

Assessing the Influence Factors on MATLAB caused by Mobile Internet users Word of Mouth

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Abstract — Based on the content and purpose of research using Matlab, and taking a combination of methods of theoretical research and empirical research, this study explores the influence of Internet Word of Mouth (WoM) on consumer behavior intentions. Theoretical research is proposed to summarize the relative theories of WoM on the Internet and apply them to consumer behavior, based on prescription studies, to provide a prerequisite for empirical research. Work is then conducted in two ways: grounded theory and obtaining data through surveys to verify the theoretical model.

Keywords - internet word of mouth; behavior intention; matlab; internet involvement; perceived risk

I. INTRODUCTION

When the information communication is not convenient, word of mouth is the main way to get information to consumers. Nowadays, word of mouth is also one of the most influential channels of communication, and consumers always think word of mouth a more credible force than marketer-oriented communication (personal selling, advertising, sales promotion, public relations etc.). [1] With the Internet media, traditional word of mouth represents a new form Internet Word of Mouth (IWOM). IWOM get rid of the limit of the traditional word of mouth "interpersonal circle", which scope of dissemination is more extensive, affecting more weak links consumers, and having the physical form of word of mouth. [2]

The quantity of IWOM information is large on various Internet platforms and grows rapidly, affecting the impression and evaluation of consumers to enterprises and products. IWOM is no longer just a one-way dissemination, but generally exhibit exchange of experience, add a comment, reply, discussion and other forms between immense netizen. [3] The spread of IWOM affects all aspects of enterprise's market behavior, analyzing market feedback, evaluating advertising effectiveness, research the user experience, and develop sales opportunities, etc. With the environment of widely used Internet, whether or not the enterprises canary out Internet marketing, it is difficult to avoid the issue of Internet word of mouth. IWOM is not just involved in the enterprises which carry out Internet marketing and only affecting consumer Internet behavior, but the interaction of online and of line. Various reasons lead consumers to browse the IWOM and take offline buying behavior. [4]

Marketing practitioners and scholars increasingly pay attention to IWOM communication, since 2000, domestic and foreign scholars' research on the Internet word of mouth marketing gradually increased, but the corresponding research is still relatively small. [5] Grasping the law of Internet word of mouth communication and guiding a

Internet word of mouth content distribution which in favor of the enterprise is the key to success of Internet word of mouth marketing. Previous studies are more related to three aspects: motivation for the spread of Internet word of mouth and its Influence factors, the impact of Internet word of mouth on consumer psychology and behavior, the impact of Internet word of mouth on enterprises performance. [6] As traditional word of mouth, Internet word of mouth has positive and word of mouth. Many previous studies (Arndt, 1967; Mizerski, 1982; Richins, 1983; Bone, 1995; Lau and Ng, 2001) have proven that word of mouth has a greater impact on consumers than positive word of mouth. However, researches, about how the word of mouth influence consumer are few. Research on which behavior intentions consumers will show before Internet word of mouth and how the types and characteristics of Internet word of mouth and consumer individual differences influence consumer behavior intentions, have a guiding value to Internet Word of mouth marketing theory and practice.

II. THEORETICAL MODEL AND HYPOTHESIS PROPOSED

Study on Internet word of mouth communication involves the science knowledge of management, marketing, communication and psychology, this study use Communication Process Theory, Technology Acceptance Model, Elaboration Likelihood Model [7], Theory of Planned Behavior, Attribution Theory, Cognitive Dissonance Theory for reference, to explore the influence mechanism of Internet word of mouth from the IWOM recipient point of view. The idea of this study can be summarized as follows: start from understanding the phenomenon of Internet word of mouth and review of literature to find the subject of study and research methods [8]; Combined with word of mouth communication theory and grounded theory empirical research, to propose research model and propositions; to collect data by the way of questionnaire; Empirical analysis, and based on results of the analysis to form conclusions of the study and recommendations. (Figure 1.)

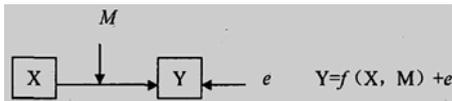


Figure 1. Adjustable variable diagram

In literature review, the research of traditional word of mouth and Internet word of mouth communication has been combed. There is more research of traditional word of mouth, which is referenced to research of IWOM communication; simultaneously we will also have to take into account the IWOM communication differences induced different network environment. Traditional word of mouth is mostly small-scale communication, but IWOM are beyond the boundaries of traditional personal networks, which Manifested mainly in the form of one-to-many or many-to-many. At present, the time of Internet word of mouth research is not long, and the research specifically for the Internet word of mouth has just begun, the corresponding literature documents is less. By the method of grounded theory this study analyzes which behavior intentions the Internet word of mouth will lead and what are the influence factors. The results of grounded theory study show that purchase intention and re-spread intention have the highest proportion, so the analysis for the two behavior intentions is representative to the research of Internet word of mouth communication mechanism. Disseminator characteristics [9], word of mouth information characteristics, recipient characteristics all are factors to two behavior intentions. Trust and perceived risk are intermediary variables as Internet word of mouth influence consumer behavior intentions. This study constructs a theoretical model based on literature review and grounded theory research. (Figure 2.)

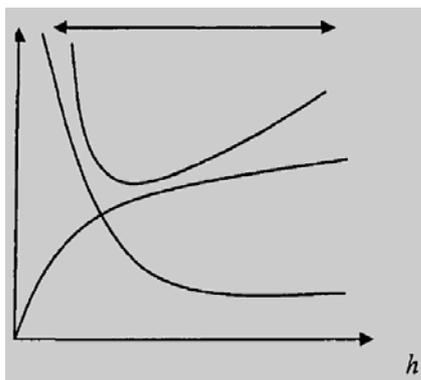


Figure 2. Structural risk minimization

According to traditional motivating theory and virtual community theory in marketing, we combine Social Exchange Theory(Blau,1964) and Social Cognitive Theory(Bandura,1989), analyze the motivating factors of consumers' WOM diffuse behavior from personal-related outcome expectations, community-related outcome expectations, product-related outcome expectations and knowledge self-efficacy. (Figure 3.)

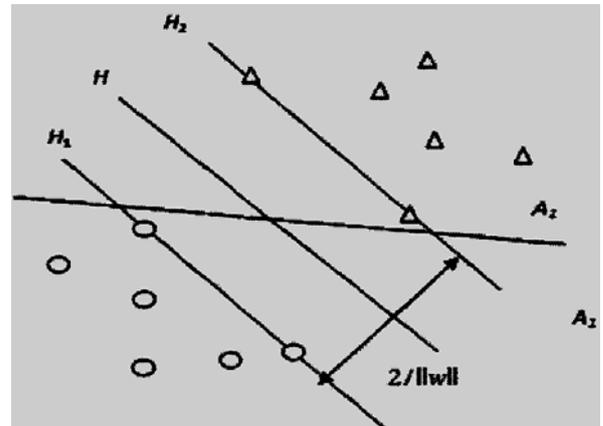


Figure 3. Optimal hyper plane

The empirical study shows that the "quantity" and "quality" of WOM information sharing behavior have different factors. Personal-related outcome expectations play an important role in terms of both quantity and quality while product-related outcome expectations and knowledge self-efficacy have a positive effect on quantity and community-related outcome expectations have a positive effect on quality. These conclusions partly prove current research conclusions on knowledge sharing in professional and interest virtual communities [10] and extend the conclusion on consumer-opinion platforms by Hennig-Thurau et al. This research extends classical theory from professional and interest virtual communities to consumer virtual platforms.

III. RESEARCH DESIGN, DATA COLLECTION AND DATA ANALYSIS

Small world theory argue that most complicated network is much smaller than we imagine, while anyone can be connected through friend's friends and the number of friends between two strangers is 5 to 7. The spread of word-of-mouth is a kind of complicated interpersonal network, which can influence more receivers through interpersonal information exchange. Information can be duplicated, pasted and quoted more easily on the Internet, which makes word-of-mouth spread much more quickly. Although the power of online word-of-mouth has already been recognized by many practices, research about word-of-mouth spreading and pass-along effect is not sufficient yet. (Table 1.)

TABLE I. KMO AND BARTLETT

Kaiser-Meyer-Olkin		.656
Bartlett	Approx	805.926
	Chi-square	28
	df	153
	sig	.000

The development of Internet information communication technology gives the impetus of profound changes in the aspects of people's life style, working style and social

networking style. Now every Internet user can obtain and share the required information immediately, which was impossible before. Surveys show that as of December in 2014, the scale of China's Internet users has reached 649,000,000, and the Internet penetration rate has reached 47.9%; online shopping users reached 361,000,000 and mobile phone shopping users reached 205,000,000. With the enhancement of the breadth and depth of the Internet use, in year 2014, China Internet users' daily average per capita of using Internet has reached 3.73 hours' long. And more and more China Internet users are gradually relying on the Internet to communicate with others, work and buy what they need, etc.. (Figure 4.)

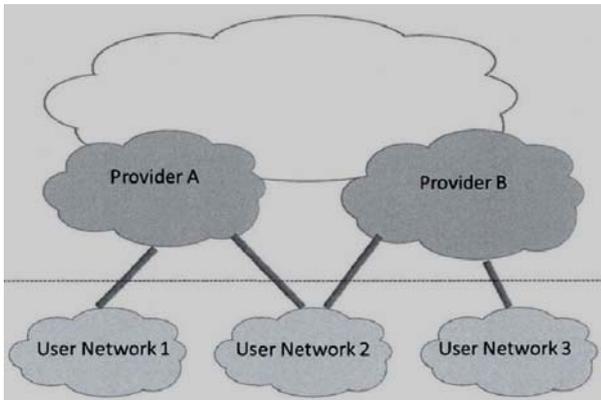


Figure 4. Network architecture diagram

Where there are numerous people, there are huge business opportunities. According to a survey aiming at the Internet applications of China enterprise, more and more enterprises begin to sell their products or services by network marketing. However, the unique characteristics of the Internet, such as the instantaneity, interactivity and the profound influence, determine the phenomenon that consumers are increasingly sharing their reviews on the purchase of products or services through the Internet. So it is very necessary to study the Internet word-of-mouth. (Figure 5.)

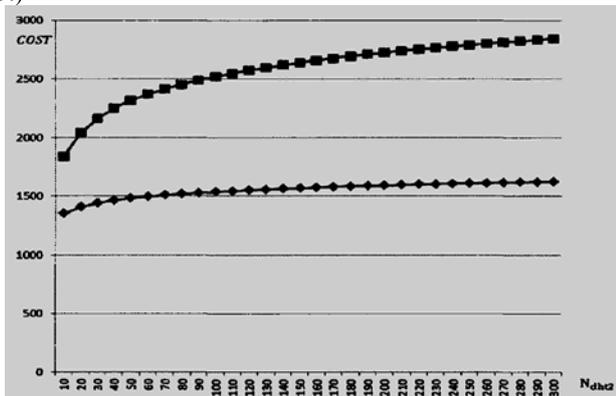


Figure 5. Performance influence

This study collects data through offline and online two ways, offline way is mainly paper-based questionnaire, online way are questionnaires through Email and posting an e-answer form. This study use Spss15.0 and Amos7.0 software to analyze survey data, to verify the influence relationships between the variables and the influence differences between behavior intentions. The consumer understanding to Internet word of mouth information is related to the level of Internet involvement, and this study analyzes the mediate effect of Internet involvement to word of mouth visual cues and word of mouth quantity influencing perceived risk and trust. (Figure 6.) The generation of Internet word of mouth might be subjective personal reasons, or objective enterprise reasons. Using Attribution Theory for reference, this study analyzes the mediate effect of consumer attribution difference to behavior intentions.

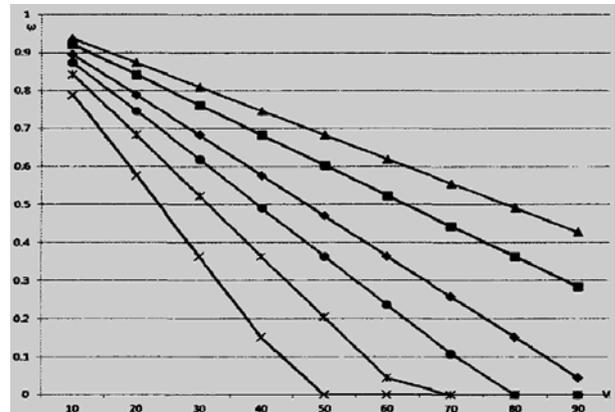


Figure 6. Mutual relation graph

The influence of traditional word-of-mouth on consumer purchase decision behavior has attracted great attention of scholars home and abroad and has achieved many significant results. The influence mechanism of Internet word-of-mouth on consumer purchase decision is also gradually attracted the attention of scholars. What are the influences factors of Internet word of mouth communication, and how these influence factors affect the Internet word of mouth communication effect and then influence the purchase decision of the consumers, these two questions are what this study has interest in. (Eq. (1))

$$x = \Lambda x \epsilon + \delta \tag{1}$$

The empirical results of this study indicate that in front of Internet word of mouth, consumers' re-spread intention is greater than purchase intention. The characteristics of Internet word of mouth disseminators and recipients, and word of mouth information characteristics have a significant effect on behavior- intention. And partially confirm the mediate effect of Internet involvement and attribution. (Eq. (2))

$$y = \Lambda y \eta + \epsilon \tag{2}$$

Based on literature review and Grounded Theory research, this study construct a theoretical model of Internet word of mouth influencing consumer behavior intention,

including three aspects of IWOM disseminators, IWOM recipients and IWOM information characteristics. The difference to previous research is that this study divided consumer behavior intention into purchase intention and re-spread intention in front of Internet word of mouth, and to cant' a comparative analysis through empirical study. According to communication process theory, disseminators, recipients and communication content all have an effect on communication impact. This study adds variables of Internet word of mouth information characteristics into theoretical model: word of mouth visual cues and word of mouth quantity. Empirical result indicates word of mouth visual cues and word of mouth quantity have a significant effect on consumer behavior intention, through intermediary variables of perceived risk and trust. And Internet involvement has a mediate effect on word of mouth visual cues and word of mouth quantity influencing perceived risk and trust. This study confirms that consumer attribution has a mediate effect on disseminators and recipients characteristics of Internet word of mouth influencing behavior intention. (Eq. (3))

$$\eta = B\eta + \Gamma\epsilon + \zeta \tag{3}$$

This research uses "virtual social capital theory" for reference, based on the theoretical model proposed by Nahapiet and Ghoshal (1998), we develop a conceptual model to examine how interpersonal network and three forms of social capital relate to WOM information sharing behavior, improving on the research actuality which mostly from scattered and simplex point of view in this field.

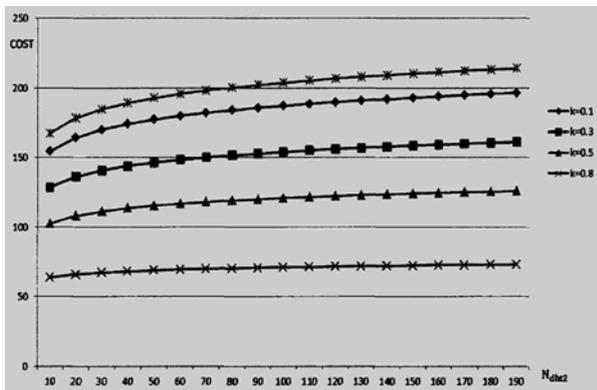


Figure 7. Influence relationship

The empirical study shows that norm of reciprocity and commitment have a significant and positive effect on quantity and quality of WOM behavior (Figure 7.), while online social interaction ties and membership increase quantity but not quality, trust and emotional connection increase quality but not quantity. This research exploits a new way on consumer virtual community. (Eq. (4))

$$\min\phi(w) = \frac{1}{2} \|w\|^2 = \frac{1}{2} (w \cdot w) \tag{4}$$

We apply Grounded Theory to be an accessorial qualitative method during model construction because of the inadequacy of research outcome in online social network and eWOM. The research analyzes factors of online WOM impact from three points of view of relation, individual and

site with three aspects of tie strength, source credibility and homophile. The empirical study shows that all independent variables except online tie strength have significant and positive effect on online WOM impact. (Eq. (5))

$$P_{nj} = \frac{\exp(V\epsilon_{nj})}{\sum_{k=1}^J \exp(V\epsilon_{nk})} \tag{5}$$

The conclusions as follows were obtained through the literature research and empirical research process above. The conceptual model proposed by this study can be used to explain the Internet word-of-mouth effect on the consumer purchase decision behavior; Transmission channel has significant positive influence on the Internet word-of-mouth quality; the Internet word-of-mouth sender expertise has significant positive influence on the Internet word-of-mouth quality; the strength of relationship has significant positive influence on the Internet word-of-mouth communication effect; the Internet word-of-mouth quality has significant positive influence on the Internet word-of-mouth communication effect; the Internet word-of-mouth receiver professional has significant positive influence on the perceived Internet word-of-mouth quality; the Internet word-of-mouth receiver professional has significant positive influence on the perceived strength of relationship with Internet word-of-mouth sender; The influence degree of the Internet word-of-mouth receiver professional on the perceived strength of relationship with Internet word-of-mouth sender is much more than the influence degree of the Internet word-of-mouth receiver professional on the perceived Internet word-of-mouth quality; The influence degree of the Internet word-of-mouth receiver professional on the Internet word-of-mouth communication effect through the influence factor perceived Internet word-of-mouth quality is much more than that through the perceived strength of relationship with Internet word-of-mouth sender.

IV. CONCLUSIONS

The conclusions of this study have theoretical contribution in IWOM research, and also have practical meanings for enterprises' practice in e-marketing and word of mouth marketing, as well as vendors and network operators' business in Internet environment.

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