

Research Article

An Empirical Research on Consumers' Purchasing Behavior of Virtual Products in SNS

Jie Gao

SILC Shanghai University, Shanghai, China

Abstract: Based on the research of Social Networking Sites (for short SNS), the study involves the trading of virtual product development status, collates and summarizes the research results in China and abroad on consumers buying behavior of virtual products. The researchers attempt to explore factors influencing consumers to buy SNS virtual products by using questionnaires to collect personal information of SNS customers. In addition, the Theory of Planned Behavior (for short TPB) has been selected as theoretical model and the empirical analysis uses structural equation modeling method to analyze the factors affecting several different groups of users of SNS who will be the consumers or potential consumers of virtual products. The findings are as follows: (1) the passionate export-oriented consumer attitudes towards virtual product of SNS will clearly and directly affect the type of the Behavioral Intention (for short BI) of buyers of virtual products; the perceived behavioral control can even directly affect the final actual purchase behavior. (2) The Subjective Norm (for short SN) of traditional inward-oriented consumers has a significant impact on virtual product purchase behavior and will also directly affect the final purchase behavior. (3) The SNS under self-supporting consumers on virtual product attitudes and purchasing attitudes of virtual products mainly affected their BI.

Keywords: Consumer behavior, Social Network Sites (SNS), virtual products

INTRODUCTION

In January 2013, the 31th China Internet Development Statistics Report shows that the number of Internet users reached 564 million and the Internet penetration rate was 42.1% in China. Social networking sites have become the new age of the Internet, whose power of impact on the network life and real life cannot be ignored. However, the profit model of social networking sites has been questioned, because the profits based on advertising revenue model for social networking sites is not a stable and sustained profit mode. Nevertheless, online shopping sites developed in China are more mature and profitable. In this environment, social networking sites will be e-commercialized to motivate consumers to do shopping through social networking sites directly or indirectly. This model will become effective tools of social networking sites in quest for profit. Bearing this view in mind, the operators of social networking sites should have a better understanding of consumer motivators and constraints of the online shopping and make strategic decisions, technology decisions and marketing decisions based on these characteristics.

Although the number of users is increasing with the rapid development of SNS and a lot of investors are attracted in this field, the profit model of SNS has been

doubted by some researchers (Calburn, 2006; Shoji, 2007). Currently, the major Chinese and overseas SNS profit from advertising revenue (Williamson, 2007). For example, Friendster income entirely came from advertising (Hopkins *et al.*, 2004) and more than 85% annual income of Facebook is from advertising. In general, advertisers are in favor of attractive sites for consumers, but the Internet industry is a rapidly changing industry and the development of information technology can make a website from "crowds" to "few". Therefore, advertisers in the network investment are with greater mobility. In 2008, the proportion of MySpace advertising revenue fell by 11.2% and Facebook by 12.5% (Beer, 2008). The data suggests that advertisements-based profit revenue model for SNS was not stable and sustained.

American Marketing Association's survey shows that there are as high as 29% American consumers easily accepting social web shopping (Horovitz, 2006). As a new profit-making model, the social web shopping has been used by such companies as Facebook, Cyworld.co.kr and other SNS, which have achieved some success. SNS have a large number of users and online shopping has been in the mature situation. Therefore, if the two of them are combined through the SNS platform for selling goods or services, a stable and lucrative profit model could be established.

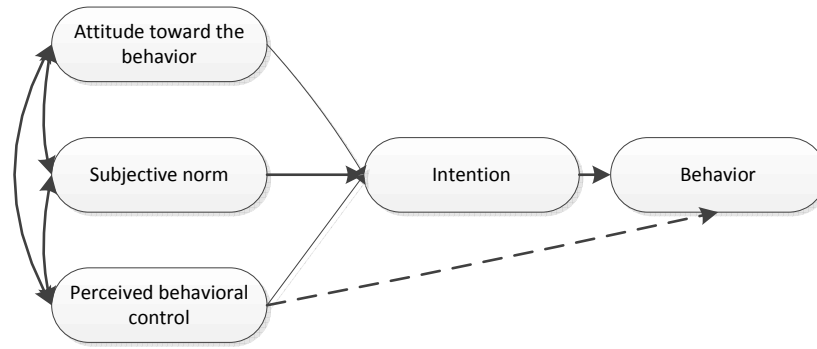


Fig. 1: Theory of planned behavior (Ajzen, 1991a)

LITERATURE REVIEW

Consumer behavior research began in the late 19th century and early 20th century, the purpose of which was to find out the typical difference between individual consumers and to analyze consumer behavior in the purchase decision consistency and various situations influencing factors (Ausra Skrudupaite, 2006).

Glock and Nicosia (1963) defined consumer behavior as the concept to describe or explain the choice and buying behaviors of consumers in a specific time or some time taken. Demby (1973) pointed out that consumer behavior was the individual assessment, access to and use of goods or services, as well as the decision-making process and the actual action. According to Engel *et al.* (1986), consumer behavior that directly involved in the access to goods, use of goods and handling of goods or services in the economy was a series of activities, including the decision-making process before deciding on these behaviors. W.G. Zikmund and M.d Amico (Skrudupaitė *et al.*, 2006) pointed out that consumer behavior was a series of activities involving selecting goods, obtaining merchandise and using them to meet their needs and desires. Kotler (Luna and Gupta, 2001) asserted that the consumer behavior of individuals or groups would select, purchase, use, or handle products, services, ideas or experiences to meet the needs and desires of the process. Virvilaite *et al.* (2009) understood that consumer behavior was the individual problem, searching for goods or services that can solve the problem, access and use goods and then the feedback process. Obviously, most scholars regarded consumer behavior as a process of research.

Attitude intentional behavior theory is an important result of the study of consumer behavior. The consumer attitude behavioral intention will lead the actual behavior (Hung *et al.*, 2003). We believe that the individual's attitude of certain behavior can be defined as whether the individual takes a favorable perception of the act (Fishbein and Ajzen, 1975); and behavioral intention means that consumers take some kinds of behavior for subjective possibilities (Taylor and Todd,

1995). Attitude intention behavior theory has been widely used in the field of network consumer research.

There were popular consumer behavior models such as the Theory of Reasoned Action (for short TRA, Ajzen and Fishbein, 1977), Technology Acceptance Model (for short TAM, Davis, 1989) and Theory of Planned Behavior (for short TPB, Ajzen, 1991b) (Fig. 1).

Consumers attitude directly affects the network consumption which is depended on the characteristics of online shopping (Davis, 1993). The online shopping feature of consumer recognition function, such as easiness to use and usefulness, can also be emotionally cognitive, like interests (Menon and Kahn, 2002). Some network consumers can be described as simple to solve the problem, while some can be considered to be the pursuit of entertainment, fantasy, motivation, sensory stimulation and fun (Holbrook and Hirschman, 1982). "Problem-solving" online consumption is only limited to specific goods or services, in which shopping is regarded as just a task or work (Babin *et al.*, 1994) and the only concern is the time-efficient and effective manner to buy goods. By contrast, the second online consumption, which takes it as a kind of entertainment, enjoys the pleasures lying in the process of pursuit (Mathwick *et al.*, 2001). Therefore, the study of consumer behavior on the network needs to take into account the two dimensions of the "functional" and "emotional".

Ellison (2007) pointed out that the SNS are web-based service, users of public or semi-public information within a bounded system providing a platform to establish a connection between users which can create himself or by others to achieve the purpose of interacting with other users. Won *et al.* (2010) suggested that SNS is an online community where users can share their original content in the community.

The network virtual product is a catch-all concept, narrowly, the virtual goods in online games, online communities, such as game currency, electronic music, theme dress (Wu *et al.*, 2004; Meng, 2006). However, generally, the network virtual products were enterprises developing commerce online and putting product online,

such as transforming physical products to 3D image and enabling consumers to pick up on the network (Zheng *et al.*, 2006).

Animesh *et al.* (2011) used SOR model to analyze technology environment and the impact of the space environment on the behavior of consumers to purchase virtual products in a virtual environment. The study pointed out that the technical environment, including interactive and social space environment density and stability. Nerad (2010) pointed out that the virtual consumer behavior and consumer desire to self-expression are highly correlated, which means that the consumers with stronger desire are more likely to purchase network virtual product.

HYPOTHESES

In the field of psychology, TPB model is a theoretical study of the relationship between attitudes and behavior, which was initially proposed by Ajzen (1991a) on the basis of TRA when a behavior was not completely controlled by the individual willing. Ajzen (1991b) introduced perceived behavioral control variables in the TRA, which can be used to make up for this shortcoming of TRA. TPB personal behavior has three considerations: first, the possible consequences of the behavior and the consequences of the evaluation; second, the power of the expectations of the behavior of others. To follow these expectations can promote or hinder the behavior with a series of factors affecting the intensity. When individuals feel that they have enough capacity to control the behavior, they will show some behavioral intention. This is the most direct impact on the actual behavior factors. However, some of the behavior of the implementation will create obstacles for personal intention to control, so sometimes perceived behavioral control can act directly on the actual behavior (Ramayah *et al.*, 2010). Ajzen's TPB model has been widely used and proven to be effective in previous researches on e-commerce. Fusilier and Durlabhji (2005) took a study of Indian college acceptance of new information technologies by using TPB. They clearly expressed that the basis of TPB was a very effective

model to study online consumer behavior. Therefore, TPB is selected as the main theoretical models for the basic hypotheses of this study (Fig. 2).

The attitude will raise the level of behavioral intention more than subjective norm. More positive consumer attitude is relatively less affected by the subjective norm or the views of others (Fusilier and Durlabhji, 2005).

Hypothesis 1: The attitudes of SNS virtual products are significantly related to SNS virtual products purchase intention:

Subjective norm refers to an individual behavior which is considered by himself. He perceives around the most important for him whether or not to support him to take this behavior for real (Fishbein and Ajzen, 1975).

Hypothesis 2: The virtual subjective norm of SNS is significantly related with virtual product purchase intention:

Perceived behavioral control reflects the implementation of a behavior facing internal or external constraints (Taylor and Todd, 1995). It describes whether consumers have the necessary abilities to get resources for implementing the behavior and whether to have good control of the performance behavior perception (Lu and Yen, 2008). The TPB perceived behavioral control can influence behavior intention (Ajzen, 1991a).

Hypothesis 3: SNS perceived behavioral control of virtual product purchase and virtual product purchase intention are significantly associated.

Hypothesis 4: SNS perceived behavioral control virtual product purchase can act directly on the actual behavior:

Consumers will exhibit certain behavioral intentions when they can obtain maximum benefits at little cost. Behavioral intention will directly affect consumers' actual purchase behavior. Due to its formation process, behavioral intention is the most appropriate predictor to study actual behavior, containing all basic factors that can affect the actual behavior (Fishbein and Ajzen, 1975).

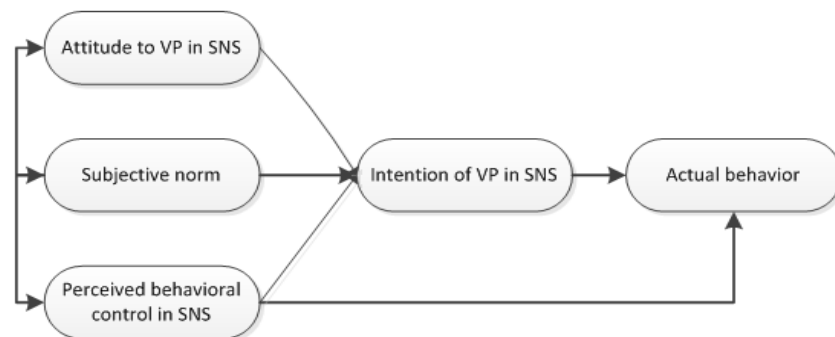


Fig. 2: Research model

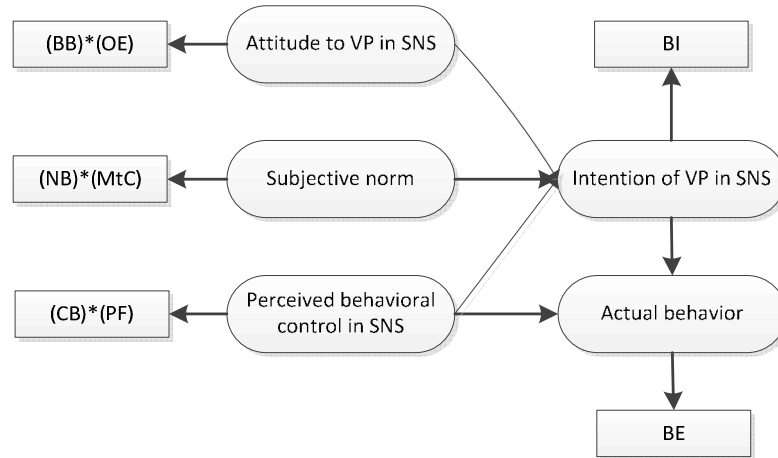


Fig. 3: The TPB test model

Therefore, behavioral intention of buying behavior has a significant impact (Hung *et al.*, 2003).

Hypothesis 5: Behavioral intentions to buy virtual products in SNS have significant association with actual purchase behavior.

QUESTIONNAIRE

In order to obtain the required data, the questionnaire has been divided into three parts. The first part is a survey of the values and lifestyles of all Renren (www.renren.com) users, where data is used in the consumer cluster analysis. The second part based on the TPB model focuses on consumer attitudes, subjective norm, perceived behavioral control, behavioral intentions and actual behavior; which is the core issue of this study. The third part is about a survey of consumers' personal information on the demographic characteristics, the results of which will be used to understand the basic situation of the sample. Moreover, cluster analysis is used to determine clustering results whether there are significant differences in demographic characteristics. TPB test model like Fig. 3 showed is used.

In this model, BB means behavioral beliefs. We use it to test whether consumers believe the behavioral will take some results. OE means outcome evaluations, which is used by consumer to evaluate the behavioral results. NB-normative beliefs, means the consumers' perception of whether important person supporting him to take behavior. MtC is the motivation to comply. The enthusiasm of consumers follow NB. CB is control beliefs, which indicates the resources and opportunity of Decision-makers to take some behaviors. PF, perceived facilitation, is the function of promotion or inhibition brought by the resources of the decision-makers.

The first part of the questionnaire is designed according to the reference of VALS2 segmentation system (Piirto, 1991; Kassarian, 1986; Arnould, 2004). Originally, 30 statement are designed about the values and lifestyles of consumers. Then, we selected 10

Kaiser-meyer-01 kin measure of sampling adequacy		0.646
Barlett's test of Sphericity	Approx. chi-square	384.654
	df	136
	Sig.	0.000

Fig. 4: Modified KMO and Bartlett's test

	Cronbach's Alpha	
	Based on Standardized Items	
Cronbach's Alpha	.794	N of Items 17

Fig. 5: Reliability statistics

premium users for face-to-face interviews to verify the original statements. Since the relationships between the sequences of 30 statements will mindset respondents answers, we made a random order of these statements. Likert scale is used to collect data, in which 1 mean totally disagree, 7 mean fully agreed.

Furthermore, we randomly selected 40 students from different universities in Shanghai with different academic backgrounds for pre-research. We used exploratory factor analysis and reliability statistics to analyze collected data and modified them to final questionnaire eventually (Fig. 4 and 5).

In formal research, we used e-mail and paper to distribute questionnaires. Two hundred and fifty questionnaires were distributed and 231 were returned, the recovery rate being 92.4%. Objects are from Shanghai University, Fudan University, Tongji University, East China Normal University, Beijing University of Aeronautics and Astronautics, Renmin University of China, Chinese Academy of Sciences,

Wuhan University, Southeast University, Tianjin University, Zhejiang University and Shandong University. More than 30 different college and research institutions are involved and academic background covers economic management, law, literature, science, engineering and others. We used tabulated method to delete a record when one data was missing; we found five of them were invalid questionnaires; the final valid sample size was 226.

DATA ANALYSIS AND HYPOTHESES TESTING

We believe that users of SNS, whether they bought virtual products or not, were all objectives of this study. Those who did not buy are potential consumers of virtual product; after all, they spend some time browsing SNS every day and their behaviors are worth to be studied.

We used SPSS 17 to analyze the collected data by Principal Component Analysis (PCA) and varimax orthogonal rotation method to rotate factors. The KMO 0.733>0.6, which means the variables have a certain correlation, representing a suitable factor to analysis. Bartlett test of double-sphericity statistics significant probability was 0.000, less than 1%, to reject the null hypothesis, which showed the 17 statement was not independent and suitable to factor analysis. Initial analysis extracted four main factors; the variance contribution rate was 61.901%. The results show that the Krone Bach alpha coefficients were greater than 0.6, each factor of the statement with good internal consistency.

We used standardized factors as clustering variables and adopted k-means algorithm to analyze cluster. By taking the convergence criteria of 0.02, we obtained three different consumer clusters, which had 80,27,119 subjects respectively (Fig. 6 and 7).

According to the results of the analysis, we get three significant different types consumer groups, which are described as below:

The first type of consumers have higher scores on the fashion factor and friendship factor, we named them passionate export-oriented consumers. The second type of consumers has lower scores on the four factors. We named them the traditional inward-looking consumers. The third type of consumers named low profile self-supporting consumers has a higher score on the conservation factor and independence factor.

In this study, we used analysis of variance to assess whether the differences between the consumers clusters were significant. The preset level was 0.05; the results of the analysis of variance accompanied by the probability p-values were less than significant level. This indicates that the three kinds of consumer groups formed by cluster analysis on the fashion factor score

	Cluster		
	1	2	3
Fashion	.60730	-1.01494	-.17799
Friendship	.07863	-.11721	-.02627
Conservertive	-.90249	-.16146	.64335
Independence	.08494	-1.52247	.28833

Fig. 6: Final cluster

Cluster	1	80.000
	2	27.000
	3	119.000
Effective		226.000
Deletion		.000

Fig. 7: Results of cluster

was significantly different (F = 41.554, p<0.0001); friendship factor score significant difference (F = 4.72, p<0.05); the conservative factor score on the significant difference (F = 116.809, p<0.0001); the independence factor score, there are still significant differences (F = 53.608, p<0.0001). In short, three consumer groups in the factor scores are more significant differences and clustering effect was good.

We also used Wilks lambda discriminant analysis in this study, default significance level being 5%. Discriminant analysis results showed that two Wilks lambda value were 0.189 and 0.549, accompanied probability p-values were less than 0.0001, the correct rate was 94.2% of the original cluster, indicating that the results of the initial clustering is very effective.

We applied the Kroner Bach α coefficient method before making the next analysis. Reliability analysis showed that each scale of Kroner Bach α coefficients was greater than 0.6, showing that the data has good reliability.

Theoretical study is more important than reliable data (Browne and Cudeck, 1993) during the use of Structural Equation Model (SEM). As we mentioned, the theory of planned behavior model has been proven to be an effective research model. Considering the effectiveness of the small sample size and TPB model, we have only studied these model fitting indicators as a reference, instead of correcting the model based on these indicators. We delete individual unsuitable samples based on the theory to make the model fits better.

Chi-square test value is affected by the sample size which is very large. It is not suitable as the evaluation index, the degree of freedom of the chi-square ratio χ^2/df as a model evaluation. Chi-square degrees of freedom ratio of less than 3 is acceptable (Carmines and McIver, 1981). Excepted χ^2/df , we select the goodness of fit

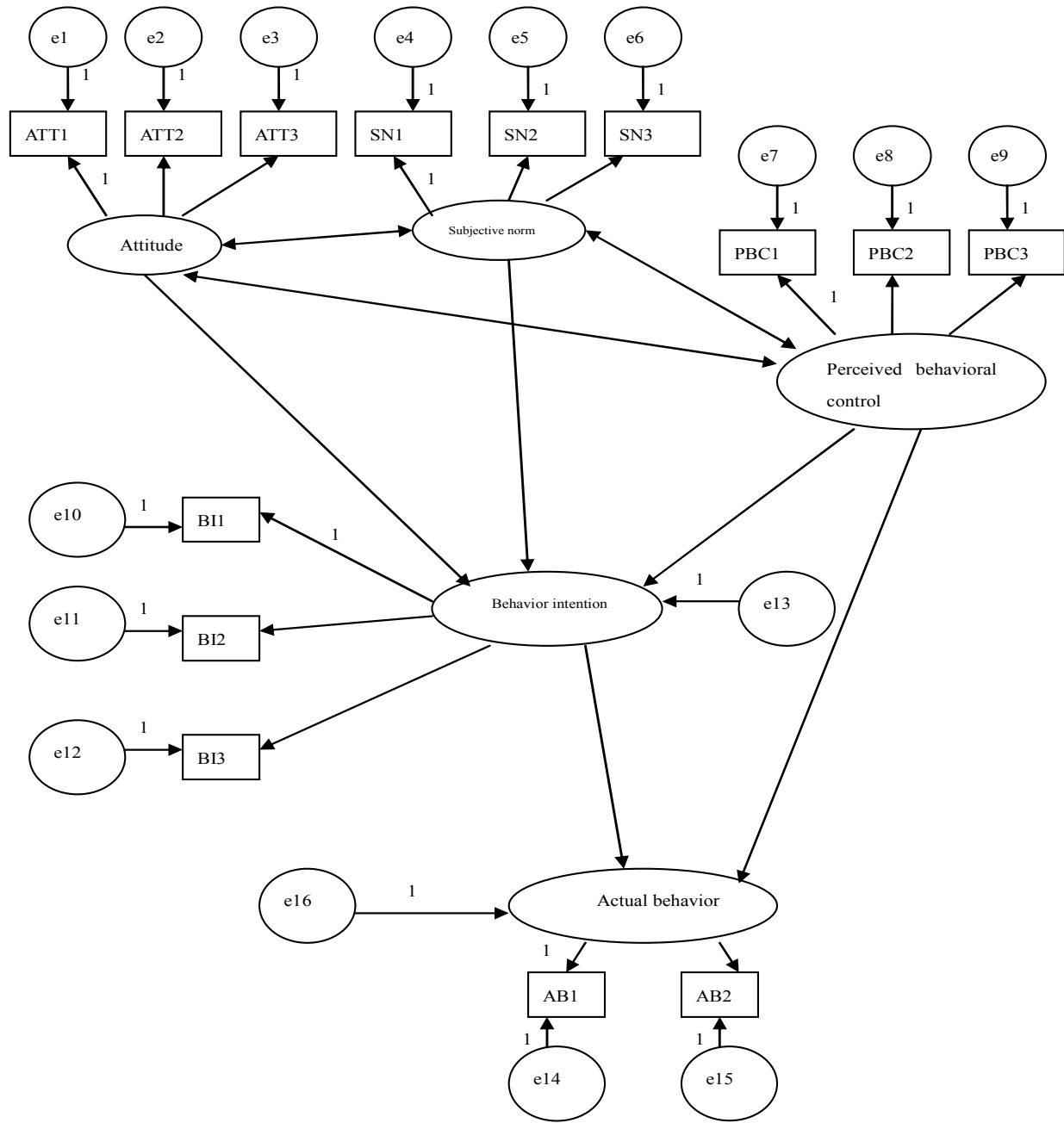


Fig. 8: SEM of consumer purchase VP in SNS

Table 1: Path coefficients

Path	Standardize regression coefficients		
	Passion export-oriented consumers	Traditional inward-looking consumers	Low profile self-supporting consumers
BI←SN	-0.035	0.340	-0.018
BI←PBC	0.047	0.263	0.230
BI←A	0.815	0.240	0.629
AB←PBC	0.222	-0.004	0.171
AB←BI	0.842	0.525	0.628
SN↔A	-0.085	0.062	0.205
SN↔PBC	-0.025	-0.175	0.237
PBC↔A	0.575	0.256	0.435

All paths significant at p = 0.05

index GFI, adjusted goodness-of-fit index AGFI, approximation error RMSEA, Comparative Fit Index CFI, specification fit index NFI and the Tucker-Lewis index as the model fitting evaluation index, based on this study and we enlarged some index standard.

We used Fig. 3 model to build up this study's SEM, as what Fig. 8 shows.

We used this model to take hypothesis test of three types of consumers. Table 1 showed the standardized regression coefficients of all types consumers.

With the results from the Table 1, we used AMOS to analyze the passionate export-oriented consumers in SNS. Attitude has a very significant impact on behavioral intention (coefficient = 0.815, accompanied probability $p < 0.0001$), supporting for H1. Perceived behavioral control has more significant impact on the actual behavior intention (coefficient = 0.222, accompanied probability $p = 0.016 < 0.05$), supporting for H4. Behavioral intentions and actual behavior was significantly correlated (coefficient = 0.842, accompanied probability $p < 0.0001$), supporting for H5. Subjective norms on behavioral intention and perceived behavioral control on behavioral intention was not significant, rejecting both H2 and H3. In addition, the relations with attitudes, subjective norms and perceived behavioral control, only attitude and perceived behavioral control have significant correlation (correlation coefficient = 0.575, accompanied probability $p < 0.0001$).

We can also get the results of analysis on the traditional inward-looking consumers in Table 1. Subjective norms have a very significant impact on behavioral intention (coefficient = 0.340, accompanied probability $p = 0.044 < 0.05$), support for H2; behavioral intention has more significant impact on the actual behavior intention (coefficient = 0.525, accompanied probability $p < 0.0001$), support for H5; Although the attitude impact of behavioral intention and the perceived behavioral control on behavioral intention have large path coefficients, the significance level is not significant, rejecting both H1 and H3; Perceived behavioral control on actual behavior was not significant, rejecting both H4. In addition, there is no significant correlation between attitude, subjective norms and perceived behavioral control.

For the low profile self-supporting consumers, Attitude has a very significant impact on behavioral intention (coefficient = 0.629, accompanied probability $p < 0.0001$), supporting for H1. Perceived behavioral control has more significant impact on the behavioral intention (coefficient = 0.230, accompanied probability $p = 0.010 < 0.05$), supporting for H3. Behavioral intentions and actual behavior was significantly correlated (coefficient = 0.628, accompanied probability $p < 0.0001$), supporting for H5. Subjective norms on behavioral intention and perceived behavioral control on actual behavioral was not significant, rejecting both H2 and H4. In addition, the relations with attitudes, subjective norms and perceived behavioral control, companions probability was 0.057 (barely acceptable),

0.034 and less than 0.0001, which showed those three variables have significant correlation.

CONCLUSION

For passionate export-oriented consumers, the attitude of SNS virtual products clearly impact their behavioral intentions, which will directly affect the actual behavior of consumers. In addition, perceived behavioral control of purchasing virtual products has direct effects on final actual purchase behavior. There is a strong relationship between attitudes and perceived behavioral control. Consumers tend to impulsively buy virtual product once a certain SNS generates a positive attitude. If they have necessary resources for purchase and the capacity of the commodity, those consumer purchase behavior will be taken as soon as possible.

Subjective norms of traditional inward-looking consumer have a significant impact on buying behavior intention of virtual product while behavioral intention will also directly affect the final purchase behavior. Obviously, this group of consumers put more emphasis on SNS virtual product reputation and they want to get advice from others.

For the low profile self-supporting consumers, attitudes and perceived behavioral control of purchase virtual products in SNS are major influence of their behavior intention, while perceived behavioral control does not significantly affect the final purchase behavior. This indicates that this type of consumer buying behavior is very rational. They will consider their own favorite of a virtual product and their own resources before building up their behavioral intentions. Cluster analysis shows that this type of consumers have a higher score on the self-reliance factor. They always have a plan and own ideas and like to solve their own problems, which also explains why the degree of influence of subjective norm on behavioral intention is not high.

ACKNOWLEDGMENT

The research was supported by the project of National Planning of Philosophy and Social Science (11CGL034); the Key Projects of the Education Department of Shanghai Technical Innovation (13ZS072), the projects of Best Young Teacher of Shanghai University in 2010, which were led by Gao Jie in Shanghai University. We also would like to thank Professor Richard P. Bagozzi for his very helpful and constructive comments, which have significantly improved the exposition of this study.

REFERENCES

- Ajzen, I., 1991a. The theory of planned behavior. *Organ. Behav. Hum. Dec.*, 50: 179-211.
- Ajzen, I., 1991b. Organizational behavior and human decision processes. *Theory Plan. Behav.*, 50(2): 179-211.

- Ajzen, I. and M. Fishbein, 1977. Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychol. Bull.*, 84(5): 888.
- Animesh, A., P. Alain, Y. Sung-Byung and O. Wonseok, 2011. An odyssey into virtual worlds: Exploring the impacts of technological and spatial environments. *Manage. Inform. Syst. Quart.*, 35(3): 789-810.
- Arnould, E.J., 2004. Beyond the sacred-profane dichotomy in consumer research. *Adv. Consum. Res.*, 31: 52-54.
- Babin, B.J., W.R. Darden and M. Griffin, 1994. Work and/or fun: Measuring hedonic and utilitarian shopping value. *J. Consum. Res.*, 20(4): 644-656.
- Beer, D.D., 2008. Social network (ing) sites... revisiting the story so far: A response to danah boyd. *J. Comput. Mediat. Commun.*, 13(2): 516-529.
- Browne, M.W. and R. Cudeck, 1993. Alternative ways of assessing model fit. *Sage Focus Editions*, 154: 136-136.
- Davis, F.D., 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quart.*, 13(3): 319-340.
- Davis, F.D., 1993. User acceptance of information technology: system characteristics, user perceptions and behavioral impacts. *Int. J. Man Mach. Stud.*, 38: 475-87.
- Demby, E., 1973. A Psychographic Study of the Market for Flowers. Amer. Florists Marketing Council, Alexandria, VA.
- Ellison, N.B., 2007. Social network sites: Definition, history and scholarship. *J. Comput. Mediat. Commun.*, 13(1): 210-230.
- Engel, F.J., R.D. Blackwell and P.W. Miniard, 1986. *Consumer Behaviour*. 5th Edn., The Dryden Press, New York.
- Fishbein, M. and I. Ajzen, 1975. *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wesley, Reading, MA.
- Fusilier, M. and S. Durlabhji, 2005. An exploration of student internet use in India: the technology acceptance model and the theory of planned behaviour. *Campus Wide Inform. Syst.*, 22(4): 233-246.
- Glock, C.Y. and F.M. Nicolas, 1963. Sociology and the study of consumers. *J. Advert. Res.*, (3): 21-27.
- Holbrook, M.B. and E.C. Hirschman, 1982. The experiential aspects of consumption: consumer fantasies, feelings and fun. *J. Consum. Res.*, 9(2): 132-140.
- Hopkins, C.D., M.A. Raymond and A. Mitra, 2004. Consumer responses to perceived telepresence in the online advertising environment: The moderating role of involvement. *Market. Theory*, 4(1-2): 137-162.
- Hung, S.Y., C.Y. Ku and C.M. Chang, 2003. Critical factors of WAP services adoption: an empirical study. *Electr. Comm. Res. Appl.*, 2: 42-60.
- Kassarjian, H.H., 1986. Consumer research: Some recollections and a commentary. *Adv. Consum. Res.*, 13(1): 6-8.
- Lu, H.P. and C.H. Yen, 2008. Effects of e-service quality on loyalty intention: an empirical study in online auction. *Manag. Serv. Qual.*, 18(2): 127-146.
- Luna, D. and S.F. Gupta, 2001. An integrative framework for cross-cultural consumer behavior. *Int. Market. Rev.*, 18(1): 45-69.
- Mathwick, C., N. Malhotra and E. Rigdon, 2001. Experiential value: Conceptualization, measurement and application in the catalog and internet shopping environment. *J. Retailing*, 77(1): 39-56.
- Meng, L.H., 2006. Design and optimization of the clamp mechanism. *Mach. Des. Res.*, 56(1): 75-84.
- Menon, S. and B. Kahn, 2002. Cross-category effects of induced arousal and pleasure on the internet shopping experience. *J. Retailing*, 78: 31-40.
- Nerad, M., 2010. Globalization and the internationalization of graduate education: A macro and micro view. *Can. J. Higher Educ.*, 40(1): 1-12.
- Piirto, R., 1991. *Beyond Mind Games: The Marketing Power of Psychographics*. Amer Demographics Books, Ithaca, New York, pp: 125-135.
- Ramayah, T., N. Ahmad and A. Omar, 2010. Consumer lifestyles and online shopping continuance intention. *Bus. Strat. Series*, 11(4): 227-243.
- Shoji, M., 2007. Regional Social Networking Services (SNS)-the current situation and the future potential. Center for Global Communications (GLOCOM), International University of Japan.
- Skrudupaitė, A., R. Kuvykaitė and R. Virvilaitė, 2006. Influence of social factors on consumer behaviour: Context of euro integration. *Eng. Econ.*, 3(48): 73-82.
- Taylor, S. and P.A. Todd, 1995. Understanding information technology usage: A test of competing models. *Inform. Syst. Res.*, 6(2): 144-176.
- Virvilaite, R., V. Saladiene and R. Bagdonaitė, 2009. Peculiarities of impulsive purchasing in the market of consumer goods. *Eng. Econ.*, 2(62): 101-108.
- Williamson, D.A., 2007. *Social network marketing: Ad spending and usage*. Social Network Marketing, Report by Debra Aho Williamson.
- Won, K., J. Ok-Ran and L. Sang-Won, 2010. On social web sites. *Inform. Syst.*, 35(2): 215-236.
- Wu, D.L., R.D. Yang, D.Z. Ma and X.M. Fan, 2004. Product information representation in integrated virtual assembly environment. *Comput. Integr. Manuf.*, 36(11): 112-130.
- Zheng, Y., R.X. Ning, J.H. Liu and L. Du, 2006. Survey on key techniques of virtual assembly. *J. Syst. Simulat.*, 3: 031.