

# The Antecedents of Purchase Intention on Social Commerce Websites

Hsiu-Hua Cheng

**Abstract**—Social network sites have been increasingly popular in recent years and a new business mode, social commerce, has been created in the social network site environment. Online interpersonal relationship such as friend or fellow relationship is a key element to develop social commerce. In the social commerce environment, customers often adopt information which is shared by their fellows to make purchase decision. For online sellers, Internet marketing firms and managers of social commerce websites, understanding the issue of customer purchase decision is important. Although many studies have discussed this issue, the characteristics of interpersonal interaction on social commerce website are less considered. Thus, this study considers the influence of interpersonal interaction on purchase decision and focuses on the antecedents of purchase intention on social commerce websites based on the perspective of observational learning, electronic word of mouth, and social network. The study proposes a model incorporating the volume of fellow positive electronic word of mouth, fellow purchase behavior, and a moderator of degree centrality to explain factors that influence purchase intention on social commerce websites. Understanding this issue will contribute to research issues of social commerce, electronic word of mouth and purchase decision, and will help online sellers, Internet marketing firms, and managers of social commerce websites to obtain advantages in the face of environmental stresses.

**Index Terms**—Social commerce, electronic word of mouth behavior, purchase intention, social network.

## I. INTRODUCTION

The increased popularity of social network sites such as Facebook and Plurk has created a new business mode in electronic commerce called social commerce. The major characteristic of social commerce is online interpersonal relationship. Customers can obtain information that is shared by their friends or observe purchase decisions which are made by their friends to make their purchase decisions. Previous study has shown that social commerce offers many online experiences, such as socializing, interacting, and cooperating and consumers can use these experiences to decide what to buy [1]. Many e-commerce companies (e.g. Amazon.com, Groupon.com and eBay.com), because they have characteristics of social commerce, have started to gain advantage and values from users' participation in their services. Therefore, for companies of the industry, it is important to understand what affect consumers' decision in a social commerce environment.

Previous study also has shown that people tend to be affected by other consumers' opinions and shopping decisions [2]. When people disregard their personally-owned information and make decisions based on others' behavior, informational cascade occurs. Although people would not totally neglect their personal information, everybody tends to come up with the same decision. This is called herding behavior [3]. Informational cascade is a special type of herding behavior [4]. In a social commerce environment, people interact with each other. They thus can observe how other people shop (observational learning). This observation enables people to have herding behavior or informational cascade.

In a social commerce platform, interpersonal relationship is an important element. Reference [5] indicated that decision-makers' abilities to observe how other consumers make decisions (the ability to observe) is an important factor for informational cascade. Scholars have explored how consumers' expertise and participation affect others' opinions (e.g. word of mouth) as well as the moderating relationship between observational learning and shopping decisions [6]. However, few studies explored the moderating power of consumers' observing abilities on electronic word-of-mouths (e-WOMs), observational learning, and purchasing decisions.

Social network can describe a network built from communications and interactions between social actors. It can help understand the position of social actors and their communicative channels [7]. When the actors in the network are located at different network centrality, what they can observe together with the scope, speed, and content of information they can acquire will turn out to be different [7]-[9]. Therefore, this study considers the characteristics of social commerce and adopts the perspectives of observational learning, e-WOMs, and social network to explore the antecedents of purchase intention.

## II. LITERATURE

### A. Electronic Word-of-Mouth (e-WOMs)

E-WOMs describe that people use the Internet as a means to do word-of-mouth communication. e-WOMs refer to a group of potential, current, and past consumers use the Internet to share positive or negative descriptions of a product or brand [10]. According to [11], e-WOMs are consumers exchange information about a brand, product, or service using online-based technologies. In other words, e-WOMs occur at a complicated computer-mediated environment; traditional word-of-mouth communication

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Hsiu-Hua Cheng is with the Department of Information Management, Chaoyang University of Technology, Taichung, Taiwan (e-mail: hhcheng@cyut.edu.tw).

occurs in face-to-face scenarios.

### *B. Social Network*

A social network is composed of ties between social entities. Social entities refer to actors, such as individuals, teams, or companies; Ties refer to the linkages between two actors [9]. The network is built by social entities via mutual communication and interaction [7]. It can help understand the locations and communicative channels of social entities. The degree centrality of a node represents the number of its direct ties [9].

### *C. Herding Behavior and Observational Learning*

Reference [12] defined herding behavior as how members of reference groups reveal their evaluation, intention, or shopping behavior and hence change other shoppers' evaluation, intention, or behavior. Herding behavior has two characteristics: people tend to imitate others and underestimate the information they have [13]. Imitating others means people observe others' behavior and adopt the same decision. Underestimating their own information means they tend to ignore the information they already have and believe others have better information. They thus make the decision favoring others.

Studies of herding behavior often refer to the concept of observational learning. When people observe others' action to make similar decisions, they are employing observational learning. This type of people tends to value others' information more than their own [6]. However, it should be noted that observational learning only passes what other people's action signals; it does not help one understand why people take the action [6].

### *D. Signal Theory*

Generally speaking, it is hard for consumers to directly observe the quality of the product before they shop [14]. As buyers and sellers control different information about the product, the two parties usually deal with the issue of information asymmetry [15]. Signal refers to a type of action the seller takes to deliver invisible yet dependable product information to consumers. For example, signal can be the guarantee of the product [16]. Reference [17] indicated that if the product has low qualities, it would seem to be stupid that the seller still offer a guarantee for the product. When the product has a high possibility to be flawed, it takes a high cost for the seller to put on guarantees. For example, the product guarantee might cost the seller a lot of money to fix the flawed product. In other words, signal is dependable and informative action. If the seller intends to display a signal in a dishonest way, he would suffer from financial loss.

## III. METHOD

### *A. Model*

Previous studies only explored the impact of brand community members' shopping behavior and e-WOMs on shoppers' decisions while ignoring the fact that in a social commerce environment, those who have direct interactions with consumers and the shopping behavior and e-WOMs they generate leave an impact on consumers' shopping

decisions, too.

On a social commerce website, people can easily observe how other people shop and obtain others' opinions, which in turn affect their shopping decisions. In other words, in a social commerce platform, people are prone to herding behavior or informational cascade. However, few studies explored the moderating power of consumers' observing abilities on e-WOMs, observational learning, and shopping decisions.

Network centrality and observing abilities are relevant to a certain degree. Accordingly, in order to explore the antecedents of purchase decisions, this study adopts the concept of network centrality from the social network theory to explore the relationship among fellow shoppers' behavior, the number of e-WOMs posted by fellow shoppers, consumers' network centrality, and their purchase intention.

### *B. Hypotheses*

Studies have shown that other consumers' shopping behavior offers a signal of the product's quality and it encourages consumers to follow the action of previous consumers to make shopping decisions [18], [19]. According to the signal theory [16], what previous consumers have done is a signal. When a series of consumers opt to buy a specific product, the situation would strongly affect individual decisions. To put it differently, individuals tend to imitate previous consumers and dismiss the personal information they already have. Literature of psychology and economics maintain that this phenomenon is a social interaction based on action or behavior and it is also called observational learning [20], [21]. In other words, consumers may employ observational learning to make shopping decisions.

Previous studies have indicated that individuals are affected by their peers. In this study, peers are similar to fellow users on a social commerce website. The information offered by the peers is a knowledge base for individuals to form cognition and beliefs [22]. Therefore, the above description shows that consumers' shopping decisions are affected by their observation of how other people shop in a social commerce platform. Thus, this study proposes H1.

H1: Fellow shoppers' behavior has a positive impact on purchase intention.

Previous study has shown that people would learn from other consumers' opinions and be affected by them [2]. According to the signal theory [16], the number of positive e-WOMs signals that the product has a certain level of quality. Additionally, previous study pointed out that a greater number of WOMs means consumers are likely to learn about the product information [23]. When the product receives more attention, its sales are more likely to soar.

In a social commerce platform, when many fellow shoppers coherently provide positive remarks on a brand's product, consumers are more likely to recognize the product and believe it has good quality. This can affect their shopping decisions. Thus, this study proposes H2.

H2: The number of positive e-WOMs of fellow shoppers has a positive impact on purchase intention.

Reference [5] indicated that decision-makers' abilities to observe how other consumers make decisions is an important factor for informational cascade. When decision-makers can

effortlessly observe information of how other shoppers make decisions, whether it is the action of decision making or e-WOMs offered by other consumers, consumers are more prone to herding behavior.

The social network theory has indicated that in a network, the ties own by each actor can account for the network position of each actor. In a social network, the network centrality of each actor is used to estimate the position of the actor [7]. Degree centrality is primarily for gauging how much resource the actor has [7]. When the target actor is at the position with high degree centrality, he owns many direct ties and can directly contact many fellow actors. A large number of direct ties tend to bring unique information, a large amount of information, and to access information quickly [24]. Direct ties offer a quick mechanism that obtains private information [25]. In addition, Reference [26] indicated that numerous direct ties mean supervision from many people, which enables the target actor to acquire high-quality information. Accordingly, consumers with high degree centrality can directly observe and acquire fellow shoppers' behavior or e-WOMs, delivering a large amount of qualified and highly private information.

According to [5], when people have observing others' abilities, they tend to ignore their private information and make decisions based on others' behavior. Thus, when consumers are located with high degree centrality, they will own better opportunities to observe fellow consumers. This enhances the impact of fellow shoppers' behavior on purchase intention and increases the impact of the number of e-WOMs offered from fellow shoppers on purchase intention. Thus, the following hypotheses are proposed:

H3: Degree centrality moderates the relationship between fellow shoppers' behavior and purchase intention.

H4: Degree centrality moderates the relationship between the number of positive e-WOM of fellow shoppers and purchase intention.

The research model is shown as Fig. 1.

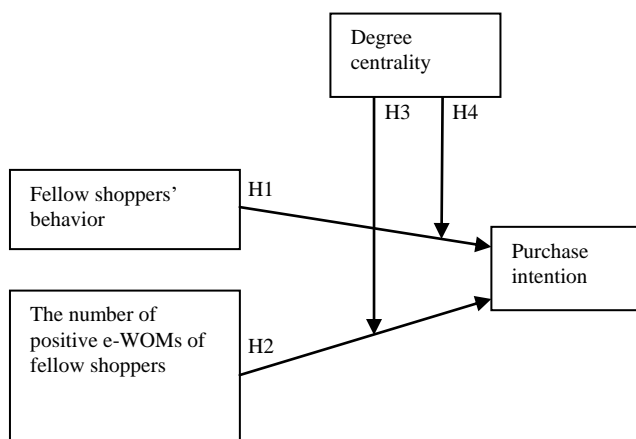


Fig. 1. Research model.

#### IV. CONCLUSION

Although this study has offered insights into adoption intention, some limitations are inevitably present. First, the choice of constructs is primarily based on social influence theory, other possible constructs, such as individual characteristic are overlooked. Second, this study only

proposes a research model that has not been tested yet. The model verification should be performed in the future.

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#### REFERENCES

- [1] Z. Huang, S. Y. Yoon, and M. Benyoucef, "Adding social features to ecommerce," in *Proc. the 5th Annual Conference on Information Systems Applied Research*, New Orleans, Louisiana, 2012.
- [2] Y. Chen, Q. Wang, and J. Xie, "Online social interactions: A natural experiment on word of mouth versus observational learning," *Journal of Marketing Research*, vol. XLVIII, pp. 238-254, 2011.
- [3] L. Smith and P. N. Sorensen, "Pathological outcomes of observational learning," *Econometrica*, vol. 68, no. 2, pp. 371-398, 2000.
- [4] W. Duan, B. Gu, and A. B. Whinston, "Informational cascades and software adoption on the internet: An empirical investigation," *MIS Quarterly*, vol. 33, no. 1, pp. 23-48, 2009.
- [5] S. Bikhchandani, D. Hirshleifer, and I. Welch, "A theory of fads, fashion, custom, and cultural change as informational cascades," *Journal of Political Economy*, vol. 100, no. 5, pp. 992-1026, 1992.
- [6] C. M. K. Cheung, B. Xiao, and I. L. B. Liu, "The impact of observational learning and electronic word of mouth on consumer purchase decisions: The moderating role of consumer expertise and consumer involvement," in *Proc. the 45th Hawaii International Conference on System Sciences*, Hawaii, pp. 3228-3237, 2012.
- [7] L. C. Freeman, "Centrality in social networks: Conceptualizations clarification," *Social Network*, vol. 1, pp. 215-239, 1979.
- [8] R. S. Burt, *Toward a Structural Theory of Action: Network Models of Social Structure Perception and Action*, New York: Academic Press, 1982.
- [9] S. Wasserman and K. Faust, *Social Network Analysis: Methods and Applications*, New York: Cambridge University Press, 1994.
- [10] T. Hennig-Thurau, K. P. Gwinner, G. Walsh, and D. D. Gremler, "Electronic word of mouth via consumer opinion platforms: What motivates consumers to articulate themselves on the Internet?" *Journal of Interactive Marketing*, vol. 18, no. 1, pp. 38-52, 2004.
- [11] S. Noh, J. Lee, J. Sohn, and H. W. Kim, "A study on the factors affecting electronic word-of-mouth in the context of social media environment," *Knowledge Management Research*, vol. 14, no. 10, pp. 1-19, 2013.
- [12] S. E. Asch, "Studies of independence and conformity: A majority of one against a unanimous majority," *Psychological Monographs*, pp. 70-79, 1956.
- [13] H. Sun, "A longitudinal study of herd behavior in the adoption and continued use of technology," *MIS Quarterly*, vol. 37, no. 4, pp. 1013-1041, 2013.
- [14] A. A. Wright and J. G. Lynch, "Communication effects of advertising versus direct experience when both search and experience attributes are present," *Journal of Consumer Research*, vol. 21, pp. 708-718, 1995.
- [15] D. M. Kreps, *A Course in Microeconomic Theory*, Princeton, NJ: Princeton University Press, 1991.
- [16] W. Boulding and A. Kirmani, "A consumer-side experimental examination of signaling theory: Do consumers perceive warranties as signals of quality," *Journal of Consumer Research*, vol. 20, pp. 111-123, 1993.
- [17] A. R. Rao, L. Qu, and R. W. Rueker, "Signaling unobservable product quality through a brand ally," *Journal of Marketing Research*, vol. XXXVI, pp. 258-268, 1999.
- [18] A. Kirmani and A. R. Rao, "No pain, no gain: A critical review of the literature on signaling unobservable product quality," *The Journal of Marketing*, vol. 64, no. 2, pp. 66-79, 2000.
- [19] P. M. Simpson, J. A. Siguaw, and J. W. Cadogan, "Understanding the consumer propensity to observe," *European Journal of Marketing*, vol. 42, no. 1-2, pp. 196-221, 2008.
- [20] A. Bandura, *Social Learning Theory*, Englewood Cliffs, N.J.: Prentice-Hall, 1977.
- [21] S. Bikhchandani, D. Hirshleifer, and I. Welch, "Learning from the behavior of others: Conformity, fads, and informational cascades," *Journal of Economic Perspectives*, vol. 12, no. 3, pp. 151-170, 1998.
- [22] J. Fulk, C. Steinfield, J. Schmitz, and J. Power, "A social information processing model of media use in organizations," *Communication Research*, vol. 14, no. 5, pp. 529-552, 1987.

- [23] Y. Liu, "Word of mouth for movies: Its dynamics and impact on box office revenue," *Journal of Marketing*, vol. 70, no. 3, pp. 74-89, 2006.
- [24] R. S. Burt, *Structural Holes: The Social Structure of Competition*, MA: Harvard University Press, 1992.
- [25] B. Uzzi, "The sources and consequences of embeddedness for the economic performance of organizations: The network effect," *American Sociological Review*, vol. 61, no. 4, pp. 674-698, 1996.
- [26] E. S. Raymond, *Cathedral and the Bazaar: Musings on Linux and Open Source by An Accidental Revolutionary*, CA: O'Reilly and Associates, 2001.



**Hsiu-Hua Cheng** is an assistant professor of the Department of Information Management, at Chaoyang University of Technology, Taichung, Taiwan. She received the Ph.D. in MIS from National Chengchi University, Taiwan. Her research interests include online consumer behavior, e-commerce, e-learning, and knowledge management. She has published in journals such as *Australasian Journal of Educational Technology*, *Computers & Education*, *Computers in Human Behavior*, *International Journal of Information Management*, *Journal of Electronic Commerce Research*, *Journal of Engineering and Technology Management*, and *Online Information Review*.