EMPIRICAL STUDY OF THE MOTIVATIONS OF E-WOM SPREADING ON ONLINE FEEDBACK SYSTEM IN CHINA

Jinhong Cui, School of Information Technology and Management, University of International Business and Economics, Beijing, China, cjh1616@126.com

Lingyun Wang, School of Information Technology and Management, University of International Business and Economics, Beijing, China, wings731@yahoo.cn

Haiqi Feng, School of Information, Central University of Finance and Economics, Beijing, China, hq_feng@126.com

Yue Teng, School of Information Technology and Management, University of International Business and Economics, Beijing, China, ty_dazhi@qq.com

Abstract

Based on Social Exchange Theory and Motivation Crowding Theory, we study the motivations of consumers to spread e-WOM by benefit factors and cost factors. Meanwhile, we brought the motivation crowding effect into the analysis model, and discussed the effect of extrinsic motivation on intrinsic motivation and internalized extrinsic motivation. Through empirical analysis in China, we find that altruism, product involvement, self enhancement have significant positive influence on the intention to spread e-WOM, while execution cost has a significant negative influence on the intention, and economic incentive has significant crowding in effect on altruism, product involvement and self enhancement.

Keywords: Electronic Word-of-Mouth, Motivation, Online feedback system, Social Exchange Theory, Motivation Crowding Theory
1 INTRODUCTION

The development of information technology has changed the environment significantly in which people search and use information. Now more and more consumers spread information about products or services through Web2.0 (Cheung et al. 2012; Yang 2012). The Online Feedback System (OFS), also be called the Online Reputation System (Resnick et al. 2002), refers to a kind of Electronic Word-of-Mouth (e-WOM) mechanism which can created a huge influence by using two-way communication function. In Online Feedback System, consumers can share reviews and experiences about enterprises, services and products (Dellarocas 2003). A certain quantity of high quality e-WOM play is very important to an Online Feedback System. The Online Feedback System is one of the most important places that produces e-WOM (Duan et al. 2008). In Online Feedback System, consumers can reveal the quality of products and services by providing product information to overcome the information asymmetry effectively (Wang et al. 2005).

In such virtual network environment, consumers may avoid to provide information by themselves, and only benefit from others’ information. If everyone takes such free-riding behavior, then the system cannot be maintained. And it will bring losses for the websites that promote sales and the companies that hope to improve customer relationships only by Online Feedback System. Therefore, we need to understand the motivations and characteristics of e-WOM spreading on Online Feedback System.

2 LITERATURE REVIEW AND RELEVANT THEORY ANALYSIS

2.1 Literature review

In recent years, there is a growing trend in IS research and papers on the motivations of e-WOM spreading (Cheung et al. 2012; Wang et al. 2012; Wolny et al. 2013). Hennig-Thurau et al. (2004) suggest that the publishers of e-WOM can be classified according to the motivations. Tong et al. (2007) employ the existed review quantity as control variable from the external environment factors by applying social crowding theory in the research in Singapore and explored how the number of existed review quantity can influence the relationship between the motivations of companies and the intention of e-WOM spreading. Fong et al. (2008) contrast the consumers from China and the US, and found that Chinese consumers prefer searching for more public reviews and American consumers are more willing to spread reviews. They perceive that Chinese consumers publish more comments on the origin country of the products.

In China, Chen (2008) researched the behaviour model of the e-WOM in Virtual community. She released that the quantity and quality of the e-WOM spreading have different driving factors from the aspects of consumer, business and community. Yan (2011) found the nine motivations of e-WOM spreading through factor analysis, he also found the relationship between the motivation and the behavior of e-WOM by regression model. Other research on motivations of e-WOM spreading on Online Feedback System only consider the influence of personal traits and motivations of consumers on intentions of e-WOM spreading. They all ignored the squash or extrusion effects (Shao et al. 2010).
Now the existing researches on motivations of e-WOM spreading are scattered and didn’t form a complete research system. In this study, based on the social exchange theory, we analyze the motivations of e-WOM spreading comprehensively by using interest factors and cost factors. At the same time, based on motivation crowding theory, we discuss the crowding effect among these motivations.

2.2 Social Exchange Theory

Social exchange theory, which tries to explain the individual behavior of participating in the exchange of resources, is one of the basic theories of social economy (Cook et al. 1992). The most significant concept of social exchange theory is reciprocal principle. Specifically, this kind of exchange behavior would stop when benefits were not mutual. The resources obtained from social exchange or the positive results in social exchange are regarded as benefits, and the contrary are costs. According to the social exchange theory, the principle of individual behavior is to explore the maximum profit and the minimum cost (Molm 1997).

The researchers consider that the communication behavior of internet Word-of-Mouth in online feedback system also belongs to a form of social exchange behavior. Through internet Word-of-Mouth, consumers obtain some valuable rewards for them by providing information of products and services, for example economic returns, pleasure, reputation, status and et al. (Frenzen et al. 1993).

2.3 Motivation Crowding Theory

Motivation crowding theory is a social psychology theory which studies the impact of individual extrinsic motivation on intrinsic motivation. Crowding-out effect means that when people perceive that they are controlled by external interference, their self-determination right and self-esteem are weakened, which result in the reduction of intrinsic motivation (Frey et al. 2001). On the contrary, crowding-in effect refers to that when people feel that they are supported by external interference, their self-determination right and self-esteem are strength, which result in the increase of intrinsic motivation. Motivation crowding theory has been used into the analysis about network environment in recent years. Dellarocas and Narayan (2006) considered the external interference, such as the possibility of obtaining information from other ways, will reduce people’s intrinsic motivation of participating in internet Word-of-Mouth propagation. Their empirical research confirmed that the crowding in effect was existed in the internet word-of-mouth propagation. Tong et al. (2007) also tried to study from motivation crowding theory, and they employed the number of existing product reviews as the external intervention and study its moderating impact on the relationship between intrinsic benefits and intention to contribute in OFS. However, both of these two papers which analyzed the impact of motivation crowding theory on internet word-of-mouth propagation regarded the quantity of existing comments as “external interference” and analyzed the external environment affecting intrinsic motivation. They ignore considering the possible crowding effect of “extrinsic motivation” having on intrinsic motivation.
3 RESEARCH FOUNATION MODEL

According to social exchange theory, we perceive that when interest is more than cost, consumers would participate in e-WOM spreading. Based on the classification of the classic motivation mode, the benefit factors can be divided into intrinsic motivation, internally external motivation and extrinsic motivation. Intrinsic motivations include altruistic motives, influencing the company and product involvement. Internally external motivation can be called self-improvement. Extrinsic motivation refers to economic incentive. We also had to consider the negative value caused by execution cost.

3.1 Altruistic motive

Altruistic motive is an important concept in social psychology. It refers to that people want to maximize the others’ utility no matter whether he will be rewarded. It is likely to happen when people think his behavior may be helpful to others (Engel et al. 1994). Psychologists think that this behaviour is a kind of emotion people may produce when their situations are similar with others’ (Yang 2005). After purchasing a product or service, consumers would publish their reviews about the product or quality. And it is very difficult to get these reviews from commercial advertisements. Therefore, consumers would choose Online Feedback System to spread their positive or negative experiences to help other consumers (Hennig-Thurau et al. 2004).

Then, we hypothesize that:

H1 : Altruistic motive has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.

3.2 Influencing the company

Some research suggest that influencing the company could be one of consumer’s intrinsic motivations of e-WOM spreading. It influences the company in two ways: helping the company and retaliating against the company (Hennig-Thurau et al. 2004; Sundaram et al. 1998). Helping the company is based on buying a good product or satisfying with consumption experience, so consumers have a desire to help the company. Retaliating against the company is based on buying some bad products or some unsatisfied consumption experiences. So consumers may retaliate against the company in order to vent their emotions. In other hands, the reason to help the company is that consumers obtain excellent product or have satisfied consumption experiences (Hennig-Thurau et al. 2004). Online Feedback System makes it easier for unsatisfied consumers to complain or vent. And consumers can use this public platform to express their dissatisfaction with the company to affect the company’s images.

Then, we hypothesize that:

H2 : The motivation of influencing the company has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.

3.3 Product involvement

Product involvement refers to the related degree between a product with consumer’s value, interest and demand (Zaichkowsky 1985). Usually, different types of products have different levels of product
involvement degree for individuals. The difference of the products makes consumers produce special strong feelings different from other products.

Dichter’s interview revealed that 33% of the product reputation spread behaviors happen in this situation (Dichter 1966). And the differences of the product involvement degree lead to the differences of their motivations of e-WOM spreading for these products. If the product involvement degree is high, consumers will pay more attention to this product and its information. After buying the product, consumers will have more emotional response and stronger desire to spread the information. Product involvement is different due to different person. if a particular brand of product has a special value to a consumer, the consumer will tend to participate in this product's e-WOM spreading. For example, Apple, a famous brand, has a lot of fans. For these fans, the brand gives the product with different meaning, so the product involvement degree is very high. And the fans will be more likely to participate in this product's e-WOM spreading.

Then, we hypothesize that:

H3 : The motivation of product involvement has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.

### 3.4 Self-Improvement

Self-improvement were classified as the internally external motivation by Tong et al. (2007). We perceive that the self-Improvement is the external rewards. But with the identity of BBS forum or community becoming stronger, the motivation of self-Improvement is becoming internal gradually. In the academic fields, self-improvement refers that people tend to show a positive self-image. Online Feedback System is regarded as a kind of platforms for people to show themselves (Wang et al. 2005). According to Wojnicki et al. (2004), self-improvement is to seek feedback or experiences from others in order to improve their images, status and purposes.

The information storing nature of Online Feedback System allows consumers to provide their reviews to a larger amount of people and keep reviews for a long period. So compared with traditional reputation spreading, the influence of the self-improvement under the network environment is more significant (Kankanhalli et al. 2005). Online Feedback System can give more chances and spaces for consumers to show themselves to improve their images and to get other people’s recognition.

Then, we hypothesize that:

H4 : The motivation of self-improvement has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.

### 3.5 Economic incentive

Economic incentive is an important external motivation factor. According to previous research, we can find that using the money as a reward is an important extrinsic motivation factors to improve people participation level and execution level (Orlikowski 1993). We argue that economic incentive motivation refers that the consumers hopes to get some rewards such as gift, bonus, and coupon by e-WOM spreading. And these rewards are provided by Online Feedback System platform or companies. Hennig-Thurau et al. (2004) showed that economic incentive is an important motivation factor in e-WOM spreading and also contributes to the experiences and knowledge sharing among
consumers. Now one famous website’s online feedback system in China try to provide economic incentive to consumers as external stimulus. For example, Joyo had held some activities to promote e-WOM spreading. They gave bracelets or the autographs as gift.

Then, we hypothesize that:

H5a: The motivation of economic incentive has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.

In addition, based on motivation crowding theory, We consider some extrinsic motivation, and discuss the crowding effects of economic incentive to intrinsic motivation and internally external motivation. In China’s e-WOM environment, the crowding-out effect or crowding-in effect caused by extrinsic motivation to intrinsic motivation depends on how consumers think about and understand the external economic incentive. If consumers have positive reviews and they feel that providing reviews are supported by economic reward, then it will cause positive crowding-in effect. On the other hand, if consumers feel that providing reviews are controlled by economic reward, it will cause crowding-out effect. The current famous online feedback system such as Joyo or DangDang et al. in China provide transparent service. And consumers can express their views about products or services freely. The websites or companies don’t control consumers’ behavior or employment some people, but just provide economic incentive. When get the website’s economic incentive, consumers would think their participations in e-WOM spreading have gotten support and the affirmation. Therefore, we perceive that economic incentive has crowding-in effect to intrinsic motivation and internally external motivation.

Then, we hypothesize that:

H5b: Economic incentive has crowding-in effect to altruistic motive.

H5c: Economic incentive has crowding-in effect to the motivation of influencing the company.

H5d: Economic incentive has crowding-in effect to the motivation of product involvement.

H5e: Economic incentive has crowding-in effect to the motivation of self-improvement.

3.6 Execution cost

Execution cost refers to the consumption of time, energy, material, and financial resources when people engage in a certain behavior. When providing product reviews in online feedback system, consumer need to arrange their points, organize their language, then post reviews to the system. It takes time to participate in e-WOM spreading. And this should be regarded as a kind of opportunity cost, because the time and the amount of energy cost by this process can be used for other activities and obtaining rewards (Kankanhalli 2002). Previous research has proved that the knowledge contribution process which wastes a lot of time will weaken consumer’s willing to contribute knowledge (Orlikowski 1993). Consumer’s participation in Online Feedback System is also a kind of knowledge contribution behavior. It will be affected negatively by execution cost.

Then, we assume that:

1 http://www.amazon.cn/gp/feature.html?ie=UTF8&docId=95328
H6: Execution cost has negative correlation with people’s motivation of e-WOM spreading in Online Feedback System.

Based on the above research hypothesis, we constructed the research model of consumers’ motivation of e-WOM spreading in Online Feedback System (see Figure 1).

Figure 1. Research Model

4 RESEARCH METHODOLOGY

4.1 Research design

The data in this study were collected through questionnaire. All the measurement of the variables in the questionnaire were adopted from the relative mature variable measuring scale of existing literatures about traditional public praise and network praise, therefore they had good content validity. The measurement of this research was designed based on previous researches, combining the new features of e-WOM spreading in China and social exchange theory, motivated crowding theory. Table 1 below shows the specific reference.

<table>
<thead>
<tr>
<th>Influencing Factor</th>
<th>Measurement Code</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altruistic Motive</td>
<td>ALTR</td>
<td>Yu Tong 2007, Hennig-Thurau 2004</td>
</tr>
<tr>
<td>Product Involvement</td>
<td>PROD</td>
<td>Yu Tong 2007</td>
</tr>
<tr>
<td>Self-improvement</td>
<td>SELF</td>
<td>Hennig-Thurau et al. 2004</td>
</tr>
<tr>
<td>Economic Incentive</td>
<td>ECON</td>
<td>Hennig-Thurau et al. 2004, Sundaram et al. 1998</td>
</tr>
<tr>
<td>Execution Cost</td>
<td>COST</td>
<td>Kankanhalli, 2002</td>
</tr>
<tr>
<td>Spread Intention</td>
<td>INTE</td>
<td>Taylor, 1995</td>
</tr>
</tbody>
</table>

Table 1. Measure Scale Source Table
4.2 Data collection

The questionnaire was anonymous and filled online through the “Questionnaire Star” website pages in China, which can effectively prevent the data loss and restrict the same IP from repeatedly filling in the questionnaire. The website link of the questionnaire was sent out to respondents through E-mail, micro blog, BBS and other channels. 232 pieces of questionnaire were received.

4.3 Descriptive statistics

There was no severe data loss among the 232 returned questionnaire, 12 were excluded for unserious filling (checked the time used to fill in the questionnaire, deleted when time is too short) or inconsistency. The ultimate amount of effective questionnaire was 220. There was a descriptive statistical analysis before the empirical research. There were 128 female respondents, accounting for 58.18%, while 92 male, 41.82%. 176 of the 220 respondents said they often shop on the Internet. Clothes, electronic products and food were the most frequently mentioned, respectively for 203 times, 145 times and 142 times.

4.4 Measurement model validity analysis

Measurement model validity analysis mainly involves the test of reliability and validity. Measurement reliability refers to what extent can the measurement be reliable. Researchers often use Cronbach’s Alpha to test the reliability of the data. In this study, Cronbach’s Alpha coefficient is 0.820, indicating that the questionnaire has good reliability. Alpha factor for each item exceeded 0.7, the critical value, and there was no significant ascension after deleting the test item. In conclusion, our measurement had good reliability, and were suitable for the research.

All the measurements in this study were from relative mature variable scale of existing literatures, so they have good content validity. As for the structure validity, this study tests the convergent validity and discriminates validity respectively. We calculated the latent variable standard load, extraction of average variance AVE value, composite reliability CR value. All index load is greater than 0.5, AVE value is between 0.5885 and 0.7327, all AVE value is greater than 0.5, CR value is greater than 0.7, demonstrating good convergent validity.

The test of discriminated validity is through comparing the square root of latent variable AVE value and correlation coefficient of the factor. In the first-order latent variable correlation coefficient matrix, data in diagonal show the corresponding square root of the AVE value. All square foot of AVE value are greater than the correlation coefficient between the factor and other factors, and indicates good discriminated validity.

4.5 Structural Equation Model analysis

We use Fixed Load Method and the Maximum Likelihood Estimation by AMOS18.0 to test the hypotheses. The results are shown in the Table 2. And the chi-square is 319.173. Degree of freedom is 140. CMIN/DF is 2.28. GFI is 0.912. CFI is 0.867. IFI is 0.911. RMSEA is 0.076. According to result, all the indexes are better than recommended value but CFI. Therefore, the model of this study is fitting well.
Table 2. Index of the Model

Table 3 shows the model’s path coefficient and significant degree. Hypothesis 1 is supported; altruistic motive has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System. This conclusion on e-WOM spreading is consistent with previous literature research (Henning-Thurau et al. 2004). This indicates that consumer’s altruistic motive is an important factor of people’s motivation of e-WOM spreading no matter in which country.

The path coefficient of Influencing the Company to Spread Intention is 0.607, and having not reach significance level (0.05). Thus H2 is not supported. This is different from the result of Tong et al. (2007). The reason may be our study is in China, while Tong et al. (2007) conducted their study in Singapore. Consumers in these two countries have different economic and cultural background. Consumers in China are less expectation to affect the company’s images through expressing their satisfaction or dissatisfaction with the company in Online Feedback System. Hypothesis 3 is supported; the motivation of product involvement has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System. People tend to spread e-WOM because of the special feeling of the product. Hypothesis 4 is supported; the motivation of self-improvement has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System. Due to the motive of self-improvement, consumers in China are more likely to participate in e-WOM spreading in Online Feedback System.

H5a is not supported. Because its path coefficient is 0.066, and have not reach significance level (0.05). H5b, H5d and H5e are supported; economic incentive has crowding-in effect to altruistic motive, the motivation of product involvement and self-improvement. Because its path coefficient is 0.068, and have not reach significance level (0.05), H5c is not supported. In Online Feedback System, when consumers feel the support and recognition from external economic incentive, their altruistic motive, the motivation of product involvement and self-improvement are strengthened.

Hypothesis 6 is supported; execution cost has negative correlation with people’s motivation of e-WOM spreading in Online Feedback System. When the design of the online feedback system is not reasonable, consumers are not familiar with this online feedback system or they are busy with some other things, execution cost makes them give up participating in e-WOM spreading.

Therefore the factors have positive influence on e-WOM spreading are altruistic motive, product involvement, self-improvement. The factors have negative influence on e-WOM spreading is execution cost. Extrinsic motivation has crowding-in effect to intrinsic motivation and internally external motivation. The results of the hypothesis tests are summarized in Table 4.
### Table 3. Path Coefficient and Significant Degree

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Description</th>
<th>Support?</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Altruistic motive has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.</td>
<td>Yes</td>
</tr>
<tr>
<td>H2</td>
<td>The motivation of influencing the company has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.</td>
<td>No</td>
</tr>
<tr>
<td>H3</td>
<td>The motivation of product involvement has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.</td>
<td>Yes</td>
</tr>
<tr>
<td>H4</td>
<td>The motivation of self-improvement has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.</td>
<td>Yes</td>
</tr>
<tr>
<td>H5a</td>
<td>The motivation of economic incentive has positive correlation with people’s motivation of e-WOM spreading in Online Feedback System.</td>
<td>No</td>
</tr>
<tr>
<td>H5b</td>
<td>Economic incentive has crowding-in effect to altruistic motive.</td>
<td>Yes</td>
</tr>
<tr>
<td>H5c</td>
<td>Economic incentive has crowding-in effect to the motivation of influencing the company.</td>
<td>No</td>
</tr>
<tr>
<td>H5d</td>
<td>Economic incentive has crowding-in effect to the motivation of product involvement.</td>
<td>Yes</td>
</tr>
<tr>
<td>H5e</td>
<td>Economic incentive has crowding-in effect to the motivation of self-improvement.</td>
<td>Yes</td>
</tr>
<tr>
<td>H6</td>
<td>Execution cost has negative correlation with people’s motivation of e-WOM spreading in Online Feedback System.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Table 4. Summary of Hypotheses

#### 5 DISCUSSION AND CONCLUSION

#### 5.1 Research Summary

In order to study the motivation of consumers participating in e-WOM spreading in the online feedback system, based on social exchange theory, we explore the participation motivation from the two aspects of benefits and costs. In addition, we divided benefit factors into extrinsic motivation, internally extrinsic motivation and extrinsic motivation. In the meanwhile, according to motivation
crowding theory, we examined the crowding in effect of extrinsic motivation having on intrinsic and internally extrinsic motivations. We collected data through questionnaires and verified the proposed hypothesis by establishing structural equation model using AMOS18.0.

After establishing integrated model and doing empirical research, we found four influencing factors of consumers’ participation in e-WOM spreading. Altruistic motivation, product involvement and self-improvement have positive effect on spreading intention, while execution cost has negative effect on spreading intention. Economic incentive has significant crowding in effect on altruistic motivation, product involvement and self-improvement.

5.2 Research Contribution

This study contributes to the motivations of e-WOM spreading literature in several ways. First, based on the former researches, this study build a theoretical model of e-WOM spreading on the basis of social exchange theory, and study the motivations of consumers to spread e-WOM by benefit factors and cost factors. Second, our study extends the existing research by divide motivations into intrinsic motivation, internalized extrinsic motivation, and extrinsic motivation, to analyze the influence on the intention of consumers. This study bring the motivation crowding effect into the analysis model, and discusses the effect of extrinsic motivation on intrinsic motivation. Finally, we empirically develop the consumer behavior theory under China’s internet environment. This study enriches the literature by examining the motivations of e-WOM spreading behavior in China.

The empirical results also provide some suggestions to OFS designers and companies of online feedback systems: online feedback system should highlight some settings in order to stimulate consumers’ altruistic behavior. As for the self-improvement motivation, OFS should provide a perfect relevant system. For instance, it can establish a perfect registered user rating subsystem, which will endow a certain rank, title and amount of contribution to those active consumers. For product involvement, OFS designers can develop different products’ brands discussion boards in order to encourage consumers to take part in the e-WOM spreading. Besides, online feedback system can reduce executive cost by providing word-of-mouth templates, which include providing reviews on the possible properties of a certain product and the descriptions of these properties.

5.3 Limitation and Further Research Directions

We acknowledge several limitations to this study that then underline a demand for future research. A limitation of the study is that the types of products have been neglected. Products can be classified as search products or experience products. For this reason, future research should take these two types of products into account. The study did not specify a context for respondents to answer the questions, and responses may be biased without a specific online review setup. The future studies can be extended through doing experiments, collecting panel data, and conducting robustness checks for empirical results. The limitation of this study is that it did not distinguish the positive word-of-mouth and negative word-of-mouth. The future studies can also be extended to the polarity of the e-WOM.
Acknowledgement

The authors would like to thank the track chairs and the review term for their constructive comments on early version of the paper. This research was supported by the Research Funds of University of International Business and Economics under Grant 13YBGLX01.

Reference


