

The Determinants of Online Shopping Behavior

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Abstract—The rapid development of the Internet has increased the number of users shopping online. Many sellers thus focus on the shopping behavior on online environment. In this competitive environment, managers must understand factors that affect the online purchase behavior of customers to increase and maintain their competitive advantage. Therefore, this study aims to explore antecedents of online shopping behavior. Based on the social cognitive theory, this study proposes a research model of online shopping behavior. This study argues that trust positively affects online shopping behavior; perceived website complexity negatively and directly affects online shopping behavior, and indirectly affects trust online shopping behavior via trust. These research results can be seen as references by future scholars and practical suggestions for platform managers to improve their businesses.

Keywords- Online shopping behavior; Trust; Perceived website complexity; Social cognitive theory

I. INTRODUCTION

The number of online shoppers has increased in recent years. Reference [1] indicated that more than 60% of American consumers shop online at least once a month; only 1% has never shopped online. Reference [2] showed that in the past 12 months, more than 70% German and Finnish users have used the Internet to shop, and over 80% English users shop online. Reference [3] indicated the Internet enables companies and consumers to interact with each other through electronic commerce. In the wake of the enormously profitable online market, the competition among shopping websites is keen. Understanding the issue about online shopping is important for online sellers. Thus, this study focuses on the determinants of online shopping behavior.

Purchasing is the main method of obtaining actual products, regardless of product type (physical or digital) [4]. A variety of explanatory models have been developed and aimed at predicting and explaining online purchasing behavior based on user acceptance theories such as the technology acceptance model (TAM) and the theory of planned behavior (TPB). Such studies have improved understanding of why individuals purchase products/services online [5].

Recent studies have demonstrated that the environmental factors are important for fostering shopping behavior [6]. For example, store environment may influence product evaluation and store choice. However, previous studies, such as TAM and TPB, less concern the influence of

environmental factors on online shopping behavior. In social cognitive theory, there is a triadic mechanism among personal characteristics, such as cognitive states, psychological features, such as external environment factors, and behavior [7].

Social cognitive theory is a strong theory that accounting for the human behavior argued by [7]. There are many studies adopting social cognitive theory to explain the online customer behavior. Reference [8] used social cognitive theory to assess the determinants of internet banking adoption. The results shown that websites' social feature, trust, compatibility with lifestyle and online customer services have a significant effect on customers' intentions to adopt Internet banking. Reference [9] adopted social cognitive theory to consider the role of personal factors and environmental influences in individual behavior. The results of these studies are shown that social cognitive theory is a powerful theory for validating individual behavior. Reference [10] indicated that using the social cognitive theory proposed by [11, 12] is a novel and useful starting point to guide future research in sustainable consumption. However, few studies have employed social cognitive theory to explain the antecedents of online shopping behavior.

Social cognitive theory, which is developed in social psychology, has received little attention within in online purchase field. Most of prior researches which employed social cognitive theory as a theoretical framework focus on the specific aspect of social cognitive theory, such as the self-efficacy and outcome expectancy [9]. The core concepts within the social cognitive theory, in particular environmental and personal dimensions are less concerned. For further understanding the issue about online shopping behavior, this study adopts social cognitive theory to explore the antecedents of online shopping behavior by considering personal factors and environmental factors.

In social cognitive theory, regarding on personal factors, [7] expressed that cognitive state is a kind of personal characteristics. On a shopping website, trust is a key factor influencing consumer decision [13]. Trust can be defined as the trustor perceives that the trustee has the ability, integrity, and benevolence features to bring benefit to the trustor [14]. That is, in this study, trust can be regarded as a cognitive state of social cognitive theory. Reference [8] indicated that website features are essential in determining the usage of a website. The layout, design, features, and characteristics of websites are considered as website design. Thus, this study

adopts perceived website complexity which is proposed by [15] as an environmental factor of social cognitive theory. This study explores the determinants including trust and perceived website complexity of online shopping behavior. The results can be seen as practical suggestions for platform managers to improve their business.

II. LITERATURE

A. Social Cognitive Theory

Reference [7] argued that social cognitive theory is a powerful theory for explaining human behavior. The core argument of social cognitive theory is that cognitive personal and environmental factors affect behavior [7, 16]. Reference [7] indicated that the primary statement in social cognitive theory is that there is a triadic mechanism among personal characteristics, such as cognitive states, psychical features, such as external environment factors, and behavior. Reference [7] shown that an individual's perception can mold behavior. The way people think and feel is related to behavior. In other words, the cognitive state may influence individual's behavior. Reference [7] expressed that the environment which individuals surround within is related to behavior. The environment which involves in social cognitive theory includes physical environment and social environment.

B. Perceived Website Complexity

Reference [15] proposed the perceived website complexity which can be classified as perceived component complexity, perceived coordinative complexity, and perceived dynamic complexity. Perceived component complexity refers to the density and dissimilarity of information cues a user perceives in the task stimulus [15]. Perceived coordinative complexity refers to the interdependencies and range among different information groups a user perceives in the task stimulus [15]. Perceived dynamic complexity describes the ambiguity and uncertainty that individuals experience when executing a task [15].

C. Trust

Various definitions of trust have been proposed. Trust can be defined as the trustor perceives that the trustee has the ability, integrity, and benevolence features to bring benefit to the trustor [14]. Trust is the tendency to believe in others [17]. Trust is the cognition toward the trustee [18]. Reference [19] included propensity to trust, trust (willingness to be vulnerable to another), and perceptions of trustworthiness (cognitions). Reference [20] defined trust as a belief that the trustee will perform a particular action in a favorable manner. Reference [21] proposed that trust means the trustors are willing risk being hurt by the trustees. According to the Mayer model, trust occurs when the trustors perceive trustworthy features from the trustees [19].

III. RESEARCH MODEL AND HYPOTHESES

Reference [7] indicated that human behavior can be explained by social cognitive theory. Thus, this study adopts social cognitive theory proposed by [7] to be the theoretical framework to explore the antecedent of online shopping behavior. According to social cognitive theory, human behavior is influenced by cognitive personal and environmental factors [7, 16]. Previous study defined trust as a belief which is a cognitive concept [20]; website is online environment. Thus, we take trust as a cognitive variable, and regard the interface of website which is perceived website complexity as a physical environmental factor to explore the relationships among trust, perceived website complexity, and online shopping behavior.

Information is asymmetrical between consumers and sellers in an online environment. This may cause consumers to concern that the online sellers may not adhere to the transactional obligations. Reference [13] indicated that trust is a key role in many transactions in which many undesirable opportunistic behaviors exist. Reference [20] indicated that trust refers to a trustor believes that trustee will perform a behavior in an expected way. In that situation, he or she would like to take risks [22], such as asymmetrical information between consumers and sellers in an online environment. That is, customers accept a certain degree of risk toward the loss that may happen during online transactions. Thus, participating in online transactions requires trust in sellers first, and then to pursue purchasing behavior [23]. Reference [24] also argued that trust positively affects buying behavior. Thus, this study proposes the following hypothesis:

Hypothesis 1: Trust positively affects online shopping behavior.

Previous studies indicated that store environment influence consumer behavior. Reference [6] explained that four store environmental factors, including music, light, employee, and layout influence buying behavior. Reference [25] proposed a conceptual framework for studying the effects of online store design including virtual layout, virtual atmospherics, virtual theatrics, and virtual social presence on consumer behavior. For online sellers, creating an environment in which customers can relax and be confident about the transactions is an important thing.

In this study, we regard perceived website complexity as an environmental factor that may influence online shopping behavior. Perceived website complexity can be classified as perceived component complexity, perceived coordinative complexity, and perceived dynamic complexity [15]. Perceived component complexity refers to the density and dissimilarity of information cues a user perceives in the task stimulus [15]. A web page that has too many pictures and highly dense information causes users to perceive high component complexity. In this scenario, they may be unable to successfully purchase the product in an efficient way. Therefore, this study proposes the following hypothesis:

Hypothesis 2: Perceived component complexity negatively affects online shopping behavior.

Perceived coordinative complexity refers to the interdependencies and range among different information groups a user perceives in the task stimulus [15]. Online shoppers who visit a website including many topics, many sub-pages, and many URL may perceive high coordinative complexity and find it difficult to purchase the product smoothly and efficiently. Therefore, the study proposes the following hypothesis:

Hypothesis 3: Perceived coordinate complexity negatively affects online shopping behavior.

Reference [15] defined perceived dynamic complexity as ambiguity and uncertainty perceived by an individual performing a task. Unclear hyperlinks and unpredictable click routes result in users clicking hyperlinks to unavailable webpages or webpages that inconsistent with hyperlinks description. Thus, online shoppers can't understand the shopping rules, the meaning of hyperlinks, and click routes on a website and then believe that the website environment is ambiguity and uncertainty. An unstable environment makes it hard for purchasers to shop. To conclude, the study proposes the following hypothesis:

Hypothesis 4: Perceived dynamic complexity negatively affects online shopping behavior.

Social psychologists defined trust as cognition about the trustee [16]. That is, trust is a perception of trustworthiness. Reference [26] indicated that external cues influence affect behavior through cognitive processes rather than directly. Cognitive factors may decide which external cues can be observed, what meaning can be perceived on them, what motivation they may have, and how the information they access can be processed for decisions. Website complexity is an external cue. That is, online shoppers may determine the way they observe website interface, process the information they perceive from website interface, and give the meaning of perceived website complexity via cognitions, such as trust, and then to drive online shopping behavior. Thus, the study proposes the following hypothesis:

Hypothesis 5: Perceived website complexity affects online shopping behavior via trust.

Perceived component complexity refers to the density and dissimilarity of information cues a user perceives in the task stimulus [15]. While a website with high perceived component complexity, customers may perceive that there are crowded web pages with many information and pictures on this website. In this case, customers may not easy to find out cues to judge that whether venders provide high quality products, make good trading standards, and keep their promises. Thus, it is hard for these customers to perceive the ability, integrity and benevolence features of online venders,

and then keep them from purchasing behavior. Thus, the study proposes the following hypothesis:

Hypothesis 5a: Perceived component complexity affects online shopping behavior via trust.

Perceived coordinative complexity refers to the interdependencies and range among different information groups a user perceives in the task stimulus [15]. For example, while information regarding dress, pant, shirt, jacket, skirt, hat, tie, and belt is presented on a web page, customers may perceive high coordinative complexity on this website. In this case, customers may hard to understand if online venders will perform a transaction in an expected way, and then refuse to shop online. Thus, the study proposes the following hypothesis:

Hypothesis 5b: Perceived coordinate complexity affects online shopping behavior via trust.

Reference [15] defined perceived dynamic complexity as the ambiguity and uncertainty that individuals experience when executing a task. While shopping on a website with high perceived dynamic complexity, customers do not know where each click will lead and what features the online venders actually have. For example, customers may not figure out that whether the venders have enough professional knowledge to meet their needs. Besides, uncertain and ambiguous linkages provided by website may make customers believe that the venders don't care about the customers at all. Thus, on a website with high perceived dynamic complexity, customers are hard to perceive trustworthy features from the online venders and then resist shopping online. Therefore, this study proposes the following hypothesis:

Hypothesis 5c: Perceived dynamic complexity affects online shopping behavior via trust.

Fig. 1 shows the research model of online shopping behavior.

IV. CONCLUSION

Based on social cognitive theory, this study proposes a research model to explore the relationships among trust, perceived website complexity, and online shopping behavior. Besides, previous studies have indicated that online store environment is a key factor influencing online purchase [23]. However, perceived website complexity is less considered. Thus, this study regards perceived website complexity as an environmental factor and explores the relationship between perceived website complexity and online shopping behavior. Understanding this issue will contribute to online shopping research agenda and will help online shopping managers to obtain advantages in the face of environmental stresses. Future works can collect and analyze empirical data to verify this research model.

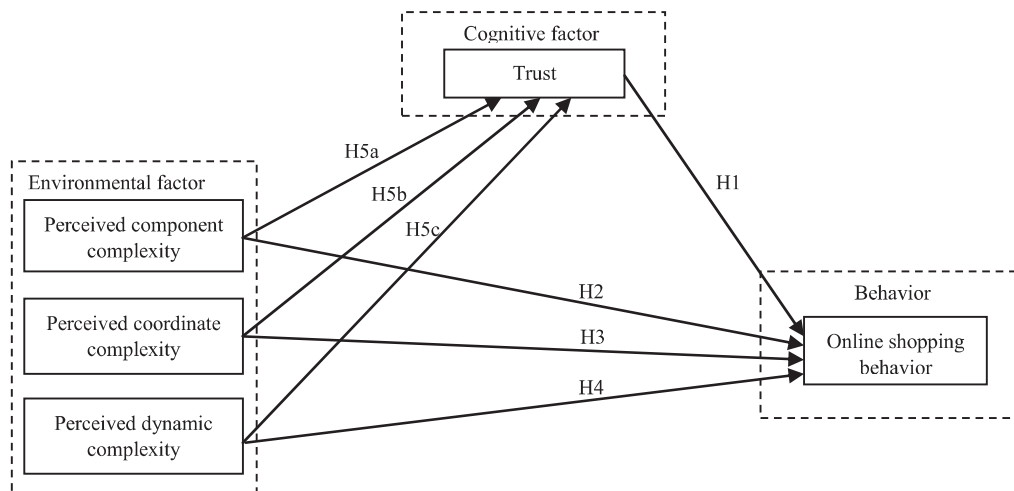


Figure 1. Research model of online shopping behavior.

REFERENCES

- [1] A. Nanji, "Online shopping trends 2013: most popular categories, top purchase drivers." <http://www.marketingprofs.com/charts/2013/12195/online-shopping-trends-most-popular-categories-top-purchase-drivers>, Available: Jun. 2016.
- [2] J. Urhausen, and H. Seybert, "Nearly 60% of EU internet users shop online." http://europa.eu/rapid/press-release_STAT-13-147_en.pdf, Available: Jun. 2016.
- [3] M. D. Clemes, C. Gan, and J. Zhang, "An empirical analysis of online shopping adoption in Beijing, China. Journal of Retailing and Consumer Services," pp. 364-375, 2014.
- [4] Guo, Y., & Barnes, S. (2011), Purchase behavior in virtual worlds: an empirical investigation in second life, *Information & Management*, 48, 303-312.
- [5] Cheng, H. H., & Huang, S. W. (2013). Exploring antecedents and consequence of online group-buying intention: an extended perspective on theory of planned behavior. *International Journal of Information Management*, 33, 185-198.
- [6] Geetha Mohan Bharadhwaj Sivakumaran Piyush Sharma, "Impact of store environment on impulse buying behavior" *European Journal of Marketing*, vol. 47, 2013, pp. 1711 – 1732.
- [7] A. Bandura, "Social foundations of thought and action: A social cognitive theory." Prentice-Hall, 1986.
- [8] H. Boateng, D.R. Adam, A.F. Okoe, and T. Anning-Dorson, "Assessing the determinants of internet banking adoption intentions: A social cognitive theory perspective," *Computers in Human Behavior*, pp. 468-478.
- [9] M.T. Tsai, and N.C. Cheng, "Programmer perceptions of Knowledge-sharing behavior under social cognitive theory" *Expert Systems with Applications*, 2010, pp. 8479-8485.
- [10] Marcus Phipps, Lucie K. Ozanne, Michael G. Luchs, Saroja Subrahmanyam, Sommer Kapitan, Jesse R. Catlin, Roland Gau, Rebecca Walker Naylor, Randall L. Rose, Bonnie Simpson, Todd Weaver (2013), "Understanding the inherent complexity of sustainable consumption: A social cognitive framework," *Journal of Business Research*, 66, 1227-1234.
- [11] Bandura, A. (2001a). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1-26.
- [12] Bandura, A. (2001b). Social cognitive theory of mass communication. *Media Psychology*, 3(3), 265-299.
- [13] J. Kim, S. Hong, J. Min, and H. Lee, "Antecedents of application service continuance: a synthesis of satisfaction and trust. *Expert Systems with Applications*," *Expert Systems with Applications*, 2011, pp. 9530-9542.
- [14] D. H. McKnight, V. Choudhury, and C. Kacmar, "Developing and validating trust measures for e-commerce: an integrative typology." *Information Systems Research*, 2002, pp. 334-359.
- [15] S. Nadkarni, and R. Gupta, "A task-based model of perceived website complexity." *Mis Quarterly*, 2007, pp. 501-524.
- [16] C. L. Cooper, and L. Lu, "Presenteeism as a global phenomenon: Unraveling the psychosocial mechanisms from the perspective of social cognitive theory." *Cross Cultural & Strategic Management*, 2016, pp. 216-231.
- [17] J. B. Rotter, "Generalized expectancies for interpersonal trust." *American Psychologist*, 1971, pp. 443-452.
- [18] J. K. Rempel, J. G. Holmes, M. P. Zanna. "Trust in close relationships." *Journal of Personality and Social Psychology*, pp. 95-112.
- [19] R. C. Mayer, J. H. Davis, and F. D. Schoorman, "An integrative model of organizational trust." *An Academy of Management Review*, 1995, pp. 709-734.
- [20] Morgan, R., & Hunt, S. (1994). The commitment-trust theory of relationship marketing. *J. Marketing*, 58(3), 20-38.
- [21] I. B. Hong, and H. Cho, "The impact of consumer trust on attitudinal loyalty and purchase intentions in B2C e-marketplaces: intermediary trust vs. seller trust." *International Journal of Information Management*, 2011, pp. 469-479.
- [22] Johnson-George, C., & Swap, W. (1982). Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. *J. Pers. Soc. Psychol.*, 43(6), 1306-1317.
- [23] D. J. Kim, D. L. Ferrin, and H. R. Rao, "Trust and satisfaction, two stepping stones for successful e-commerce relationships: a longitudinal exploration." *International System Research*, 2009, pp. 237-257.
- [24] I. L. Wu, K. W. Chen, and M. L. Chiu, "Defining key drivers of online impulse purchasing: a perspective of both impulse shoppers and system users." *International Journal of Information Management*, 2016, pp. 284-296.
- [25] E. E. Manganari, G. J. Siomkos, and A. P. Vrechopoulos, "Store atmosphere in web retailing." *European Journal of Marketing*, 2009, pp. 1140-1153.
- [26] Bandura, Albert. (1994). Social cognitive theory of mass communication. In Jennings Bryant & Dolf Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 61-90). Hillsdale, NJ: Lawrence Erlbaum