

A Structural Model of eWOM Effects in China

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Abstract—Electronic Word-of-mouth(eWOM) is important information affecting consumers' online buying. This study examined factors influencing eWOM effects in China. We developed a structural model of eWOM effects including customer susceptibility to interpersonal influence (CSII), using experience of eWOM, perceived eWOM credibility, and eWOM effects. As results of 209 survey data analysis, CSII influences using experience of eWOM, perceived eWOM credibility, and the eWOM effects, and using experience of eWOM influences perceived eWOM credibility and eWOM effects, and perceived eWOM credibility influences eWOM effects. Implication of the study and further research are suggested

Keywords- eWOM effect; CSII; Using experience of eWOM; perceived eWOM credibility

I. INTRODUCTION

The number of online shopping users of China in 2009 (87,880,000) is almost 3 times as in 2004. The Internet is changing the nature and power of Word-Of-Mouth (WOM) communications and the directions and volume of communications among the firm and consumers [32, 33, 34]. The Internet provides a much better way for consumers to gather product information and consumption-related advice from other consumers by electronic WOM (eWOM) like online review [14]. When it comes to factors affecting online shopping decision in China, 43.3% of online shopping users chose "Online Review" as the important factor, while 34.7% chose "friends' suggestion" [8]. So Online Review is more important factor affecting online shopping could be recognized easily.

Online review is an main source of eWOM communication [25, 5, 16], which become an important means of marketing communication because many consumers search for online reviews as the first step for purchasing online [23]. Online review, as the eWOM source, plays a very important role for shoppers' online behavior. And about the frequency of using online review in China, 41.1% of online shopping users read reviews every time they buy goods online. Another 26% said that they often read reviews. China's consumers' intention to share their own information online is not that generally learned until now, but most of the sharing consumers tend to use online review as a channel (63.8%), and they also like to use blog(27%), bbs(21%), shopping site(17%), portal site(15%) to share the specific information [8].

The main purpose of this study is through investigate about online review influencing shopping decision to research the eWOM effect in China now. And this study chose three factors of online costumers to examine: first, using experience of eWOM; Second, perceived eWOM credibility; Third, customer susceptibility to interpersonal influence (CSII), to find out and analysis the most important factors which affect eWOM effect. And also we will examine the mediate effect of perceived eWOM credibility and using experience of eWOM.

II. THEORETICAL BACKGROUND AND HYPOTHESES

A. eWOM

eWOM or word-of-mouse is basically the extension of traditional WOM on the Internet. eWOM activities differ from those in the real world in many aspects. In the marketing literature WOM communication is "oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as noncommercial, regarding a brand, a product, a service or a provider" [1]. But, eWOM is about a kind of communication on the internet platform, but not by face to face or by oral.

The arrival and expansion of the Internet has extended consumers' options for gathering product information by including other consumers' comments posted on the Internet, and has provided consumers opportunities to offer their own consumption-related advices by engaging in electronic word-of mouth (eWOM) [14]. As the development of Internet usage in China, Chinese costumers tend to gather information through Internet, especially eWOM, as many developed country's customers do.

The wide dissemination of eWOM communications and the high level of acceptance by consumers suggest that eWOM exerts considerable influence on consumer buying and communication behavior, and, consequently, on the success of products sale in the market [29]. This is a huge change about internet shopping in the minds of Chinese customers, therefore, online firms should think about eWOM deeply to create the profit in this new era.

Customer-to-customer know-how exchange, a specific form of eWOM, has a direct relationship with loyalty intentions, as well as an indirect relationship mediated through the overall value of the firm's offering. [13] Besides, as the market of Internet shopping growing up recently, eWOM takes a much more important role around the value chain of China's Internet shopping.

In the researches about eWOM, online consumer reviews used to be seen as an important source of eWOM communication [25]. So the subject of the study will be set as the online customer review in this paper.

B. *eWOM Effect*

In general, consumers find it important to hear the opinions of others while (or before) making purchase decisions. They talk and discuss their purchase intentions with family members, relatives, friends, and on the Internet. As a result, receivers are most likely influenced in their decision-making because they interact and communicate with others. Research activities that have investigated this process of interpersonal influence in the traditional context address, among other things, reference group influence [3, 4] and the effects of eWOM [6, 26]. And we tend to concept eWOM effect as 'the effect by eWOM to affect purchase decisions making' in this paper.

The Internet's facilitation of this form of communication increases the importance of understanding how WOM can powerfully impact the consumer decision-making process [2]. And we could evaluate the impact through our study of eWOM effect, specifically in China, where the internet facilitation is already felt by everyone who using the internet.

The eWOM, also known as online rating or review systems, delivers credible and relevant product information to potential customers [2], and thus has a significant impact on consumer choices [35]. The important impact, so called the eWOM effect, should be measured around Chinese online market to evaluate eWOM's position in nowadays China. Online consumer reviews have become an important means of marketing communication because many consumers search for online reviews as the first step in shopping [10]. Chevalier and Mayzlin suggested "the addition of new, favorable reviews at one site results in an increase in the sales of a book at that site relative to the other site [17]. And we just wonder if there is the same result in China, where consumers think reviews are important recently.

CSII: (customer susceptibility to interpersonal influence) and eWOM effect

Consumers often use social information when making their decisions, especially in uncertain situations [22]. Susceptibility to interpersonal influence is a consumer trait that varies across individuals [21]. CSII is defined as the tendency to learn about products and services by seeking information from others [3]. Consumer research has documented the effect of interpersonal influence upon individual decision processes [9]. The important effects of consumers' CSII on their decision-making process have been documented extensively in consumer behavior and marketing literature [4, 20]. Consumers highly susceptible to interpersonal influence have been shown to be more influenced by others when making purchase decisions [27]. The previous study on traditional WOM showed that consumers who are highly susceptible to interpersonal influence are more likely to be affected by WOM [36].

As the same way, we consider that consumers who are highly susceptible to interpersonal influence are more likely

to be affected by eWOM. There is a positive relationship between CSII and eWOM effect, particularly in China's online market, which is rapidly increasing but is not that ripe yet.

H1: CSII influences the eWOM effect positively.

Using experience of online reviews and eWOM effect

Recent researches on internet shopping demonstrate that there is a close relationship between Internet usage levels and Internet shopping [11, 24, 36]. Liao and Cheung demonstrated that Singaporeans who use the Internet more often are more willing to make purchases over the Internet [36]. The result that serious Internet shoppers are heavy users of online reviews only is consistent with recent research on Internet shopping [19]. And depending on the Media Dependency Theory, in the same way, it could be supposed that online shoppers who used online reviews more often are more willing to use and adopt online review. In China, at a not so mature step of online shopping and usage of online review, the level of people using reviews must be different sharply, therefore it be predicted obvious differently influence the eWOM effect.

H2: Using experience of online reviews influences the eWOM effect positively.

C. *Perceived eWOM credibility and eWOM effect*

eWOM credibility is defined as the extent to which one perceives the recommendation as believable, true, or factual [30]. In this research, the subject of the credibility assessment refers to the online recommendation or review itself, and not trusting beliefs about a person or an organization. Wathen and Burkell pointed out that a key early stage in the information persuasion process is the receiver's judgment of the information credibility; it determines how much an individual subsequently learns from and adopts the incoming information [7]. Thus, if people think the incoming information is credible, they will have more confidence to adopt the eWOM comments and use them for making purchase decisions [30]. Considerable research has already demonstrated the relationship between information credibility and adoption. The positive effect of receiver's perceived information credibility on willingness to accept the information of a website. In eWOM, if the reader perceives the product review/recommendation as credible, he/she will learn from and use the review. On the other hand, if it is perceived as less credible, the effect of the review will be discounted.

H3: Perceived eWOM credibility influences the eWOM effect positively

D. *CSII and Using experience of eWOM*

The previous study on eWOM indicated that because of the consumers' character related to East of Asian culture, Korean online consumers liked to use online review very often than US's online consumers [23]. In another word, in the culture of collectivism country, where CSII is a crucial attribute among individuals, consumers tend to ask for advices from others to purchase online. China, as the most important collectivism country around the world, has similar culture background and not so different shopping customs

like Korea. So CSII maybe affects the time and frequency of using eWOM more crucially in China. Therefore, we expect that

H4: CSII influences the using experience of eWOM positively.

E. CSII and Perceived eWOM credibility

CSII is defined as the tendency to learn about products and services by seeking information from others [3]. The research of Tom Heath mentioned that social network influences the trustworthiness of eWOM. Consumers in collectivism and high-uncertainty avoidance cultures like Korea (high-context) perceived eWOM more credible than those in individualism and low-uncertainty avoidance cultures like the U.S (low-context) [23]. According to the fact of high-context people (with higher CSII) perceived more credible about eWOM, we suppose that as an important attribute of consumer, CSII leads to higher Perceived eWom credibility.

H5: CSII influences the perceived eWOM credibility positively.

F. Using experience of online reviews and Perceived eWOM credibility

Seeking and using WOM information is common among consumers purchasing risky or intangible products [18]. Consumers perceive risks when they buy products, and obtaining WOM information can lessen their uncomfortable feeling or reduce the risks. People always use WOM to seek assistance from those whom they trust [15]. Experience credibility refers to how much a person believes someone or something based on first-hand experience. According to Tseng and Fogg [12], experience credibility may be the most complex and believable. So we could imagine that the more experiences of seeking and using eWOM leads to the higher perceived eWOM credibility

H6: Using experience of eWOM influences the perceived eWOM credibility positively.

III. METHOD

A. Samples and procedures

For this research, we collected data from personal survey with students and business workers in Beijing and Qingdao, two main cities in China. We confined the subjects for this research to Internet consumers who had previously used online review for shopping online.

The final sample size was 209, including 108 men (51.7%) and 101 women (48.3%). They were generally young, 122 of them below 25 years old (58.4%), and 86 were 26 to 35 years old (41.1%), only one of the participants over 35 years old (0.5%). The respondents came from a diversity of working background, including office clerks (59.3%), students (33.5%), and others (7.2%). And in regard to average expense monthly, more than 50% of them (55.0%) were below 1000 Chinese Yuan, 31.1% use 1000 to 2500 Chinese Yuan, 13.4% with over 2500 Yuan. And most of the participants were online shopper who purchased through Internet more than 2 times a month (63.6%). Most

importantly 83.3% of them pay a lot of attentions to online review, compared to the rest 16.7% just using them but not caring that much about online review.

B. Measurement

We measured using experience of eWOM using five items on a five-point agreement scale (1 = strongly disagree, 5 = strongly agree). (1) (EEP1) “I always read online reviews written by others.” (2) (EEP2) “I always write down online review by myself.” (3) (EEP3) “I always share my knowledge and information.” (4) (EEP4) “I always read online consumer reviews when I was shopping.” (5) (EEP5) “I always write down online consumer reviews when I was finishing my shopping.”

We measured perceived eWOM credibility using four items on a five-point agreement scale (1 = strongly disagree, 5 = strongly agree). (1)(ECR1) “I believe the online review which been read a lot.” (2) (ECR2) “I believe the online review which is believed by others” (3) (ECR3) “I believe online review is important and credible information.” (4) (ECR4) “I believe online review is written with responsibility.”

We measured perceived CSII using three items on a five-point agreement scale (1 = strongly disagree, 5 = strongly agree). (1) (ECS1) “I like listening advices before shopping.” (2) (ECS2) “Others’ advices are important for my shopping.” (3) (ECS3) “I can’t satisfy without advices.”

And we measured eWOM effect using three items on a five-point agreement scale (1 = strongly disagree, 5 = strongly agree). (1) (EEF1) “I will buy things because online review is positive.” (2) (EEF2) “I rely on online reviews when I purchase.” (3) (EEF3) “Online review affects my purchase decision crucially.”

IV. RESULTS

Measure validity and reliability

We assessed the validity and reliability of the constructs by a Factor analysis for this study. And the results are available in Table 1.

Table1. Factor Analysis of the study

Construct items And Scale Reliability	Standardized Factor Loadings
Using experience of eWOM Cronbach’s alpha=0.723 Eigenvalues=4.788 Percent of Variance=31.923	
EEP1	0.660
EEP2	0.720
EEP3	0.713
EEP4	0.618
EEP5	0.608
Perceived eWOM credibility Cronbach’s alpha=0.810 Eigenvalues=1.621 Percent of Variance=10.810	
ECR1	0.713
ECR2	0.763
ECR3	0.786
ECR4	0.766
CSII	

Cronbach's alpha=0.609 Eigenvalues=1.325 Percent of Variance=8.835	
ECS1	0.519
ECS2	0.599
ECS3	0.850
eWOM effect Cronbach's alpha=0.662 Eigenvalues=1.127 Percent of Variance=7.511	
EEF1	0.717
EEF2	0.772
EEF3	0.631

The items were entered into a confirmatory factor analysis (CFA) to examine the reliability and validity of the scales using AMOS7. The standardized item loadings ranged from 0.519 to 0.850 and therefore displayed sufficient items validity and reliability. And inter-construct correlations were significant lower than one, satisfying the test of discriminant construct validity. Construct reliabilities and item loading in Table1.

Hypothesis testing

The overall fit of the hypothesized model was nice. We obtained a chi-square value of 117.620 (d.f. =84, p=0.009). And also the overall fit for all data sets was excellent with sufficiently high values in the GFI (0.932), in the AGFI (0.903), in the CFI (0.958) and in the TLI (0.948). The RMSEA value 0.044 was obtained. Therefore, these measures indicated a good fit for the model.

Table2. Path Coefficient

Hypothesis	Path	Estimate	t-value	P-value
H1	ECS→EEF	0.351*	2.218	0.027
H2	EEP→EEF	0.172*	1.969	0.049
H3	ECR→EEF	0.283*	2.372	0.018
H4	ECS→EEP	0.577***	3.262	0.001
H5	ECS→ECR	0.656***	3.685	0.000
H6	EEP→ECR	0.257**	2.794	0.005

To test the structural model of the relationships among the variables, path analysis was performed via AMOS 7.0. To test our hypotheses, intrinsic motivation factors are substituted into the model. Table2 presents the relationships among eWOM experience, CSII, perceived eWOM credibility, and eWOM effect. In this analysis, path coefficients are needed for each path and standardized regression coefficients. All the path coefficient and significance are shown in Table 3.

V. DISCUSSION AND IMPLICATION

This study contributes to the understanding of factors influencing the eWOM effect in China. First, among the three factors affecting the eWOM effect directly, CSII is the most significant one (H1). So, Online marketers and researchers should know that Consumers who are highly susceptible to interpersonal influence are more likely to be affected by eWOM. There is a positive relationship between CSII and eWOM effect, particularly in China's online market, which is rapidly increasing but is not that ripe yet.

Second, our empirical results show that the impact of using experience of eWOM to eWOM effect exists (H2).

Compared with advertisement, Chinese young consumers prefer to believe the words written by others in the internet—online review. After they used online reviews a lot in shopping sites, blogs and other portal sites a lot, online reviews become a kind of power to control them to make decisions, just like online purchase decisions. Our research suggests that the e-business firms who want to raise the rate of selling need to care about the section of consumers with much experience.

Third, we also found that perceived eWOM credibility influences the eWOM effect sufficiently (H3). This means if Chinese online consumers think an online review is credible, they will make some purchase decisions based on the review which they believed. China's online shopping environment is more dangerous than many developed countries. Therefore online shoppers need some ways to avoid risks. The credible information online, just like online review, is an important way for them. In Chinese online market, how to keep the credibility of the information source believable is a strategy needed to think about clearly.

Fourth, the path from using eWOM experience to eWOM effect through perceived eWOM credibility, the path of CSII to eWOM effect through perceived eWOM credibility, and the path from CSII to eWOM effect through using experience of eWOM are significant. Because of the unique character of Chinese online market of high risk, online users always feel fear, uncertainty about shopping on-line. It makes the perceived eWOM credibility be most complex and discussable. As we indicated before, nowadays, Chinese online shoppers have plenty of experience of eWOM using and prefer to ask shopping information from others (high CSII). And these new characters which came up recently make eWOM credibility much more important than before. Asking-like and experienced consumers have enough qualities to judge the online review. But we also could recognize that the mediate effect of perceived eWOM credibility is not that obvious (path coefficient of H3* path coefficient of H5< path coefficient of H1; path coefficient of H3* path coefficient of H6< path coefficient of H2). This means the using experience of eWOM and CSII influence the eWOM effect in a direct way first in China. And we also could recognize CSII, as one of the most important attributes of Chinese consumers, influences consumer behavior significantly in three different paths. Chinese online consumers who live in a great huge collectivism atmosphere usually ask others for recommendation and follow the way which is collected by most. So as our study result indicated, in China, CSII affects using experience of eWOM, perceived eWOM credibility and effect of eWOM directly with high path loadings. It is so different from previous similar studies in other countries like USA and Korea. And it is the first time showing that CSII is a root cause in China's online market to influence eWOM effect and consumers' behavior. We want to give recommendation to who are looking for the right way to achieve success in China's online market: CSII play an important role in China and need to be further researched more in future. We think this is the one of the most worthy implications in our study.

VI. LIMITATION

This study admittedly had some limitations. First, the sample size is not big that enough, maybe the bigger sample size leads a different result. And also the bigger size will be more reliable and persuasive in the similar study. Second, the present data entails self-reported, rather than actual consumer's behavior. An experimental simulation in which researchers manipulate individuals would be beneficial. Third, factors influencing eWOM effect are various than the factors we selected. An integrated study with different factors needs to be done as a further research. Forth, this study result maybe not a general result in China because the survey was done only in Beijing and Qingdao. China is a huge country with different regional cultures and economic positions. So we think it is necessary to do some similar research in this same field but in different regions in China.

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