

# Are Consumers More Willing to Pay for Digital Items in Mobile Applications? Consumer Attitudes toward Virtual Goods

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## **Abstract**

*Virtual goods are usually classified as services. The popular instant messenger LINE, with its stickers, is one of the most successful business models for virtual goods. Our study explores the intention to purchase virtual goods and examines the critical successful factors in LINE stickers. We propose a theoretical model based on perceived value, satisfaction, personal innovativeness, and reference group acceptance. Our key findings reveal (1) the significant influence of individual perception, personal characteristics, and social influence and (2) the key role of personal innovativeness in in-app purchases using mobile social media.*

**Keywords:** App Service, Virtual Good, Purchase Intention, Value-based Adoption Model

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## Introduction

Virtual goods are usually classified as services and intangible objects. Consumers purchase virtual goods for use in online games or online communities. Virtual goods include digital gifts, virtual money, and digital weapons for online game players. Virtual goods can be reproduced and distributed with almost zero cost and are immediately available to consumers via online channels. With the rapid development of the Internet, virtual goods have become widely used in social software and present new opportunities for electronic commerce (Lehdonvirta, 2009).

Virtual goods business models fall into the following categories: subscription, retailing, and freemium (Alvarez, 2012; Koeder & Tanaka, 2017). In the subscription business model, consumers pay a subscription fee to gain the right to access the service; for example, online gamers pay a predetermined fee for monthly access to games. The retailing business model allows firms to sell virtual goods via either an online or physical channel. Consumers can purchase access codes via official websites, apps, or physical stores and use them to access virtual goods. For example, Tencent Holdings Limited is one of the largest web portals in China and is best-known for its instant messenger application Tencent QQ. Tencent sells an online currency, Q coins, which consumers purchase to pay for Tencent's services and virtual goods. Q coins are obtained by purchasing a prepaid card via either a mobile service or a third-party payment service such as PayPal. Finally, freemium is a business model in which a basic product or service is offered free of charge, but its consumers are charged for a premium version or for virtual goods. The instant messenger LINE is offered for free for instant communication such as texts, images, video, and audio as well as for free VoIP calls and video conferencing. LINE stickers are the most significant feature of the service. Consumers can download free stickers for

use in their instant communications and to pay for more personalized ones.

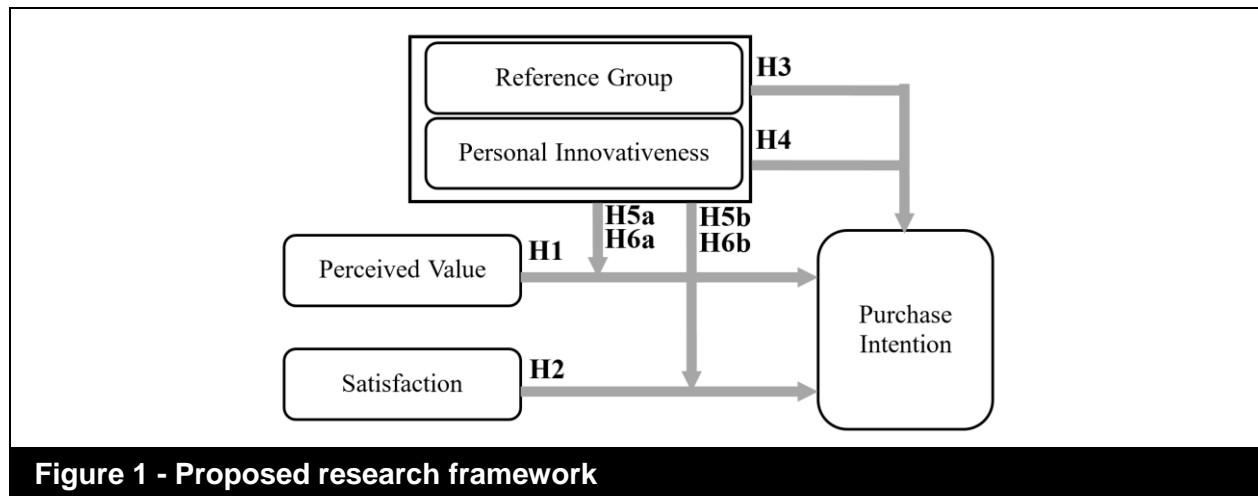
Among these three business models, freemium is reported to be the most profitable and most effective for companies selling virtual goods (App Annie, 2015). Freemium services represent a mobile app revenue-generating juggernaut, having increased their revenue 211% from 2012 to 2013. Moreover, 83% of the top 1,000 apps on the iOS App Store and the top 1,000 apps on Google Play are using the freemium business model. Freemium services comprised 92% of total mobile app revenue across both stores in 2013. The freemium business model is not only widely used in gaming but has rapidly expanded into non-game mobile apps such as messaging and music. LINE leads the revenue ranking for such non-game apps. The virtual goods LINE offers, its stickers, have two special features. First, both free and paid stickers are available to consumers, but people are still willing to pay for stickers even though they are able to choose free ones. Second, consumers are allowed to create and sell their own stickers through the LINE Creators Market. More than 100,000 packs of stickers have been available on this market since it opened in May 2014. The average revenue of the top 10 stickers has reached 36.8 million Japanese yen. Some companies have even created free stickers as gifts for consumers to promote their products or brands. Due to these features, LINE stickers have contributed to the huge increase in LINE revenue and are generating a unique LINE sticker economy.

The case of LINE stickers appears to be the most successful among the business models for virtual goods. The popularity of stickers is driving huge profits along with innovative marketing techniques. Consumers can obtain stickers via either free downloads or online payments. Many consumers are willing to pay for LINE stickers even though they can download some stickers for free. This study explores the factors that influence consumers to

purchase LINE stickers even though some stickers are available for free. The remainder of this paper is organized as follows. Section 2 reviews the relevant literature and outlines the study's empirical model. Section 3 addresses our key research question and investigates consumer intention to purchase virtual goods. Section 4 concludes the paper by summarizing the managerial insights of our analyses and providing possible directions for future study.

## Relevant Literature and Hypothesis Development

We explore the intention to purchase virtual goods by, first, introducing the concept of "virtual purchase" and summarizing the research on it. Our research framework is based on the Value-based Adoption Model (VAM; Kim et al., 2007) and incorporates related studies, such as work on purchase satisfaction, reference group acceptance, and personal innovativeness. The conceptual framework of this study is illustrated in Figure 1.



### Virtual Purchase Behavior

Hamari (2017) investigates purchase behavior for virtual goods in three different types of free-to-play games. The study finds that (1) enjoyment of the game reduces the willingness to buy virtual goods while increasing the willingness to play more of the game; and (2) attitude to virtual goods and beliefs about peer attitudes strongly increase the willingness to purchase virtual goods. Jung and Pawlowski (2014) explore consumer goals for virtual consumption and develop a virtual liminoid theory to explain the transitions between users' real-world and virtual identities and virtual consumption as a transition catalyst. Animesh et al. (2011) explore the impacts of

technological and spatial environments on intention to purchase virtual products.

According to Jung and Pawlowski (2014), virtual worlds can be categorized into gaming and social virtual worlds (SVWs). Bray and Konsynski (2007) show that SVWs have altered many features of human life, such as education, business, social events, corporate meetings, social networking, and e-commerce. The research suggests that information is the main factor in e-commerce purchase behavior (Wolfinbarger and Gilly, 2001); customers need to be satisfied with the available information concerning their online purchases (Park and Kim, 2003). Lehtonvirta (2009) divides the purchase drivers for virtual items into three conceptual categories: (a) functional, (b)

hedonic, and (c) social. Animesh et al. (2011) categorize consumers' virtual goods purchase behaviors in virtual worlds into two key dimensions: technology and spatial.

### **Perceived Value and Value-based Adoption Model (VAM)**

Perceived value is defined as “the consumer’s overall assessment of the utility of a product based on perceptions of what is received and what is given” (Zeithaml, 1988). Consumers have varying perceptions of the value of products and services. For example, some may prefer high-quality products/services, while some may prefer high volumes (Zeithaml, 1988). Viewing value as the balance achieved between standard and cost is too facile (Bolton and Drew, 1991). Value is more independent and distinctive than quality and is therefore a higher-level concept (Zeithaml, 1988). Sweeney and Soutar (2001) divide perceived value into four dimensions: sentimental, collective, standard/performance, and cost/worth. In an online environment, perceived value is a mediating variable in the relationship between online trust and purchase intention (Chong et al., 2003). Kim et al. (2007) propose the VAM by integrating the Technology Adoption Model (TAM) with the perceived value literature and empirically test the proposed model in subsequent studies. For example, Kim et al. (2012) examine the intention to purchase digital items based on the theory of self-presentation, while the analysis in Kim et al. (2011) is based on customer value theory. Their findings show that emotional and social factors are two key drivers of the intention to purchase digital goods in social networking communities. From the value-maximization perspective, the VAM model has also been utilized to examine Korean consumers' Software as a Service (SaaS) adoption (Kwon and Seo, 2013). Considering the relationship between perceived value and purchase intention, we derive the following hypothesis:

H1. *Perceived value is positively associated with purchase intention.*

### **Satisfaction**

Customer satisfaction is a marketing term that emphasizes delivering satisfaction to consumers and obtaining profits in return. It is used to measure how a company's products and services fulfill or exceed customer expectation. Customer satisfaction research developed as a distinct area of marketing theory in the 1970s (Oliver, 1980; Churchill and Surprenant, 1982). The model of Oliver (1980), integrated with familiar disconfirmation theory, is the most influential customer satisfaction model. According to Oliver (1980), consumers compare a product with their expectations about product performance to judge their satisfaction level. He finds that disconfirmation is positively related to consumer satisfaction. Verhagen et al. (2011) explore virtual item satisfaction and address two intrinsic (escapism and entertainment) and two extrinsic (economic value and ease of use) experiential values. Following the insights in Oliver (1980), essential for business in today's marketplace, and the work of Verhagen et al. (2011) on virtual worlds, the following hypothesis is proposed.

H2. *Satisfaction is positively associated with purchase intention.*

### **Reference Group Acceptance**

The original definition of “reference group” occurs in Turner (1956): “a reference group may mean a group with which one compares himself in making a self-judgement.” The term “reference group” is usually used to explain how social groups influence individual values, attitudes, and behavior (Blackwell et al., 2001). The literature explores the effect on purchase intention of reference groups. Kotler (1994) indicates that the reference group is a key factor influencing consumers' purchase decisions. Hoonsopon and Puriwat (2016) examine the roles of reference groups (private and public) on the purchase intentions of several types of shoppers. They find that a reference group (especially

a private one) impacts the purchase intention of utilitarian buyers. Therefore, we propose the following:

H3. *Reference group acceptance is positively associated with purchase intention.*

### **Personal Innovativeness**

Personal innovativeness usually refers to the belief that an individual is open to new IT. The concept of personal innovativeness was introduced in an IS context by Agarwal and Prasad (1998), who describe personal innovativeness as the inclination to adopt an innovation. Their findings show that personal innovativeness moderates the relationship between perceptions of a new IT and intentions to use it.

Personal innovativeness affects human behavior from the psychological perspective (Lu, 2014). Jackson et al. (2013) classify personal innovations into five types: (a) relative advantage, the extent to which the new, innovative practice is better than the former practice; (b) compatibility, the extent to which adopting the innovation is appropriate for the individual; (c) complexity, the extent to which the innovation is recognized as being difficult to utilize; (d) observability, the extent to which the outcomes of the innovation are noticeable to others; and (e) trialability, the extent to which the innovation can be assessed before the consumer selects or dismisses it. Personal innovativeness has been found to be the strongest predictor of webcasting adoption (Lin, 2006). Parveen and Sulaiman (2008) show that personal innovativeness has a positive impact on intention to use wireless Internet on mobile devices. Since LINE is a mobile app, the following hypothesis is proposed:

H4. *Personal innovativeness is positively associated with purchase intention.*

### **Moderating Roles of Reference Group and Personal Innovativeness**

Lin and Chen (2006) report that the relationship between perceived value and intention may become stronger with a high level of reference group acceptance and weaker with a low level. Blackwell et al. (2001) indicate that every person and group significantly influence an individual's purchase decisions and buying behavior. Although consumers may initially perceive that the value of LINE stickers may not be high enough or are not satisfied with them, they may still end up purchasing them due to the influence of their reference group. Yi et al. (2006) show that high individual innovativeness may strengthen the reference group's influence on behavior intention. Individuals with high personal innovativeness have been found to have traits that increase their likelihood of purchasing LINE stickers even if their perceived value or satisfaction is poor. For the above reasons, we propose the following:

H5a. *Higher reference group acceptance can strengthen the relationship between perceived value and purchase intention.*

H5b. *Higher reference group acceptance can strengthen the relationship between satisfaction and purchase intention.*

H6a. *Higher personal innovativeness can strengthen the relationship between perceived value and purchase intention.*

H6b. *Higher personal innovativeness can strengthen the relationship between satisfaction and purchase intention.*

## **Research Methods and Results**

### **Data Collection and Sampling**

This study explores consumers' purchase intention for LINE stickers. Most LINE sticker users are in their 20s. Therefore, we collect data from PTT and Facebook between May 13, 2015 and May 27, 2015.

The study includes 421 participants, from whom 69 responses are removed due to missing values. Hence, the number of valid respondents is 352. The sample is 46.4% male and 53.6% female. Most respondents

are young adults from 18 to 34 years of age (88.9%). Out of 352 records, 270 respondents have purchased stickers on LINE. Table 1 presents the respondents' characteristics.

<b>Table 1 - Sample demographics (n = 352)</b>		
<b>Measure</b>	<b>Item</b>	<b>% of respondents (n)</b>
Gender	Male	46.4% (163)
	Female	53.6% (189)
Age	< 18	1.1% (4)
	18 - 24	58.5% (206)
	25 - 29	20.5% (72)
	30 - 34	9.9% (35)
	35 - 39	3.7% (13)
	> 39	3.3%
Education	High school	8.8% (31)
	College	56.2% (198)
	Graduate	35.0% (123)
Average time spent per day with LINE	Less than 1 hour	26.4% (93)
	1 to 2 hours	28.7% (101)
	2 to 3 hours	20.5% (72)
	3 to 4 hours	7.6% (27)
	Longer than 4 hours	16.8% (59)
Frequency of sticker use	Always	0.3% (1)
	Usually/often	15.6% (55)
	Sometimes	16.5% (58)
	Seldom	43.5% (153)
	Never	24.1% (85)
Buying LINE stickers	Yes	76.7% (270)
	No	23.3% (82)
Packs of LINE stickers	Less than 5 packs	5.9% (21)
	5 to 10 packs	26.6% (94)
	11 to 20 packs	37.3% (131)
	21 to 30 packs	14.2% (50)
	More than 30 packs	15.6% (56)
Way to access to LINE stickers	Pay by credit cards	22.7% (80)
	Pay by MyCard	25.0% (88)
	Pay by LINE Pay	2.3% (8)
	LINE e-Couples	6.0% (56)
	Gifts	15.9% (56)
	Pay by LINE free coins	38.6% (136)
	Free download for a limited time	62.5% (220)

### **Measurement Model**

Confirmatory factor analysis (CFA) is used to assess the psychometric properties of the measures, including reliability and construct validity. We note that 82 respondents have never purchased stickers using the LINE app. Accordingly, only 270 records are included in the data analysis due to the

differences in perceptions and behaviors between buyers and non-buyers. The factor loadings of the indicators are all above 0.5 and significant ( $p < 0.01$ ), ranging between 0.563 and 0.955, which indicates construct validity. We also examine the validity and reliability of the measures by computing Cronbach's alphas, composite reliabilities, and Average Variance Extracted (AVE)

scores (see Table 2). The results strongly confirm the reliability of the measures. The alphas and composite reliability scores exceed 0.80, and all AVEs are over 0.50. All scores exceed the accepted rules of thumb (factor loadings = 0.70; alphas = 0.80; AVEs

= 0.50). Table 3 shows the test results for discriminant validity. All AVEs are lower than the values of the squared correlations among the constructs in the corresponding rows and columns, indicating discriminant validity.

Construct (no. of items)	Factor loadings measurement model (CFA)	alpha	Composite reliability	AVE
Perceived functional value (4)	0.923; 0.936; 0.919; 0.896	0.845	0.9560	0.844
Perceived social value (8)	0.729; 0.718; 0.730; 0.586; 0.652; 0.635; 0.666; 0.656	0.914	0.930	0.624
Perceived emotional value (9)	0.656; 0.705; 0.730; 0.814; 0.885; 0.856; 0.893; 0.797; 0.783	0.939	0.939	0.632
Satisfaction (4)	0.886; 0.860; 0.931; 0.846	0.933	0.933	0.776
Reference group acceptance (5)	0.764; 0.799; 0.753; 0.866; 0.828	0.901	0.901	0.645
Personal innovativeness (4)	0.851; 0.888; 0.882; 0.669	0.896	0.896	0.684
Purchase Intention (3)	0.955; 0.952; 0.955	0.951	0.968	0.911

Construct	FV	SV	EV	SAT	RFG	II	PI
FV	<b>0.919</b>						
SV	0.360**	<b>0.790</b>					
EV	0.440**	0.615**	<b>0.795</b>				
SAT	0.465**	0.592**	0.760**	<b>0.881</b>			
RFG	0.291**	0.509**	0.316**	0.281**	<b>0.803</b>		
II	0.316**	0.370**	0.341**	0.387**	0.171**	<b>0.829</b>	
PI	0.506**	0.504**	0.543**	0.597**	0.442**	0.437**	<b>0.954</b>

Notes: FV = perceived function value; SV = perceived social value; EV = perceived emotional value; SAT = satisfaction; RFG = reference group acceptance; II = personal innovativeness; PI = purchase intention. \*\* p < 0.01. The bold scores (diagonal) are the AVEs of the individual constructs. Off-diagonal scores are the squared correlations between constructs.

**Structural Model**

The study uses structural equation modeling (SEM) via partial least square (PLS) conducted with SmartPLS 2.0. Perceived value is composed of three reflective constructs: functional value, social value, and emotional value. We adopt SmartPLS's recommended two-stage approach with a

reflective-formative indicators model to analyze the second-order constructs. Table 4 presents the main results. Hypotheses 1 to 4 are all supported. The influences of perceived value, satisfaction, reference group acceptance, and personal innovativeness on purchase intention are all significant.

Hypothesis	Path	Sign.
H1	Perceived Value -> Purchase Intention	<0.001
H2	Satisfaction -> Purchase Intention	<0.05
H3	Reference Group -> Purchase Intention	<0.001
H4	Personal Innovativeness -> Purchase Intention	<0.001

The moderating effects of reference group acceptance and personal innovativeness are analyzed by multi-group comparison. Tables 5 and 6 show the moderating effects of reference group acceptance and personal innovativeness, respectively. The results show that hypotheses 5a and 6a are supported. The relationship between perceived value and purchase intention is enhanced by both reference group acceptance and personal innovativeness.

Hypotheses 5b and 6b are both partially supported. In the low reference group acceptance and low personal innovativeness groups, higher satisfaction increases consumers' purchase intention for stickers in the LINE app, but consumers' satisfaction is insensitive to purchase intention in the high reference group acceptance and high personal innovativeness groups.

<b>Table 5 - Test of moderating effect of reference group (H5a &amp; H5b )</b>					
Reference group	Path	Effect	Standardized estimate	t-value	p-value
Low	Perceived Value -> Purchase Intention	Strengthened	0.216	1.995	**0.047
	Satisfaction -> Purchase Intention	Strengthened	0.202	1.990	**0.047
High	Perceived Value -> Purchase Intention	Strengthened	0.278	3.167	***0.002
	Satisfaction -> Purchase Intention	Not Supported	0.314	1.249	0.212

<b>Table 6 - Test of moderating effect of personal innovativeness (H6a &amp; H6b )</b>					
Personal innovativeness	Path	Effect	Standardized estimate	t-value	p-value
Low	Perceived Value -> Purchase Intention	Strengthened	0.216	1.995	**0.047
	Satisfaction -> Purchase Intention	Strengthened	0.202	1.990	**0.047
High	Perceived Value -> Purchase Intention	Strengthened	0.278	3.167	***0.002
	Satisfaction -> Purchase Intention	Not Supported	0.314	1.249	0.212

## Discussion

Our key findings are as follows. First, consumers' perceived value concerning virtual goods is critical to their purchase intention. Emotional and social values are two key components of perceived value. Functional value is less crucial. Consumers pay little attention to the function of virtual goods, such as the ability to communicate with friends more effectively or manage social relationships. Second, satisfaction, reference group acceptance, and personal innovativeness have a significant influence

on purchase intention. The decision to purchase LINE stickers may depend on product features, consumers' attitude to innovative technology, and peer groups. LINE is a social platform that makes it simple for users to conduct social interactions. Thus, sticker users may become sticker buyers due to the influence of other users. Buying stickers gives access to fresh and personalized services as well as entertainment. These features induce consumers' intention to purchase them. Third, high personal innovativeness does not significantly enhance the relationship



between satisfaction and purchase intention. If consumers' attitude to innovative technology is high enough, they tend to find a way to obtain stickers. For example, consumers may play LINE mobile games to earn tokens in exchange for stickers. A sophisticated consumer may know how to download foreign stickers for free by setting up a virtual private network (VPN). Hence, their intention to purchase stickers may not be influenced as easily as the intentions of those with low levels of personal innovativeness. Fourth, high reference group acceptance does not significantly enhance the relationship between satisfaction and purchase intention. Consumers at a high level of reference group acceptance are easily influenced by their family, friends, and peer groups. If they and their peer groups feel highly satisfied with the stickers, their intention to purchase them will be high. On the other hand, consumers at a low level of reference group acceptance may focus more on their product experience and satisfaction, significantly influencing purchase intention.

## Conclusion and Limitations

We examine the intention to purchase virtual goods and the critical successful factors for LINE stickers. All of the hypotheses are supported, while hypotheses 5b and 6b are partially supported. The study shows that perceived value, satisfaction, reference group acceptance, and personal innovativeness are all positively associated with purchase intention. The moderation of reference group acceptance and personal innovativeness in the effect of perceived value and satisfaction on purchase intention is partially supported.

### *Theoretical Implications*

This study offers the following theoretical implications. First, the study focuses on consumers' intentions and behaviors concerning virtual goods bought via in-app

purchases on social network platforms. The results show the significant impacts of individual perception, personal characteristics, and social influence. The literature has explored consumers' behavior around in-app purchases of mobile/online games. Our findings increase our understanding of in-app purchases in the context of mobile/online social media. Second, perceived value is a second-order construct, and the importance of sub-constructs varies depending on the context. For example, this study shows that most consumers consider emotional value and social value as the most important factors in their purchase decisions. Functional value is less important and is not a major issue on social network platforms. Third, the study compares between the effects of individual perception and social influence. We find that personal characteristics play a key role in in-app purchases on mobile social media. Consumers with high personal innovativeness tend to buy virtual goods without considering their product experience, as do consumers with high reference group acceptance.

### *Practical Implications*

Our findings offer two implications for the providers of virtual goods on social network platforms. First, when consumers access virtual goods, providers should attempt to invoke consumers' happiness and enjoyment and enhance their self-presentation and their sense of belonging, relationship, and acquaintance. For example, LINE stickers are effective surrogates for consumer communication. Stickers are also useful for improving consumers' purchase intention, as they can provide topics for group discussion or echo users' emotional responses. Ensuring that virtual goods are satisfactory and have positive electronic word-of-mouth could also induce users to purchase them. Second, consumers with high innovativeness will find a way to obtain free stickers. Hence, providers may consider how to increase users' perceived value and thus drive more

exposure for their business—for example, by offering free and funny stickers in partnership with a cartoonist or building a platform that allows consumers to create their own stickers.

### Limitations

This study has two limitations. First, its data were collected from the bulletin board system of PTT and Facebook. Thus, the sample may lack diversity, which may bias the results. We plan to expand the data sources in future work. Second, the study considers consumers' purchase intention only for LINE stickers. However, some virtual goods are offered in a freemium model on social network platforms such as Facebook and WeChat, whereby a free version is provided, and consumers can pay for a premium version after having tried the free one (e.g., LINE Music, LINE Game). We may compare consumers' purchase intentions among different social network platforms and consider multiple types of virtual goods in a future study.

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## Appendix I: Questionnaire Items

Construct	ID	Item	Sources
Perceived Functional Value	FV1	The stickers (digital items) sold here have an acceptable standard quality.	Kim et al. (2011)
	FV2	The stickers (digital items) sold here are reliable in their performance.	
	FV3	The stickers (digital items) sold here are good in terms of their overall excellence.	
	FV4	The stickers (digital items) sold here possess a degree of quality, which is satisfactory.	
Perceived Social Value	SV1	Using the stickers (digital items) sold here enhances my self-image to others.	Kim et al. (2011)
	SV2	Using the stickers (digital items) sold here improves my self-expression to others.	
	SV3	Using the stickers (digital items) sold here makes a good impression on other people.	
	SV4	Using the stickers (digital items) sold here improves the way I am perceived.	
	SV5	Using the stickers (digital items) sold here better enables me to form interpersonal bonds with others.	
	SV6	Using the stickers (digital items) sold here helps me maintain my social relationships with others.	
	SV7	Using the stickers (digital items) sold here helps me make friends.	
	SV8	Using the stickers (digital items) sold here enhances my social relationship with others.	
Perceived Emotional Value	EV1	The stickers (digital items) sold here are lovely.	Kim et al. (2011)
	EV2	The stickers (digital items) sold here reflect beauty.	
	EV3	The stickers (digital items) sold here aesthetically appealing.	
	EV4	The stickers (digital items) sold here have attractive aesthetic features.	
	EV5	Using the stickers (digital items) sold here is fun.	
	EV6	Using the stickers (digital items) sold here is interesting to me.	
	EV7	Using the stickers (digital items) sold here stimulates my curiosity.	
	EV8	Using the stickers (digital items) sold here arouses my imagination.	
	EV9	Using the stickers (digital items) sold here keeps me absorbed.	
Satisfaction	SAT1	I am satisfied with my overall experienced of sticker use in the LINE app.	Oliver (1980); Bhattacharjee (2001)
	SAT2	I am pleased with my overall experienced of sticker use in the LINE app.	
	SAT3	I am contented with my overall experienced of sticker use in the LINE app.	
	SAT4	I am delighted with my overall experienced of sticker use in the LINE app.	
Reference Group Acceptance	RFG1	I would buy stickers in the LINE app because I am sure that my friends approve of it.	Veloutsou & Moutinho (2009)
	RFG2	I am very loyal to stickers in the LINE app because my friends also use it.	
	RFG3	My friends buy stickers in the LINE app and I buy it too just	

		because I want to like them.	
	RFG4	. I achieve a sense of belonging by buying the same stickers in the LINE app my friends buy.	
	RFG5	I often discuss with friends about stickers in the LINE app.	
Personal Innovativeness	II1	If I heard about a new information technology, I would look for ways to experiment with it.	Agarwal & Karahanna (2000)
	II2	In general, I am hesitant to try out new information technologies.	
	II3	Among my peers, I am usually the first to try out new information technologies.	
	II4	I like to experiment with new information technologies.	
Intention to Purchase	PI1	The probability that I would consider buying digital items from XXX within the next 6 months is high.	Kim et al. (2011)
	PI2	My willingness to buy a digital item from XXX within the next 6 months is high.	
	PI3	The likelihood of my purchasing a digital item from XXX within the next 6 months is high.	

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