Study of the Influence of Social Network Based Word-of-Mouth Communication over Purchase Intention

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ABSTRACT: This research is on purchase intentions of customers both online and offline based on the influence factors of word-of-mouth communication effect in social networks. The concept model of word-of-mouth communication’s influence on purchase intention from perspectives of information source, information sink, and information carrier and information channel is designed. It was discovered that purchase intention related to six factors, namely, word-of-mouth recognition, website characteristics, trust tendency, word-of-mouth objectivity, searching preference and consumption type through statistical analysis of the data obtained in experimental survey. Moreover, a model of probability for purchase events involving the above factors and based on logistic function is established.

KEYWORDS: Online Word-of-mouth; Purchase Intention; Word-of-mouth Communication; Influence Factors; Logistic regression.

INTRODUCTION

Word-of-mouth refers to informal communication regarding products or services among customers. Huge amount of complicated information could be obtained by customers through multiple channels each day. However, no information is comparable to word-of-mouth in terms of credibility and importance. According to a research conducted by “Media Mark Communication”, around 50% of American customers would seek for others’ comments before they make decisions for purchase [1]. It was also found in a UK based company called “Mediaedge”, through a similar survey that 75% of the customers would respond “recommended by friends” when they asked “what factors made them more assured when they purchased products” [2].

In spite of its high credibility, the traditional word-of-mouth made less influence. With the development of social networks, the gap between credibility and influence was filled by emerging online word-of-mouth. Limited by e-commerce situation, customers could understand product or service information solely through photos and word-of-mouth was more urgently needed than ever before. People surfed dianping.com before having meals, looked up information in douban.com before watching films and reviewed comments from JD.com and taobao.com before make a purchase, etc. It is pointed out in the Roland Berger Chinese Consumer Report 2010 that online word-of-mouth does not only influence customers’ purchase behavior but also solve the problem of non-equivalence of buyer’s and seller’s information, influence purchase behavior and change consumption decision-making mode, etc. However, with the forming of a new internet marketing mode, the authenticity of online word-of-mouth has started to be questioned. A lot of customers would find the difference in credit assessment online and offline when collecting assessment information, while the difference in such assessment would undoubtedly produce influence over customers’ purchase decision. Thus, it seems necessary to make a comparative analysis of online and offline word-of-mouth differences and to further study its influence over customers’ purchase intention.

THEORIES AND LITERATURE REVIEW

Word-of-Mouth and Its Influence over Purchase Intention

The research on word-of-mouth originated from “any oral communication” proposed by Brooks and Robert (1957). With further research on word-of-mouth theories, its definition has been developed and deepened over time. Word-of-mouth means the information-receiving behavior formed between the communicator and receiver face to face or via phone.
As a pioneer of research on word-of-mouth communication mechanism, Arndt (1967) believed that word-of-mouth communication is a kind of informal group influence and its content shall not regard commercial profit making as an aim [3]. Both Westbrook (1987) and Anderson (1998) defined word-of-mouth media as informal communication among individuals regarding comments on products and services, and thought its content included both positive and negative ideas [4-5]. However, in fact, some product information would be unemotionally communicated during the process of word-of-mouth communication with customers. Such information was called by subsequent scholars as “neutral word-of-mouth”. The objectivity of word-of-mouth was ensured to some extent. Based on word-of-mouth researches and in combination with evolution of word-of-mouth definitions, it can be seen that word-of-mouth communication mechanism has the following characters: first, word-of-mouth communication is informal, non-commercial and mutually interactive [6-7]; second, word-of-mouth communication is not controlled by enterprises [8-9], but can cause increase or decrease in corporate value to some extent [10]; third, neutral word-of-mouth allows the provision of more information related to products and services and is more popular with receivers [11-12]; fourth, the speed and effect of word-of-mouth communication is influenced by communicator, receiver, characteristics of word-of-mouth subject, communication channels and other factors, as Fig 1 shows.

![Diagram](image)

**Figure 1. Influence Factors of word-of-mouth communication effect.**

Online Word-of-mouth Communication Mechanism and its Influence Factors

Changes happen to consuming habits due to the appearance of the Internet. Some consumers obtain word-of-mouth information by search engine and then confirm their purchase intention. The online word-of-mouth with social networks has become an important influence factor of purchase intention. Social network is a combination of tools and platforms that allow users to share their views, ideas, opinions and experience with the development and popularization of the Internet. Hanson defined online word-of-mouth as information regarding products and services to be exchanged by email, usenet group, online forums and portal discussion areas etc. with social networks as a medium [13].

With the development of e-commerce, social networks make the word-of-mouth communication shift from face-to-face voice communication to online text or photo communication by using keyboard [14].

Online word-of-mouth may be literally interpreted as word-of-mouth information communicated online or called as electronic word-of-mouth, online word-of-mouth or mouse word-of-mouth. Gelb and Johnson proposed the idea that online word-of-mouth was the word-of-mouth information communicated through the internet by computers, representing the earliest definition of online word-of-mouth [15].

Online word-of-mouth communication is communication or feedback regarding products or services with web media including email, instantaneous communication tools, and social network forums as main form [16]. According to communication theories, information source, information sink, information carrier and information channel represent four factors of communication process. It can be found that there is obvious difference between traditional and online word-of-mouth: first, different information sources and information sinks: traditional word-of-mouth exists in face-to-face communication among friends and relatives while online word-of-mouth may occur among strangers. Second, different information carriers: the carriers of traditional word-of-mouth are limited to action, language, sound and facial expression while those of online word-of-mouth are digital multi-media
information inclusive of words, photos, voices and videos, etc. Third, different information channels: traditional word-of-mouth happens in interpersonal face-to-face contacts while online word-of-mouth is communicated via online platforms. Moreover, traditional word-of-mouth is mainly one-to-one communication while online word-of-mouth communication can be realized in the forms of one-to-one, one-to-many and many-to-many, depending on different media types.

Wen Fei et al. (2011), Cheung & Lee (2012) and Verhagen et al. (2013) made researches on the influence factors of online word-of-mouth communication [17-19]. Different from traditional word-of-mouth communication, online word-of-mouth has two additional influence factors, namely characteristics of communication website and relationship strength between the communicator and the receiver. The characteristics of communication website is similar to that of the communication channel or media of traditional word-of-mouth communication; however, its virtuality leads to the difference in the trust degree and image positioning of word-of-mouth receivers on the website, thus producing some influence over word-of-mouth. In contrast to the strong link among participants in the traditional word-of-mouth communication, online word-of-mouth communicators and receivers have weaker relationship, the professionalism of online word-of-mouth communicators and the strength of relationship with receivers shall be judged according to receivers’ evaluation of communicators’ credit and their online interaction strength.

WORD-OF-MOUTH COMMUNICATION INFLUENCES THE MODEL BUILDING OF CONSUMERS’ PURCHASE INTENTION

Building of Theory Model

Due to diversified composition of online word-of-mouth communication and difference in influence indexes under purchase and non-purchase circumstances, purchase circumstance was regarded as supposed background for model building. The concept model that influences online word-of-mouth communication is shown in Figure 2.

![Figure 2. Concept model of influence of online word-of-mouth communication over purchase intention.](image)

Questionnaire Design

The following steps was followed in the design of the questionnaire: (1) having a deep understanding of the purpose of experiment and meaning of each key concept to be surveyed; (2) regarding the indexes of the scale developed by previous scholars as design basis for each measurement option in this research; (3) modifying the indicators selected in combination with the purpose of experiment and characteristics of the respondents in this study. 36 questions were raised in the questionnaire. Cronbach’s Alpha value is 0.891, indicating a good reliability.

Empirical Survey and Result Analysis

334 respondents were invited to participate in this research, including 193 males (57.8%) and 141 females (42.2%). Logistic regression analysis was adopted to study the numerical relationship of theory model. The statistical result was shown as follows:
It can be seen from the column that the factors are significantly correlated with purchase intention including online word-of-mouth recognition (p=0.000), website characteristic (p=0.001), trust tendency (p=0.000), searching preference (p=0.000) and word-of-mouth objectivity (p=0.000). In addition, when bulk, luxury and high-tech goods and others are purchased, the consumption type is significantly correlated with purchase intention. However, factors including service perception (p=0.924), consistency in quality and reputation (p=0.380), community homophiles (p=0.117), information source (p=0.760) and word-of-mouth authenticity (p=0.489) do not produce a significant influence on consumers’ purchase intention.
The logistic regression analysis in upper table focuses on the circumstance where the purchase intention of consumers is “Yes”. The circumstance where the purchase intention is “No” is deemed as reference type of dependent variables, with all coefficients being 0. As the coefficients of “service perception=1”, “evaluation mechanism=1”, “word-of-mouth recognition=1”, “community homophily=1”, “information source=1”, “trust tendency=1”, “searching preference=1”, “Consistency in quality and reputation=1”, “word-of-mouth authenticity=1” and “word-of-mouth objectivity=1” are 0, they can be regarded as reference types of relevant dependent variables. It can be known from the column of significance level that where purchase intention is “Yes”, there is significant difference in “website characteristic=0” and “website characteristics=1” (p=0.003). On the premise of purchase,
there is significant difference between poor website characteristics and good website characteristics. Similarly, word-of-mouth recognition, trust tendency, searching preference and word-of-mouth objectivity are significantly different.

Subsequently, the purchase intention model was subject to quantitative analysis. The factors influencing purchase intention, P, were marked as X1, X2, X3, X4, X5 and X6, namely, word-of-mouth recognition, website characteristics, searching preference, word-of-mouth objectivity, trust tendency and consumption type respectively. Where the purchase intention of consumers is “Yes”, Y=1; otherwise, Y=0. When the probability of consumers’ purchase event is regarded as a dependent variable of the model, a probability model based on logistic function was built and was expressed as follows:

\[
\ln \left( \frac{P}{1-P} \right) = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5 + b_6 X_6 + a
\]

(1)

Where, P means probability of purchase event, or probability when Y=1; a means random error item.

Substitute all parameter values calculate in Table 2 into Equation (1). The regression equation is equivalent to:

\[
P = \frac{e^{5.594-3.51 X_1+2.01 X_2-3.65 X_3+5.75 X_4-6.97 X_5 + b_6 X_6+a}}{1 + e^{5.594-3.51 X_1+2.01 X_2-3.65 X_3+5.75 X_4-6.97 X_5 + b_6 X_6+a}}
\]

(2)

Due to the fact that consumption type differs depending on influence of purchase intention, there is no way to determine the coefficient of X6, b6. When bulk goods (p=0.003), luxury goods (p=0.003) or high-tech goods (p=0.003) is purchased, the parameter values may be substituted into the equation; and when service goods (p=0.429) or virtual goods (p=0.083) is purchased, the model cannot be used for calculation.

DISCUSSION

The purchase intention of customers is correlated with five factors, namely, word-of-mouth recognition, website characteristic, trust tendency, word-of-mouth objectivity and searching preference.

In terms of word-of-mouth recognition, 87% of the respondents believed that “online word-of-mouth is effective”, among which 62% thought “online word-of-mouth is objective”. When getting asked the preference to traditional or online word-of-mouth, not many people opted to online word-of-mouth. It proves that not many consumers prefer to online word-of-mouth when they hold traditional word-of-mouth even when online word-of-mouth is deemed as effective and objective and is accepted by consumers. With the development and perfection of e-commerce, the word-of-mouth information of the strangers with weak interaction would increasingly produce an enhanced influence over consumers’ purchase intention. It does not mean traditional word-of-mouth has been ineffective. Instead, traditional and online word-of-mouth interacts with each other and produces effect on consumers’ purchase intention together.

In terms of website characteristic, about 79% of the respondents believed that “seller would get punishments through evaluation system”. 74.32% considered that website incentives would trigger evaluators’ interest in evaluation and facilitate their exchanges with others online. It shows that, in the opinions of consumers, the current evaluation mechanism and website building could better facilitate evaluation and encourage sellers to enhance service and commodity quality management; and the evaluation system can provide help to them and they would like to get involved in the system building.

In terms of trust tendency, 63.27% of the respondents believed that the goods with a large amount of positive word-of-mouth and detailed descriptions would facilitate purchase behavior. When holding negative word-of-mouth on particular goods, the word-of-mouth receiver would not change his/her decision of not purchasing due to positive word-of-mouth online; and when holding positive word-of-mouth, the receiver tends to refuse purchasing due to the negative word-of-mouth online. It means much to sellers: first, sellers shall attach great importance to negative comments and fully understand the probability of negative word-of-mouth in reducing consumption; second, a smooth communication platform should be built between buyers and sellers. Sellers shall respond to negative comments in a sincere and objective manner so as to eliminate possible misunderstandings during the process of communication and emotion of dissatisfaction of consumers and reduce the communication and influence of
negative word-of-mouth. Finally, most important of all, sellers shall further improve product and service quality so as to build the positive experience cognition of consumers on products or services and improve their satisfaction degree in consumption experience.

In terms of word-of-mouth objectivity, subjective word-of-mouth would produce more influence on consumption decision-making compared with objective word-of-mouth. It proves to be more obvious when the bulk, luxury and high-tech goods with high price and complicated functions are purchased. The first-hand subjective experience would produce an important influence on the purchase behaviors of online word-of-mouth searchers. Thus, it is recommended that sellers should try all efforts to fully display consumers’ previous experience and feeling of consumption so as to facilitate the purchase intention of potential consumer groups.

In terms of searching preference, 82% of the respondents selected “actively searching word-of-mouth information”, which was mainly reflected in bulk, luxury and high-tech goods. The consumers with different online word-of-mouth demand differ in attitude evaluation and consumers’ intention. In a word, the consumers with higher demand have more definite evaluation attitude and stronger consumption intention.

CONCLUSION

Based on complete analysis of internal mechanism for traditional and online word-of-mouth, this research builds a framework for influence factors of online word-of-mouth on purchase intention and specifically measures the effect of each influence factor on purchase behavior. The research result shows that, (1) the recognition of consumers towards online word-of-mouth is an important factor to determine whether they opt to purchase or not; (2) when there is a complete evaluation system on the website and proper incentive, reward and punishment systems is built, consumers tend to make purchase; (3) consumers show their trust tendency in different types of word-of-mouth; (4) When the products involve high costs and large technical content, consumption decision is influenced more on the subjective word-of-mouth obtained in the first-hand consumption experience; (5) consumers have different word-of-mouth searching preferences when experiencing different consumption types.

The researches on online word-of-mouth are still in the stage of exploration. The research mentioned in this paper is an initial attempt and far from being mature. A lot of important tasks need to be urgently improved and facilitated, such as enlarging sample capacity so as to make research conclusions more publicized, and studying word-of-mouth during the process of dynamic evolution of online word-of-mouth and its influence on purchase intention.

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