

The Impact Mechanism of Consumer-generated Comments of Shopping Sites on Consumer Trust

CHEN Hui

School of Economics and Management, Beijing University of Posts and Telecommunications, Beijing, China
Chen-hui@vip.sina.com

Abstract—The author aims at studying the influence of consumer-generated comments of the shopping sites on consumer trust. The research divides consumer-generated comments into four types: service comments, product and price comments, self-display comments and after-action comments. With the survey result of 166 college students, the author finds that online shoppers' trust are influenced by consumer-generated comments of the shopping websites significantly. The data is analyzed by SPSS 15.0 and LISREL 8.8. The results show that product and price comments, the self-display comments, and after-sale action comments influence consumer trust to shopping sites remarkably.

Index Terms—shopping site; consumer-generated comments; online word-of-mouth; consumer trust

I. INTRODUCTION

Because of the virtual environment of e-commerce, trust plays an important role in e-commerce transaction. Consumer trust has more and more obvious influence on the effects of e-commerce market. There is no denying that establishing and maintaining the trust is critical for the enterprise to increase the revenue in the virtual environment. Therefore, how to establish customer relationship systematically, how to increase the customer trust and loyalty and gain more revenue, and how to innovate the operation and management models of e-commerce are the critical issues for the e-commerce enterprises to keep their competitive advantages.

In the web 2.0 era, the consumers can not only shop online, they can also make comments about the products or services they consumed. This operation influence trust a lot. Although there are short of the researches about the relationship between trust and comments, researches show that comments, especially generated by consumers, have a crucial impact on loyalty and intention of buying.

For example, Virtual community, whose definition is as "the union between individuals or organizations who share common values and interests using electronic media to communicate within a shared semantic space on a regular basis" (Schubert, 1999), has become the heart of Web2.0. Scholars point out there is a relationship between virtual Internet communities and commercial success (Frank and Stephen, 2001), while feelings toward a virtual community in online shop influence shopping motivations

(Linda et al, 2007) and play an important part in e-commerce decision making process (Young and Jaideep, 2007).

From the point of view of practice, many companies, especially the ones of B2C, have added virtual community elements and applications to their own websites. Many e-retailers (e.g. Amzon.com, eBay.com, Wine.com) has built a system in which consumers can write product reviews, express how useful the reviews written by other consumers are, and rate useful products or reviews (Smith et al, 2005).

In the virtual communities, comments from consumers are main resource. In this background, Word-of-mouth marketing can be used on the e-commerce environment. Hanson (2000) used online word-of-mouth to discuss this influence. With the comment from consumers, the online stores can develop their own reputation. Most importantly, they could build up trust relationship with more consumers and make business success.

In real environment, researchers have found out that negative word-of-mouth influenced the buying decision making. Gruen, Osmonbekov & Czapslewski (2006) have found out that online word-of-mouth influenced the perceived value of product and the intention of loyalty.

Then how would online word-of-mouth influence the consumer trust? What kind of word-of-mouth information influences the consumer trust? With the development of word-of-mouth marketing on e-commerce, how can retailers build up trust relationship with consumers? My research focuses on the relationship between consumer-generated comments and consumer trust.

II. LITERATURE REVIEW

A. Trust model

Based on the traditional trust theories, there are three trust models: rational-emotional trust model, institutional-interpersonal trust model and faith-intention trust model.

- Rational-emotional Trust Model

This model analyzes trust from both the rational and emotional aspects. The consumer trust in the e-commercial transaction context is determined by two aspects: First, the buyer will analyze the competitive power, marketing ability, brand influence of the seller. Second, the buyer will analyze the honesty, credibility, benevolence and integrity of the seller and consider its

customer care to determine whether this seller is reliable and credible. Mayer et al (1995) put forward a three-dimensional model in the traditional environment, i.e. ability, benevolence and integrity. Gefen (2000) applied this to the virtual environment. After surveying 310 MBA students in USA, he proved that the general consumer trust on Internet transaction was from the trust in ability, benevolence and integrity of the seller, and this would therefore determine the buying decision. Ability herein refers to the competitive power in the specific field; benevolence refers that one party (credit receiver) can give up its potential interest and treat the other party (credit sender) benevolently; integrity refers that the credit receiver sticks to the principles acceptable for the credit sender. Ability and Integrity arouses from the rational perspective and benevolence from the emotional perspective.

- Institutional-interpersonal Trust Model.

Institutional trust is a trust in the whole Internet environment, and interpersonal trust is an appraisal for credibility of the seller on the Internet. The related literatures taking interpersonal trust into consideration believed that transaction itself is an interactive interpersonal process. Compared with the normal interpersonal relation, the buyer in the transaction process is in the inferior position. Only when knowing a lot about the seller's competitive power and benevolence, combining with the satisfaction based on the previous transactions, the buyer can judge the seller's credibility and determine his/her own buying behavior. With the further study, more and more scholars believe the personal trust has significant correlation with the business trust in the e-commerce. The previous scholars discussed in the aspects of theory and demonstration, and they put forward an institutional-interpersonal-individual trust model.

- Faith-intention trust model

McKnight (1998) put forward the two-dimensional trust: intention and faith. The intention of trust is: in the given environment, even if the bad results may happen, the object is still willing to trust others. The definition of the faith of trust is: in the given environment, the object believes that others are benevolent, capable, honest and predictable. In the context of e-commerce, the faith of trust includes the faith and the expectation of online customers toward the online sellers which are related to the trust. The intention of trust is the degree that the customer is willing or intended to trust the seller on the shopping site, even if they risk a deception.

In my research, I mainly care about the interpersonal trust, which is between the consumer and seller. In interpersonal dimension, basically I use Gefen's three-dimensional trust (2002), which are ability, benevolence and integrity.

B. Online Word-of-mouth

- The generation of online word-of-mouth

With the development of e-commerce, online word-of-mouth also has attracted a lot of attention. The

shopper use Internet to search for information about product quality, price, service, delivery. Because of the virtual shopping environment, shoppers take some risk before they make shopping decisions. Therefore, online word-of-mouth, as a kind of information, is also considered by shoppers.

Stauss (1997, 2000) discussed the influence of online communication on consumer, which used 'Internet consumer communication' to define the information about products online, a kind of word-of-mouth. It makes a potential consumer communicate with many other people about the product information.

Hanson (2000) used online word-of-mouth or electronic word-of-mouth to describe computer-mediated word-of-mouth. The consumers use e-mails, user groups, online forums to transfer information. Hennig-Thurau et al. (2004) pointed out that consumers use WebPages to collect the information from other consumers, which can be defined as electronic word-of-mouth.

- The types of online word-of-mouth

According to Kiecker & Cowles (2001), there are four types of online word-of-mouth.

Spontaneous word-of-mouth: consumers use their WebPages or e-mail as communication channel to transfer information.

Quasi-Spontaneous word-of-mouth: consumers use BBS or virtual communities of shopping sites to transfer information.

Independent-or Third Party-sponsored word-of-mouth: special interest groups transfer information about product and service from the Internet. They answer consumer's questions and help consumer search for information.

Corporate Sponsored word-of-mouth: the sellers create websites and hair consumers to transfer information about product or service.

In this research, I focus on Quasi-Spontaneous word-of-mouth. I define it as consumer-generated comments. These comments are all from the BBS or virtual communities of shopping sites.

- The influence of online word-of-mouth

Bickart & Schindler (2001) defined the type of online information as used User-generated online information and marketer-generated online information. Consumers used those as information collecting channels. The researchers collected information about consuming potential, expected consuming expense, product knowledge, thought and interest of those consumers. User-generated online information is from the BBS, marketer-generated online information is from the WebPages of sellers. After 12-week data collection, they found that consumers who collect User-generated online information are more interested in the products.

With 252 students as research objects, Smith, Menon & Sivakumar (2005) found that online shoppers made buying decisions with the information from other consumers who have bought same products.

Based on the 616 virtual community members' data, Gruen, Osmonbekov & Czapslewski (2006) thought that

online word-of-mouth influence the perceived value of product and the intention of loyalty.

In the real world environment, researchers focused on the positive and negative information on the shopping decision-making and they found out negative information has more influence on the decision-making.

In this research, I focus on the influence of consumer-generated comment on consumer trust to online sellers.

III. HYPOTHESES AND MODELS

In my previous research, I studied about 1,000 comments of consumer on BBS and virtual communities of shopping sites after their shopping behaviors. In that research, I used empirical factor analysis to analyze the data, then the results showed the contents of comments could be divided into four dimensions: Service, Product and price, Self-display and After-sale action (Chen, 2009). Service refers to the solutions to all the problems the customers may have in the process of decision-making, product delivery and receiving, product operation, etc. According to different service phases, service can be divided into three dimensions: customer service, logistics and packing, after-sales service and solutions. Product and price refers to the comments of quality and price of the product in the shopping sites. Self-display can be divided into two dimensions: background description of the consumption and feeling of the consumers. After-sale action comment means a feedback for the specific website, the specific seller or other consumers after purchasing and using the products or services. Moreover, After-sale action comment can be divided into two dimensions: action (measured in deeds) and suggestion (measured in words).

Meanwhile, according to the questionnaire developed by Gefen in 2002 for testing cyber trust which was based on Mayer’s three-dimensional model in 1995, this paper divides the trust into three dimensions: Capability, honesty and benevolence.

Capability is the combination of profession, technology, competency and experience of online sellers. Honesty refers that online sellers have some regulations and principles to protect the online consumers. Benevolence refers that online sellers will behave kindly to shoppers without self-interested profit motive. They may give up their potential interest and treat the consumer benevolently.

Referring to both the domestic and international researches on the relationship between word-of-mouth on the Internet and the consumer trust, taking the actual experience of transaction online into consideration, based on the definition and measurement of variables in this research, the paper makes the following hypotheses: Hypothesis 1: Service comments have significant influence on Capability. Hypothesis 2: Service comments have significant influence on Honesty. Hypothesis 3: Product and price comment has significant influence on Capability. Hypothesis 4: Product and price comment has significant influence on Honesty. Hypothesis 5: Self-display comment has significant influence on

Benevolence. Hypothesis 6: After-sale action comment has significant influence on Benevolence.

IV. RESEARCH METHODS

A. Research Objects

The study selects the college students as the research objects. Compared with the composition of consumers in the entire society, as a group of consumers, the college students have higher homogeneity, so this selection can avoid too much consumer living segmentation and reduce the trouble of comparing the different degrees of involvement and degrees of contacting Internet in different groups. As the representatives of the younger generation and would-be group with strong purchasing power, college students have the great consumption potential. Meanwhile, they are main resource of online purchasing. From the view of survey, they like shopping online.

The author distributes 200 questionnaires and collects 175 on the spot and 20 through e-mails. Eliminating invalidate ones, the final number of validate questionnaires is 166.

TABLE I. THE DEMOGRAPHIC STATISTICS DATA OF RESEARCH OBJECTS

Sex		Age		The frequency of online shopping/month			
Male	Female	19-24	25-30	Less 1	1-5	6-10	≥ 10
96	70	160	6	24	102	25	15

B. Research methods

The survey research uses two questionnaires as research methods, one is the comments on shopping sites, which aim at sampling survey about the influence of Service, Product and price, Self-display and After-sale action of the consumer-generated comments on the shopping sites. The other one is the trust on shopping sites, which mainly measure the consumers trust to the seller on Capability, honesty, Benevolence.

The questionnaire of ‘Comments on shopping sites’ is from my previous study, which has certified the validity and credibility (Chen, 2009). We use Likert Scale to measure the degree of concern of online consumers before they make online shopping decision, from “1” to “6”, means “not concern” to “concern a lot”.

The questionnaire of ‘Trust on shopping sites’ is the one from Gefen (2002), which has also certified the validity and credibility. It is also used Likert Scale to measure the degree of agreement of online consumers to the shopping websites, from “1” to “6”, means “disagree totally” to “agree totally”.

C. Research Procedures

This study adopts two ways in distributing the questionnaires. One way is to distribute and collect the questionnaires on the spot; the other way is the online questionnaire. In order to ensure the efficiency of this data collection, we first make sure that all those did the

questionnaire should have had online shopping experiences.

The objects first think about the latest online shopping behavior, write down the products they bought and the shopping websites they chose, second, they finish the questionnaire of ‘Comments on shopping sites’, measure their concern of the consumer-generated comments before they made shopping decision. Last, they finish the questionnaire of ‘Trust on shopping sites’, measure they trust that specific shopping sites or not.

We used SPSS15.0 and LISREL8.8 to analyze the data.

V. RESEARCH RESULTS

A. Reliability

We use Cronbach’s Alpha to analyze the internal reliability of each dimension in the questionnaires.

Table II. The reliability of the dimensions

Dimension	α
Service	0.691
Products and price	0.670
Self-display	0.777
After-sale actions	0.762
Capability	0.798
Honesty	0.756
Benevolence	0.786

The result of reliability analysis is acceptable.

B. Structural Equation Modeling

Important goodness-of-fit indices of SEM model are shown as below:

Table III. The goodness-of-fit of SEM

Indicator	Result
χ^2	1557.68
χ^2/df	1.95
RMSEA	0.076
NFI	0.83
NNFI	0.91
CFI	0.92
RFI	0.82
XFI	0.85

From the model indicators, the trust model in this study is a good goodness-of-fit model. It is acceptable in statistics. Model goodness-of-fit results are very similar except GFI and AGFI (both of them are less than 0.7), and this is acceptable. RFI and NFI are less than 0.9, but more than 0.8, so the model goodness-of-fit results are relatively good. Other indicators are more than 0.9, so the model goodness-of-fit results are very good. Bentler&Chou (1987) pointed out that it was difficult to achieve the assumed goodness-of-fit for the model with many variables.

There are 7 variables and 48 testing items in this model, so it is acceptable that some goodness-of-fit indicators cannot reach up to 0.9, and actually other goodness-of-fit indicators show that the goodness-of-fit results are very good.

Except Service comment to ability trust and Service comment to honest trust, other comments have a strong influence on the corresponding dimension ($P>0.2$).

Therefore, service comment, products comment, self-display comment and after-sale actions’ comment have influence on the Capability, Honesty and Benevolence directly or indirectly. Most of the hypothesis (H3, H4, H5, H6) are supported by the result, while 2 (H1, H2) are rejected. Next section will discuss these results and their implications in detail.

VI. DISCUSSION

A. Discussion

- The relationship between Service comment and the trust in the consumer websites.

Service comment has weak influence on the trust in the consumer websites. It can be found from the empirical analysis: Service comment has influence on neither Capability nor Honesty. From the practice perspective, when making decision, consumers possibly focus on the most direct factors, such as quality, colors, functions, while they may not pay close attention to the service provided in the process of trade online.

Service comments in this research focus on customer service, delivery, and package and after-sale service. The other possible reason is that I didn’t choose service comments which are concerned by the consumers.

- The relationship between Product and price comment and the trust in the consumer websites.

Product and price comments in this research focus on product quality, function, shapes and style, price, price compared with similar products, the suggestions about using products.

Product and price comment has strong influence on the trust in the consumer websites. It can be found from the empirical analysis: Products comment has strong influence on Capability and Honesty. From the practice perspective, more product and price comments on the shopping sites will result in more necessary information the consumers perceive. Accordingly, the consumers will trust the Capability of the website and feel that the website is willing to showcase the information about products. It has positive influence on the honesty trust of the website. Therefore, Product and price comment has strong influence on the trust in the consumer websites.

- The relationship between Self-display comment and the trust in the consumer websites.

Self-display comments in this research focus on the experience and attitude of buyers. Some buyers described the shopping experience, the feeling about online shopping, the attitude to one specific product, and the satisfaction about the products and the shopping sites. In all of the dimensions in consumer-generated comments, this one has positive or negative judgment about the product or the shopping sites.

Self-display comment has strong influence on the trust in the consumer websites. It can be found from the empirical analysis: Self-display comment has strong

influence on Benevolence. From the practice perspective, Self-display will result in more acceptance and promotion from customers, and this will drive the potential customers to learn more about the products on the website. The potential customers believe that the shopping sites are kind-hearted, and they will provide their products in the interests of customers and showcase the desirable products with good intention, so this kind of opinion will give evidence to customers to make decisions. Customers are willing to go shopping on the shopping sites, and in fact it increases the trust in the shopping sites.

The results mean that we should pay attention to the positive and negative comments in future.

- The relationship between After-sale actions' comment and the trust in the consumer websites.

After-sale actions' comments in this research focus on action and suggestion. Action means the consumer suggest other shoppers to buy or not. Suggestion means opinion and suggestion to the shopping sites about the service quality, WebPages design and the variety of products.

After-sale actions' comment has strong influence on the trust in the consumer websites. It can be found from the empirical analysis: After-sale actions' comment has strong influence on Benevolence. From the practice perspective, the completion of a deal is based on the satisfaction of the demands from two parties. If after-sale action is very good, it will increase the confidence and purchasing desire undoubtedly. From the website perspective, numbers of Post comments reflects the degree of after-sale focus. So consumers can easily find the desired after-sale information, and it will increase consumers' trust in the shopping sites.

B. Conclusion

- Product and price comments have significant influence on Capability.
- Product and price comments have significant influence on Honesty.
- Self-display comments have significant influence on Benevolence.
- After-sale action's comments have significant influence on Benevolence.

C. Application

This research can be a good reference for the research in the future. It is believed that we can have more profound finding in the Chinese e-commerce.

According to the result of this research, in order to increase the popularity of the website, the shopping websites can provide a communication section to encourage the consumers to comment on the products, prices, and after-sale service, and the seller can also promote his products in this section. The more comments, the more honesty and benevolence trust the consumer will have in the website. So the trust in the shopping sites can be increased in general.

Meanwhile, quite lot consumers have the desire to do shopping on the website they trust. According to this

research, consumers should select the websites with more Product and price comments, Self-display comments and After-sale action comments. The shopping websites, which let the consumers comment and complain on their websites, show their honesty and encouragement. They would like to share information with the consumers and potential consumers. Whereas they will consider more about the interests of consumers, and the information on the websites is normally reliable.

VII. LIMITATIONS AND FUTURE RESEARCH

This research focuses on the consumer-generated comments influence on the online shopping trust. The results show that the comments have significant influence on the online shopper's trust to the shopping websites. But the mechanism of the influence needs more research to find out.

Besides, we just focus on the trust of shoppers; we need to expend our model to online shopping decision-making and online shopping behaviors.

We use survey as data collection methods, the procedure of data collection can be influenced by some other factors, which would influence the data. So, we need to do more experimental researches and control the influencing factors in future, which can make more accurate results.

This research focuses on the influence of the type of comment on the trust. There are some researches in real shopping environment shows that the positive and negative comments also influence trust and buying decision-making. In this research, we just care about the content of comments. We would like to focus on the negative impact of word-of-mouth on the Internet in future. In terms of the characteristics of Internet, word-of-mouth on the Internet will affect or even mislead consumers to make buying decisions. When the seller trumpets his preferential comments on the Internet in the name of consumers, even the rumors, these unconfirmed negative information and rumors will be amplified and broadcasted to endanger the trust of the sellers on the Internet. Therefore, how to curb the communication of negative word-of-mouth and rumors and how to establish a good communication environment are the issues necessary to discuss further.

Last but not least, it is about the localization research of online shopping behaviors. There are short of researches focused on the Chinese consumers. However, the different cultural background between China and the West will lead to different online shopping behaviors. We still need more work to find out the characters of Chinese consumers. How online word-of-mouth influence trust and how trust influence the buying decision-making.

ACKNOWLEDGMENT

The author thanks Chinese Universities Scientific Fund and Beijing University of Posts and Telecommunications. With their financial support, the author could do survey and study more deeply.

REFERENCES

- [1] Bickart, B. & Sehindler R.M. Internet Forums as Influential Resource of Consumer Information. *Journal of Interactive Marketing*. 2001, 15(3):31 – 40
- [2] Chen H and Li Z. The Factors Influencing Chinese Online Shopper's Satisfaction in Web2.0 Era, 2008 International Symposium on Electronic Commerce Security, 86-90.
- [3] Chen H. (2009) The Empirical Factors Analysis on the Contents of Comments on the Shopping Sites,
- [4] Frank T R, Stephen S (2001). Virtual internet communities and commercial success: individual and community-level theory grounded in the atypical case of TimeZone.com. *Journal of Management* 27 (2001) 297–312
- [5] Gefen, D. Reflections on the Dimensions of Trust and Trustworthiness Among Online Consumers [J]. *ACM SIGMIS Database*, 2002, 33(3):38-53
- [6] Gefen, D., Karahanna, E. & Straub, D.W. Trust and TAM in online shopping: an Integrated model [J]. *MIS Quarterly*, 2003, 27 (1):51-90
- [7] Gefen, D., Straub, D.W. & Boudreau, M-C. Structural Equation Modeling and Regression: Guide lines for Research Practice [J]. *Communications of the AIS*, 2000, 4:1-77
- [8] Gruen, T.W., Osmonbekov T. & Czaplewski, A.J. eWOM: The impact of customer-to-customer online know-how exchange on customer value and loyalty. *Journal of Business Research*, 2006, 59:449 – 456
- [9] Hanson, W.A. *Principles of Internet Marketing* [J]. Ohio: South-West College Publishing, 2000
- [10] Hennig-Thurau, T., Gwinner, K.P., Walsh, G & Gremler, D.D. Electronic word-of-mouth via consumer-opinion Platform: what motivates consumers to articulate themselves on the internet. *Journal of Interactive Marketing*, 2004, 18(1):38 – 52.
- [11] Kiecker, R & Cowles, D. Interpersonal Communications and Personal Influence on the Internet: A Framework for Examining online word-of-mouth [J]. *Journal of Euromarketing*, 2001, 11(2):71 – 88
- [12] Mayer, R.C., Davis, J.H. & Schoorman, F.D. An Integrative Model of organizational Trust [J]. *Academy of management Review*, 1995, 20(3):709-734
- [13] McKnight, H.D., Choudhury, V. & Kacmar, C. Developing and Validating Trust Measures for e-Commerce: An Integrative Typology [J]. *Information Systems Research*, 2002, 13:334 – 359
- [14] Schubert, P. & Ginsburg, M. Editors' note: Virtual Communities in E-Commerce [J]. *Electronic Commerce Research*. 2006:5-6
- [15] Smith, D., Menon S. & Sivakumar. Online Peer and editorial recommendations, trust, and choice in virtual markets [J]. *Journal of interactive marketing*, 2005, 19(3):15 – 37
- [16] Stauss, B. Global word of mouth. Service Bashing on the Internet is a Thorny Issue [J]. *Marketing Management*, 1997, 6(3):23-30
- [17] Stauss, B. Using new media for customer interaction: A challenge for relationship marketing [J]. in T. Hennig-Thurau & U. Hansen (Eds.), *Relationship Marketing*, Berlin: Springer, 2000:233-253