotional response, Re-use intention

1. Introduction

Due to the Covid-19 Crisis, “untact service,” which is a newly coined term meaning non-contact service, is emerging that safely consumes with consumers keeping social distancing and avoiding contact with others (Choi Se-jung, 2020).

In the field of shopping due to the activation of untapped services, live commerce, which introduces and sells offline store products in real-time broadcasting, is attracting attention as a new shopping service (Kim Soo-young, 2021; Qing and Jin 2022). According to a report by iResearch (2022), the number of live commerce users in China is currently 638 million as of 2021, an increase of 75.39 million from the previous year. This change was accelerated by the Covid-19 crisis that has been going on since 2020, and there have also been increasingly more people who relieve stress through impulse buying of online shopping because travel and outing are not free. (Moon Se-young, 2021) In the online shopping environment, consumers are more likely to purchase impulsively by receiving various external stimuli than offline shopping without the restriction of time and space rather than purchasing through planning in advance. The rapid development of live commerce also shows various problems such as damage caused by impulse buying and false advertising. (Duan Qian Qian, 2021; Kokula 2018)

Therefore, this study aims to examine the effects of various forms of impulse buying, which are derived from the Covid-19 crisis and economic development, on consumers’ emotional response and the subsequent reuse intention. Accordingly, the purpose of this study is to present the problems and solutions that live commerce broadcasting currently has and to present the direction of live commerce broadcasting in the future.

This study aims to lay the theoretical foundations based on the previous studies and literature data on the concepts, components and previous studies of live shopping, impulse buying types, emotional responses and reuse intention. In order to conduct an empirical analysis, an online survey was conducted on consumers aged 20-39 using live shopping in China. Based on the results of the survey, the empirical analysis was made by conducting general current status analysis (frequency analysis), validity and reliability verification (exploratory factor analysis and reliability analysis), correlation analysis and multiple regression analysis of the measurement tool, and the results of the empirical analysis and implications of the study and future research directions are presented.

2. Theoretical Background

2.1. Impulse Buying

2.1.1 Definition and Type of Impulse Buying

Impulse buying is generally an act that occurs under stimulation to meet one's own

needs. As an impulsive behavior, it is a manifestation of internal contradictions and a manifestation of psychological imbalance that temporarily loses feelings. In addition, because emotional emotions are dominant, only the minimum target evaluation is considered, and the thinking of results is lacking, so it can be considered that the decision-making is completed in a relatively fast time (Kardes et al., 2016).

Kollat & Willet (1967) defines impulse buying as the difference between planned intention before shopping and the actual result of purchase. They classify impulse buying with planned type and result-oriented type. They viewed impulse buying as planned type if customers' planned intention coincides with the product of final purchase or product trademarks. If a customer does not have intention to buy some products, such purchase is also viewed as impulse buying.

It is necessary to examine more about the detailed types of impulse buyings presented by Stern (1962). Stern classified and presented the detailed types of impulse buying into pure impulse buying, recalled impulse buying, suggested impulse buying, and planned impulse buying.

Pure impulse buying is a form that can be very easily distinguished from the other types of impulse buying, and it is characterized by pursuing novelty beyond the frame and pattern of everyday purchase behavior, or being done for avoidance or escape from reality. Reminder impulse buying is a type that occurs when a consumer reminds herself to buy a product of a specific brand that she is using or has been using, recalls a specific brand after watching an advertisement or a variety of information on a brand, and remembers a brand that they already determined to buy. Planned impulse buying is a type of impulse buying that occurs when consumers imagine the necessity in spite of having no prior knowledge about the products they first encounter. Stimuli impulse buying is a type of purchase that occurs when consumers visit a store with a mind to purchase a specific product.

Therefore, based on the mentioned contents above, this study aims to conduct the study by dividing the types of impulse buying into pure impulse buying, reminder impulse buying, planned impulse buying, and stimulus impulse buying.

2.1.2 Previous Studies on Impulse Buying

Impulse buying through internet shopping mall similar to mobile shopping mall has been studied in a broad manner. Park & Lee (2008) classified the characteristics of shopping malls into convenience, product assortment, and marketing promotion in the study of impulse buying through online shopping malls by college students, and proved that convenience and marketing promotion have an effect on consumers' impulse buying.

Jeong Won-jin (2011) conducted a study on the influence relationship of customer's emotion and impulse buying by advertising and promotion in online shopping mall. The study found significant differences in emotional aspects such as happiness, joy, and excitement between the group who encountered advertisements

with strong visual stimulus and the group who encountered advertisements with weak stimulus. It stated that emotional aspects such as happiness, joy and excitement have a significant impact on impulse buying.

Wáng (2015) argues that the characteristics of internet shopping malls (website configuration, product attributes, interactivity, reputation, convenience of order, etc.) affect satisfaction after impulse buying in a study of Chinese consumers. Lee Su-ji & Kim In-sook (2011) argues that service attributes (product price, sales service, product assortment, promotion and convenience of shopping) and impulse buying have positive effects on consumer satisfaction in a study on the effect of perceived service attributes and impulse buying on customer satisfaction.

2.2. Emotional Response

2.2.1 Definition and Components of Emotional Response

Modern society cannot satisfy consumers' needs simply by material, and the seller's ultimate goal is customer satisfaction, so it is necessary to study complex emotional responses that affect consumer behavior. Emotions are defined in the dictionary as feelings or standards that humans feel about anything, phenomenon, or thing.

In the study of Mehrabian & Russell (1974), organisms showed that they are a model that reacts with approach or avoidance by making emotions such as pleasure, arousal, and dominance from external stimuli. In addition, Donovan & Rossiter (1982) argued that based on PAD P(Pleasure), A(Arousal) D(Dominance) Use it to express all feelings model, humans were stimulated in an objective external environment causing emotional state, and that they acted positively or negatively in the environment.

There are also many studies on emotional responses and consumer behavior except those in the field of environmental psychology. According to the research of Jeon Seon-bok (2015), while the customer's emotional response was enhanced when the customer's emotional response was positive through the service experienced in the beauty salon, the behavior intention of avoidance was strengthened when it felt negative. In addition, emotional response was verified to have mediating effect between kiosk characteristics and behavioral intention (Choi Jae-sun, 2022).

Based on this, this study defines emotional responses as subjective emotional states that appear in stimuli from external environments. Jealousy has been studied mainly as a psychological object, but it is not much related to consumer behavior. Smith (2004) classified the components of jealousy into three categories: similarity, relevance, and fairness. Similarity generally appears when people are compared to people whose social status and ability are similar to their own, relevance appears when the relatedness is threatened by their own interests, and fairness appears when people cannot obtain rewards under the conditions in which what others want is achieved.

Vanity has been studied in the relationship between consumer behavior and consumer behavior. Park Eun-hee (2013) said that vanity means confidence and interest in individuals' appearance or the achievement of goals. Choi Sang-jin & Kim Ki-bum (2000) argued that people tend to consume behaviors suitable for social status and status so that they can save their face, and that the more intense the desire for achievement they have, the stronger self-consciousness to their honor they have. They argued that Koreans are generally vain and have a strong sense of saving face. So, this study defines jealousy and vanity as complex emotions including complaints about oneself, envy and jealousy of others beyond the simple definition that jealousy and vanity are the negative emotional response caused in a specific situation.

2.2.2 Previous Studies on Emotional Response

Dawson et al. (1990) reported that temporary emotions experienced in the store had a significant effect on the satisfaction of shoppers and future shopping intentions, and it also revealed that mood and quality of shopping experience in the store had a significant effect on shopping intention. Donovan et al. (1994) examined the emotional state and actual shopping behavior during shopping rather than the emotion before and after shopping. It stated that the emotional state of consumers in the store had an effect on the behavior in the store apart from the cognitive factors such as the quality, diversity, uniqueness, and value of the consumer's products.

2.3. Reuse Intention

2.3.1 Definition of Reuse Intention

Reuse intention means the behavioral intention to purchase the same product or service repeatedly even after the customer purchases the product or service (Kwon Dong-geuk, 2011). In addition, in the study of Park Hyun-ji et al (2012), reuse intention is defined as a customer's intention to repeatedly use any specific service or brand product.

Therefore, this study defines reuse intention more comprehensively as the intention to reuse or to positively recommend to others.

2.3.2 Previous Studies on Reuse Intention

Liu Jiayu et al (2014) said that the characteristics of shopping mall like typology, reliability, responsiveness, assurance, and empathy have a positive effect on customer satisfaction and re-use intention in the study on service characteristics, customer satisfaction and reuse intention of the online shopping mall in China. In the study on factors affecting trust and satisfaction in internet shopping mall, Gam Chang-bok (2011) argued that trust had a positive effect on satisfaction, and that trust and satisfaction had a positive effect on reuse intention. Park Eun-joo & Kim Ji-eun (2010) claimed that satisfaction affects consumer's reuse intention in a study on the effect of shopping mall attributes by type of internet shopping mall on reuse intention to revisit

cosmetics shopping mall.

3. Research Design

3.1. Research Model

This study proposes a research model as shown in <Figure 1> based on the analysis results of previous studies to analyse the effect of impulse buying on emotional response and reuse intention in live shopping, which is currently rapidly developing in China.

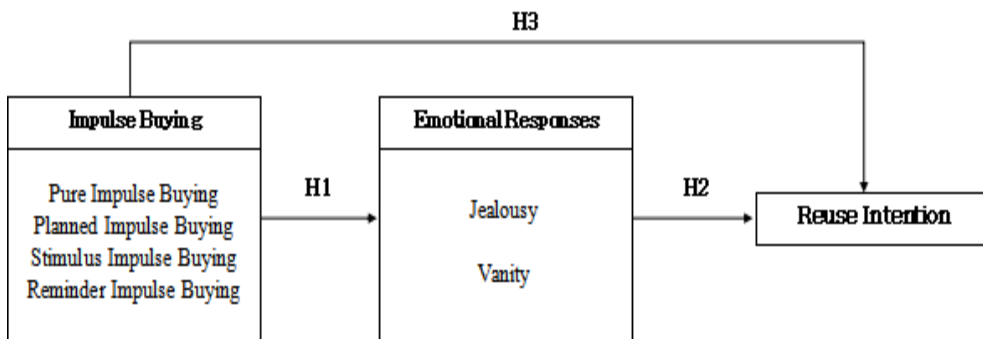


Fig. 1: Research Model.

3.2. Hypothesis

3.2.1 Relationship between Impulse Buying and Emotional Response

Park Eun-joo(2005) examined the relationship between positive and negative emotions by dividing impulse buying into three categories: planned impulse buying, reminded impulse buying, and fashion-oriented impulse buying. The study found that the more positive emotions are felt in shopping, the more planned impulse buying, reminded impulse buying, and fashion-oriented impulse buying are made. On the other hand, for consumers who feel negative emotions when shopping, impulse buying behavior by need or memory decreased, but fashion-oriented impulse buying behavior relatively increased. Generally, the emotional situation of consumers was found to affect impulse buying, and it was confirmed that the positive or negative mood of consumers at the time of purchase affected impulse buying.

Therefore, this study set the following hypothesis 1 to confirm the relationship between impulse buying and emotional response in live shopping based on previous studies.

Hypothesis 1: Impulse buying will have a significant positive effect on emotional response.

1-1: Pure impulse buying will have a significant positive effect on jealousy.

- 1-2: Planned impulse buying will have a significant positive effect on jealousy.
- 1-3: Stimulus impulse buying will have a significant positive effect on jealousy.
- 1-4: Reminder impulse buying will have a significant positive effect on jealousy.
- 1-5: Pure impulse buying will have a significant positive effect on vanity.
- 1-6: Planned impulse buying will have a significant positive effect on vanity.
- 1-7: Stimulus impulse buying will have a significant positive effect on vanity.
- 1-8: Reminder impulse buying will have a significant positive effect on vanity.

3.2.2 Relationship between Emotional Response and Reuse Intention

Bitner(1994) stated that positive emotions and negative emotions as individuals' internal reaction to the environment of service company affect customers' behavioral intention, leading to mutually contradictory behavioral intention of approach or avoidance. Ji Sung-gu & Lee Sang-geun(2005) said that perceived store congestion had a negative(-) effect on positive emotions, and it had a positive(+) effect on negative emotions. Lee Hun-jong(2006) verified that positive emotions in the store have a significant positive(+) effect on re-use intention, word-of-mouth intention and long-term stay intention through the medium of emotions, and that negative emotions in the store have a significant negative(-) effect on re-use intention, word-of-mouth intention and long-term stay intention.

Therefore, this study set up hypothesis 2 as follows to verify the effect of emotional response on re-use intention based on previous studies.

Hypothesis 2: Emotional response will have a significant positive effect on re-use intention.

- 2-1: Jealousy will have a significant positive effect on re-use intention.
- 2-2: Vanity will have a significant positive effect on reuse intention.

3.2.3 Relationship between Emotional Response and Reuse Intention

Oliver (1980) conducted path analysis in the study on the relationship between expectation and inconsistency with the expectation, satisfaction, attitude and purchase intention. He proved that customer satisfaction affects attitude after purchase and that this attitude continues to affect reuse intention.

In a study that examines the subsequent process after consumers' purchase, Gilly & Gelb (1982) derived the results of the study that, when companies respond appropriately to consumers' complaining behavior, consumers' satisfaction increases, leading to further intention to reuse.

Hypothesis 3: Impulse buying will have a significant positive effect on reuse intention.

- 3-1: Pure impulse buying will have a significant positive effect on reuse intention.

3-2: Planned impulse buying will have a significant positive effect on reuse intention.

3-3: Stimulus impulse buying will have a significant positive effect on reuse intention.

3-4: Reminder impulse buying will have a significant positive effect on reuse intention

3.3. Survey Design and Research Method

For the empirical analysis of this study, a survey was conducted through online survey method for consumers using live shopping in China. The survey period was 28 days from February 1 to February 28, 2022. 308 questionnaires were used for analysis, excluding the questionnaires containing unfinished responses.

The questionnaire was composed of 12 items of impulse buying, 9 items of emotional responses, and 4 items of reuse intention. Likert scale 7-point measurement was used. SPSS26.0 was used for statistical analysis of the data. Using SPSS 26.0, frequency analysis, reliability and validity verification, correlation analysis, and multiple regression analysis were performed to confirm the reliability of the measurement tool and perform hypothesis testing.

4. Empirical Analyses and Results

4.1. General Characteristics of Data

The analysis results of the general characteristics of the samples are shown in Table 1. In terms of gender status, there are 146 males (47.4%) and 162 females (52.6%). In terms of age, 216 people in their thirties (7.1%) accounted for the most, followed by 92 people in their twenties (29.9%). Secondly, in terms of whether or not to marry, 98 people (31.8%) are married; There are 210 unmarried people (68.2%). In terms of academic qualifications, 97 graduate students (31.5%) account for the most, followed by 77 university students (25.0%), 44 university graduates (14.3%), 36 graduate students (11.7%), and others (1.7%) In terms of occupation, there are 86 professional posts (27.9%), with the largest number, 75 civil servants/company employees (24.4%), 48 self-employed (15.6%), 42 others (13.6%), 29 students (9.4%) and 28 housewives (9.1). There are 117 people (38.0%) with an average monthly income of more than 5,000 yuan to less than 10,000 yuan, followed by 73 people (23.7%) with an average monthly income of more than 20,000 yuan, 63 people (20.5%) with an average monthly income of more than 10,000 yuan to less than 20,000 yuan, and 55 people (17.9%) with an average monthly income of less than 5,000 yuan.

Table 1: General Characteristics of Data

	division	frequency (person)	ratio(%)
Gender	male	146	47.4
	female	162	52.6
Age	twenties	92	29.9
	thirties	216	7.1
Marital status	married	98	31.8
	unmarried	210	68.2
Education	high school graduate	21	6.8
	university student	77	25.0
	college graduation	44	14.3
	graduate school students	97	31.5
	graduate school graduates	36	11.7
	others	33	1.7
Job	student	29	9.4
	a civil servant/office worker	75	24.4
	Self-Employed Business	48	15.6
	professional job	86	27.9
	housewife	28	9.1
	others	42	13.6
Average monthly income	less than 5,000 yuan	55	17.9
	5000 yuan or more ~ 10000 yuan or less	117	38.0
	over 10000 yuan ~ less than 20000 yuan	63	20.5
	over 20000 yuan	73	23.7
Total Responses		308	100%

4.2. Verification of Reliability and Validity of Measurement Variables

In this study, reliability analysis and exploratory factor analysis were performed to verify the reliability and validity of the measurement tools used in this study.

Table 2: Result of Reliability and Exploratory Factor Analysis

	vanity	pure impulse buying	reminder impulse buying	stimulus impulse buying	jealousy	planned impulse buying	reuse intention	commonality	reliability
vanity1	.894	.048	.038	.091	.062	.050	.080	.823	.875
vanity5	.771	.161	.125	.191	.087	.085	.097	.696	
vanity2	.769	.033	.101	-.015	.122	.135	.165	.662	
vanity4	.754	.151	-.018	.132	.100	.144	.099	.649	
vanity3	.662	.141	.193	.144	.185	.152	.197	.612	
Pure impulse buying1	.092	.866	.105	.138	.104	.110	.099	.822	.862
Pure impulse buying2	.160	.773	.030	.113	.170	.153	.138	.709	
Pure impulse buying4	.124	.747	.118	.164	.118	.094	.168	.662	
Pure impulse buying3	.099	.731	.133	.121	.180	.100	.206	.662	
Reminder impulse buying1	.080	.017	.880	.122	.078	.079	.128	.825	.859
Reminder impulse buying3	-.029	.119	.770	.165	.138	.065	.255	.723	
Reminder impulse buying4	.156	.135	.751	.15	.101	.167	.120	.681	
Reminder impulse buying2	.167	.127	.724	.118	.212	.173	.077	.662	

Stimulus impulse buying1	.126	.108	.114	.859	.113	.044	.072	.798	.839
Stimulus impulse buying4	.106	.161	.162	.742	.084	.130	.088	.646	
Stimulus impulse buying2	.094	.127	.180	.736	.157	.091	.107	.643	
Stimulus impulse buying3	.137	.119	.073	.731	.122	.149	.168	.638	
jealousy1	.131	.118	.131	.043	.873	.033	.075	.82	.854
jealousy2	.096	.084	.105	.207	.786	.060	.132	.708	
jealousy3	.154	.189	.079	.121	.725	.140	.133	.643	
jealousy4	.134	.221	.246	.154	.691	.222	.104	.688	
Planned impulse buying1	.077	.047	.058	.067	.052	.886	.120	.818	.834
Planned impulse buying4	.136	.107	.139	.075	.160	.743	.176	.664	
Planned impulse buying3	.202	.172	.168	.113	.114	.691	.167	.630	
Planned impulse buying2	.123	.157	.129	.193	.080	.679	.222	.610	
Reuse intention1	.172	.142	.176	.113	.125	.165	.820	.809	.836
Reuse intention3	.224	.189	.125	.109	.154	.25	.685	.669	
Reuse intention2	.168	.258	.169	.165	.087	.233	.648	.632	
Reuse intention4	.167	.198	.271	.187	.18	.218	.593	.607	
eigen-value	9.822	2.294	1.935	1.872	1.726	1.512	1.055		
% dispersion	33.87	7.909	6.673	6.456	5.953	5.213	3.639		
cumulative dispersion %	33.87	41.779	48.452	54.908	6.861	66.074	69.713		
The Kaiser-Meyer-Olkin value of sample adequacy =.906 Bartlett's spherical verification approximation chi-square =4822.853, degree of freedom =406, significance probability = .000									

As shown in Table 2, a total of seven factors were derived, and the explanatory power of the factors was 69.713%. The standard fit of KMO, which shows the suitability of factor analysis, is .906, so it is desirable to select the variables for factor analysis. Barlett's sphere formation verification value indicating the fit of factor analysis model is $\chi^2=4822.853$, degree of freedom is =406, and significance probability is = .000. In addition, the reliability analysis results show that the Cronbach' α value, which represents internal consistency, is more than .7. So, the reliability is secured.

4.3. Correlation Analysis

The correlation analysis was conducted by multi-items, so the correlation between the construct concepts was examined by standardizing the measurement items with internal consistency through reliability verification and using the single medium value.

The result of correlation analysis showed that all items were not significant as shown in Table 3. In addition, the correlation coefficient value does not appear to be .7 or more, so there is no problem with the multiple collinearity raised in multiple regression analysis, which can be seen as securing the suitability of data

Table 3: Result of Correlation Analysis

	pure impulse buying	planned impulse buying	Stimulus impulse buying	Reminder impulse buying	jealousy	vanity	reuse intention
pure impulse buying	1						
Planned impulse buying	.377**	1					
Stimulus impulse buying	.393**	.348**	1				
reminder impulse buying	.328**	.378**	.395**	1			
jealousy	.428**	.358**	.383**	.403**	1		
vanity	.351**	.378**	.348**	.304**	.367**	1	
reuse intention	.514**	.559**	.430**	.496**	.440**	.470**	1
Significance at the ** $p < .01$ level							

4.4. Hypothesis Testing

4.4.1 Influence of Impulse Buying and Emotional Response

As a result of the analysis of hypotheses 1-1, 1-2, 1-3, and 1-4, which are sub-hypotheses of hypothesis 1, F value = 32.091, which was statistically significant at $p < .001$. And R-square = .298, indicating that the overall explanatory power of the model is 29.8%. VIF is lower than the reference value, indicating that there is no problem with multicollinearity.

The results of multiple regression analysis to find out the effect of impulse buying on jealousy showed that the variables that have a statistical effect were pure impulse buying ($b = .238$, $p = .001$), planned impulse buying ($b = .134$, $p = .05$), stimulus impulse buying ($b = .160$, $p = .01$) and reminder impulse buying ($b = .208$, $p = .000$). In the significance level $p < .001$, pure impulse buying and reminder impulse buying, stimulation impulse buying in the significance level $p < .01$, and planned impulse buying in the significance level $p < .05$ showed a significant positive (+) effect on jealousy. Therefore, hypothetical hypothesis 1-1, hypothetical 1-2, hypothetical 1-3, and hypothetical 1-4 were statistically significant and were adopted.

Table 4: Result of Correlation Analysis (1)

dependent variable		colinearity statistic	colinearity statistic		t	colinearity statistic	
		B	S.E.	Beta		tolerance	VIF
Jealousy	(Constant)	1.215	.299		4.062		
	pure impulse buying	.238	.053	.248	4.499***	.765	1.307
	planned impulse buying	.134	.057	.13	2.366*	.765	1.307
	stimulus impulse buying	.160	.057	.158	2.829**	.747	1.339
	reminder impulse buying	.208	.054	.21	3.815***	.764	1.309
F=32.091***, R=.298, R ² =.288, D-W=1.799							
vanity	(Constant)	1.634	.302		5.405		
	pure impulse buying	.159	.053	.172	2.978**	.765	1.307
	planned impulse buying	.216	.057	.217	3.771***	.765	1.307
	stimulus impulse buying	.162	.057	.165	2.836**	.747	1.339
	reminder impulse buying	.095	.055	.100	1.734***	.764	1.309
F=22.658***, R=.230, R ² =.220, D-W=1.799							
*p<.05, ** p<.01, *** p<.001							

As a result of analysis of hypotheses 1-5, hypotheses 1-6, hypotheses 1-7, and 1-8, which are sub-hypotheses of hypothesis 1, F value = 22.658, which was statistically significant at $p<.001$. R-squared = .230, indicating that the overall explanatory power of the model is 23.0%. Since the VIF value satisfies the standard value, it is judged that there is no problem with multicollinearity.

The results of multiple regression analysis to find out the effect of impulse buying on vanity showed that the variables that have statistically influence were pure impulse buying ($b=.159$, $p<.01$), planned impulse buying ($b=.216$, $p<.001$), stimulus impulse buying ($b=.162$, $p<.01$), and planned impulse buying ($b=.095$, $p<.001$). In the significance level $p<.01$, pure impulse buying and stimulus impulse buying, and the significance level $p<.001$ showed that planned impulse buying and reminder impulse buying had a significant positive (+) effect on vanity.

Therefore, hypothetical hypothesis 1-5, hypothetical 1-6, hypothetical 1-7, hypothetical 1-8 were statistically significant and were adopted. Therefore, all the sub-hypotheses of hypothesis 1 that impulse buying will have a significant positive effect on emotional response were adopted, and hypothesis 1 was adopted.

4.4.2 Influence of Impulse Buying and Emotional Response

Hypothesis 2-1 and Hypothesis 2-2, which are sub-hypotheses of Hypothesis 2, as a result of the analysis, F value = 66.382, which was statistically significant at $p<.001$. R-squared = .303, indicating that the overall explanatory power of the model is 30.3%.

Since the VIF value satisfies the standard, it is judged that there is no problem with multicollinearity.

Table 5: Result of Regression Analysis (2)

dependent variable		nonstandardization coefficient	standardization coefficient		t	colinearity statistic	
		B	S.E.	beta		tolerance	VIF
repurchase intention	(constant)	1.702	.246		6.933		
	jealous	.282	.047	.309	6.016***	.866	1.155
	vanity	.337	.049	.356	6.939***	.866	1.155
F=66.382***, R=.303, R ² =.299, D-W=.617							
p<.01 *p<.001							

4.4.3 Influence of Impulse Buying on Reuse Intention

As a result of regression analysis performed to verify hypothesis 3 (hypothesis 3-1, hypothesis 3-2, hypothesis 3-3, and hypothesis 3-4), F value = 72.374, which was found to be statistically significant at the significance level $p < .001$. R-squared = .489, indicating that the overall explanatory power of the model is 48.9%. Since the VIF value satisfies the standard, it is judged that there is no problem with multicollinearity.

Table 6: Result of Regression Analysis

subordination variable		nonstandardization coefficient	standardization coefficient		t	colinearity statistic	
		B	S.E.	beta		tolerance	VIF
repurchase intention	(constant)	.639	.233		2.745		
	pure impulse buying	.233	.041	.267	5.676***	.765	1.307
	planned impulse buying	.307	.044	.327	6.967***	.765	1.307
	stimulus impulse buying	.108	.044	.117	2.455**	.747	1.339
	reminder impulse buying	.215	.042	.239	5.08***	.764	1.309
F=72.374***, R=.489, R ² =.482, D-W=1.467							
p<.01 *p<.001							

The results of multiple regression analysis to find out the effect of impulse buying on reuse intention showed that the variables that have a statistical effect were pure impulse buying ($b=.233$, $p=.001$), planned impulse buying ($b=.307$, $p=.001$), reminder impulse buying ($b=.215$, $p=.001$), and stimulus impulse buying ($b=.108$, $p=.01$). In the significance level $p<.001$, the pure impulse buying, planned impulse

buying and reminder impulse buying, and the significance level $p < .01$ showed a significant positive (+) effect on reuse intention.

Therefore, hypothetical 3-1, hypothetical 3-2, hypothetical 3-3, and hypothetical 3-4 were statistically significant and were adopted. Therefore, all the sub-hypothesis 3 that impulse buying will have a significant positive (+) effect on reuse intention was adopted, and hypothesis 3 was adopted.

5. Conclusions

This study was conducted to investigate the effects of impulse buying in live shopping in China on emotional response and reuse intention. The study consisted of four sub-factors of impulse buying (pure impulse buying, planned impulse buying, stimulus impulse buying, and reminder impulse buying) and conducted an empirical analysis on the effects of emotional response (jealousness, vanity) and reuse intention. The results of the empirical analyses of this study are summarized as follows.

First, pure impulse buying, planned impulse buying, stimulus impulse buying and reminder impulse buying had a significant positive (+) effect on jealousy and vanity of emotional response. These results suggest that purchasing products through impulse buying is a response to the purchaser's emotional reactions - jealousy and vanity. Therefore, the seller of products can increase the effect of sales increase by stimulating customers to make impulse buying. In addition, the purchaser may meet emotional responses such as jealousy or vanity, but this may lead to economic loss or unnecessary purchase of products. Second, jealousy and vanity of emotional response had a significant positive (+) effect on reuse intention. These results mean that the emotional responses of jealousy and vanity are continuously achieved. Therefore, the purchaser should try to find ways to reduce emotional responses such as jealousy and vanity. Third, pure impulse buying, planned impulse buying, stimulus impulse buying and reminder impulse buying had a significant positive effect on reuse intention. This result means that the emotion of impulse buying in itself can lead to repurchase. Therefore, impulse buying can lead to product purchase even if there is no stimulus of emotional responses such as jealousy or vanity, so product purchasers should exclude the factors that can cause impulse buying as much as possible. The results and implications of this study are expected to be used as basic data in studying the relationship between live shopping and impulse buying in China in the future.

This study also suggests future research directions based on some limitations in the study. First, the age group of the subjects who use live shopping in China is the most in their 20s and 30s, and other age groups are excluded from surveying process. Therefore, it is considered that there is some difficulty in generalizing the results of the study. Therefore, if the research is conducted for all ages, it is expected that the results of more objective research will be derived. Second, the research area of this study was limited to China, but live shopping is rapidly developing around the world.

Therefore, if comparative research is conducted on live shopping users in various countries in the future, it is judged that strategies that help to grasp the tendency of live shopping users in terms of countries and those that help to establish marketing strategies for product sellers will be derived.

References

Bitner, M. J. & Hubbert, A. R. (1994). Encounter satisfaction versus Overall satisfaction versus Quality: The Customer's Voice in Service Quality, Ronald T. Rust and Richard L. Oliver(eds.), 72~94.

Choi, Jai-Sun. (2021). Effects of Technology-Based Self-Serivce (TBSS) Characteristics on Emotional Response, Satisfaction and Behavior Intention in the Food service Industry. *Dong Eui Universit*, Ph.D Thesis, 23-25.

Choi, Sang-Chin. & Kim, Ki-Bum. (2000). The Internal Structure of the Korean Social Face. *The Korean Journal of Social and Personality Psychology*, 14(1), 185-202. ISSN:1229-0653.

Choi, Se-Jung. (2020). Live Commerce: Adding Fun and Trust to Commerce. *Broadcast Trend & Insight*, 23, 27-31.

Dawson, Scott, Peter H. Bloch. & Nancy M. Ridgway. (1990). Shopping Motives, Emotional States, and Retail Outcomes. *Journal of Retailing*, 66, 408-427.

Donovan, Robert J. & John R. Rossiter. (1982). Store Atmosphere: An Environmental Psychology Approach. *Journal of Retailing*, 70(3), 283-294.

Donovan, R. J., Rossiter, J. R., Marcoolyn, G. L. & Nesdale, A. (1994). Store Atmosphere and Purchasing Behavior. *Journal of Retailing*, 70(3), 283-294. DOI.10.1016/0022-4359(94)90037-X.

Duan, Qian Qian. (2021). The factors influencing impulsive buying behavior in live streaming commerce. *Hanyang University*, Master's Thesis, 2-9.

Gilly & Gelb. (1982). Post-Purchase Consumer Processes and the Complaining Consumer. *Journal of Consumer Research*, 9(3), 323-328. DOI:10.1086/208927.

Jeon, Seon-Bok. (2015). The Relationship among Beauty Shop's Service Quality and Emotional Responses, Recommendation Intention, and Defection Intention of Customers. *Journal of The Korean Society of Cosmetology*, 21(4), 603-613. UCI: G704-001852.2015.21.4.022.

Ji Song-Gu, & Lee Sang-Geun. (2005). The Effects of In-store Crowding on Consumer Emotions and Behavioral Intention. *Journal of Global Scholars of Marketing Science*, 15(30), 169~186. UCI: G704-001426.2005.15.3.005.

Jin, Chang-Fu. (2011). A Study on Factors Affecting Trust and Satisfaction, Using Chinese Consumers. *Ulsan University*, Master's Thesis, 50-52.

Jung, Won-Jin. (2011). The Effects of Online Advertisements and Promotions on Customer's Emotions and Impulsive Buying. *e-Business Research*, 12(3), 223-249. ISSN:1229-9836.

Kardes, F. R. & Cronley, M. L. & Cline, T. W, (2016). Consumer Behavior 2nd Edition. *CENGAGE Learning*, 120-143.

Kim, Su-Young. (2021). A Study on the Impulse Buying Behavior of Fashion Products in Live-commerce: The Perspective of the Stimulus-organism-response model. *Yonsei University*, Master's Thesis, 1-2.

Kollat, D. T. & Willet, P. R. (1967). Consumer Impulse Purchasing Behavior. *Journal of Marketing Research*, 4(1), 21-31. DOI:10.1177/002224376700400102.

Kokula, Krishna. (2018). Research on Structural Equation Model of Online Shopping Review Willingness Based on Consumer Continuous Participation. *International Journal of Smart Business and Technology*, 6(2), 11-24, doi:10.21742/IJSBT.2018.6.2.02.

Kwon, Dong-Keug. (2011). Effects of Reusing and the Recommendation Depending on the Satisfaction Rate of Coffee Shop Service Quality. *The Journal of the Korea Contents Association*, 11(5), 449-465. DOI:10.5392/JKCA.2011.11.5.449.

Lee, Heon-Jong. (2006). The Effects of the Family Restaurants' Physical Surroundings and Salespersons Services on the Customers' Emotional Responses and Behavioral Intentions. *KyungNam University*, Master's Thesis, pp.42-48.

Lee, Su-Jee & Kim, In-Sook. (2010). Study of Relationship among Recognized Service Property, Impulse Purchase and Customer Satisfaction in Youth Sport Goods Purchase via Offline Shopping Mall and Online Shopping Mall. *Korean Society for The Study of Physical Education*, 15(4), 199-214. UCI: G704-000815.2011.15.4.008.

Liu, JiaYu. & Choi, Min-Cheol. & Song Han-Sik. (2014). The Influence of the Service Quality on the Customer Satisfaction and Repurchase Intention in Chinese Internet Shopping Mall. *Journal of the Korea Institute of Information and Communication Engineering*, 18(4), 957-964. DOI:10.6109/jkiice.2014.18.4.957.

Mehrabian, A. & Russell, J.A. (1974). An Approach to Environmental Psychology. *Cambridge MA: Massachusetts Institute of Technology*.

Moon, Se-Young. (2021). How to Control "Impulsive buying" for Comfort? Retrieved from <https://kormedi.com/>.

Oliver. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(4), 460-469. DOI:10.1177/002224378001700405.

Park, Eun-Hee. (2013). The Influence of Social Face Sensitivity on Vanity and Consumption Behavior. *Family and Environment Research*, 51(4), 413-424, DOI:10.6115/fer.2013.51.4.413.

Park, Eun-Joo. (2005). Effects of Fashion Involvement and Hedonic Consumption on Impulse Buying-Comparison of Korean and American Young Consumers-. *Fashion & Textile Research Journal*, 30(10), 1413-1422. UCI: G704-000029.2006.30.9,10.014.

Park, Eun-Joo. & Kim, Ji-Eun. (2010). Effects of Cosmetics Shopping Mall Attributes on Revisit Intentions of Total Mall and Specialty Mall at Internet. *Fashion & Textile Research Journal*, 12(1), 38-45. DOI:10.5805/KSCI.2010.12.1.038.

Park, Hyun-Jee, Park, Jung-Hwan, Yoon, Jung-Hun, Lee, Joung-Sil, Kim, Young-Ha. (2012). A Study on the Tourist's Perceived Quality, Experience Value, Satisfaction and Revisit: Focused on Exhibition. *Journal of Tourism and Leisure Research*, 24(5), 7-25. UCI: G704-000823.2012.24.5.014.

Park, S. J. & Lee, M. J. (2008). A Study on Affecting Factors of Impulsiveness Buying in The Internet Shopping Mall, Focus on Moderating of Browsing. *Journal of Digital Convergence*, 6(1), 93-104. ISSN: 2713-6434.

Qing Chenglin and Jin Shanyue. (2022). Effect of Live Streaming E-commerce Quality Characteristics on Consumer Purchasing Intention: Evidence from China . *International Journal of Smart Business and Technology*, 10(1), 63-72, doi:10.21742/IJSBT.2022.10.1.05 .

Smith R.H. (2004). The social life of emotions[M]. Cambridge, United Kingdom. *Cambridge University Press*. pp.43-63.

Stern. (1962). The Significance of Impulse Buying Today. *Journal of Marketing*, 26(2), 59-62, DOI:https://doi.org/10.1177/002224296202600212.

Wang, R. J. (2015). On the Go, How Mobile Shopping Affects Customer Purchase Behavior. *Journal of Retailing*, 91(2), 217-234. DOI:10.1016/j.jretai.2015.01.002.